ENVIRONMENT, ENERGY & TECHNOLOGY

ADMINISTRATIVE RULES REVIEW

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ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 24 - BUREAU OF OCCUPATIONAL LICENSES

24.05.01 - RULES OF THE BOARD OF DRINKING WATER AND WASTEWATER PROFESSIONALS

DOCKET NO. 24-0501-0601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the agency and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule becomes final and effective at the conclusion of the legislative session, unless the rule is approved, rejected, amended or modified by concurrent resolution in accordance with Section 67-5224 and 67-5291, Idaho Code. If the pending rule is approved, amended or modified by concurrent resolution, the rule becomes final and effective upon adoption of the concurrent resolution or upon the date specified in the concurrent resolution.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that this agency has adopted a pending rule. The action is authorized pursuant to Section(s) 54-2406, Idaho Code.

DESCRIPTIVE SUMMARY: The following is a concise explanatory statement of the reasons for adopting the pending rule and a statement of any change between the text of the proposed rule and the text of the pending rule with an explanation of the reasons for the change.

The pending rule is being adopted as proposed. The complete text of the proposed rule was published in the October 4, 2006 Idaho Administrative Bulletin, Vol. 06-10, pages 373 through 376.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this pending rule, contact Cherie Simpson at (208) 334-3233.

DATED this 25th day of October, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Section(s) 54-2406, Idaho Code.

PUBLIC HEARING SCHEDULE: Public hearing(s) concerning this rulemaking will be scheduled if requested in writing by twenty-five (25) persons, a political subdivision, or an agency, not later than October 18, 2006.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

To require applicants to take and pass the examination within one year in an effort to keep applications current.

FEE SUMMARY: The following is a specific description of the fee or charge imposed or increased: N/A

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year resulting from this rulemaking: N/A

NEGOTIATED RULEMAKING: Pursuant to IDAPA 04.11.01.811, negotiated rulemaking was not conducted because there was no controversy on the changes.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule, contact Cherie Simpson at (208) 334-3233.

Anyone may submit written comments regarding this proposed rulemaking. All written comments must be directed to the undersigned and must be delivered on or before October 25, 2006.

DATED this 14th day of August, 2006.

Rayola Jacobsen
Bureau Chief
Bureau of Occupational Licenses
1109 Main St., STE 220
Boise, ID 83702
(208) 334-3233
(208)334-3945 fax

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

300. REQUIREMENTS FOR LICENSE (RULE 300).
Applicants shall submit an application together with the required fees and such documentation as is required. (3-24-05)

01. Examination Requirement. Applicants must pass a written examination for each individual classification in each type of licensure with a minimum score of seventy percent

(70%). For those classifications of Class II through IV, successful completion of the examinations from the immediate lower type and classification shall be a prerequisite to examination eligibility for the next higher classification of the same type, except that applicants for wastewater collection operator or wastewater laboratory analyst or drinking water distribution operator licenses may apply for any classification examination for which they hold the required education and experience. (3-30-06)

a. The examination will reflect different levels of knowledge, ability and judgment required for the established license type and class. The Board will administer examinations at such times and places as the Board may determine. (3-24-05)

b. The examination for all types and classes of licensure shall be validated and provided by the Association of Boards of Certification (ABC). (3-30-06)

c. Applicants who fail an examination must make application to retake the same type and class examination and pay the required examination fees prior to retaking the examination. (3-24-05)

d. Applicants must take and pass the examination within one (1) year of application approval. After one (1) year a new application and applicable fees must be submitted. ( )

02. Education and Experience Requirements. Only actual verified on-site operating experience at a treatment, distribution or collection system will be acceptable. (3-24-05)

a. Each applicant for an Operator-In-Training License must have a high school diploma or GED and pass a Class I exam. (3-30-06)

b. To qualify for a Very Small Water System license an operator must have a high school diploma or GED and six (6) months of acceptable operator-in-training experience at a water distribution system. (3-24-05)

c. To qualify for a Class I license an applicant must have a high school diploma or GED and one (1) year of acceptable experience at a Class I or higher system. (3-24-05)

d. To qualify for a Class II treatment or lab analyst license an applicant must have a high school diploma or GED and three (3) years of acceptable Class I operating experience at a Class I or higher system. (3-24-05)

e. To qualify for a Class III treatment or lab analyst license an applicant must have a high school diploma or GED and two (2) years of post high school education in the environmental control field, engineering or related science; and four (4) years of acceptable Class II operating experience of a Class II or higher system, including two (2) years of experience in daily on-site charge, supervision of personnel, or management of a major segment of a system in the same or next lower class. (3-24-05)

f. To qualify for a Class IV treatment or lab analyst license an applicant must have a high school diploma or GED; and four (4) years of post high school education in the environmental control field, engineering or related science; and four (4) years of acceptable Class

III operating experience at a Class III or higher system, including two (2) years of experience in daily on-site charge, supervision of personnel, or management of a major segment of a system in the same or next lower class. (3-24-05)

g. To qualify for a Class II collection or distribution license an operator must have a high school diploma or GED and three (3) years of acceptable operating experience at a Class I or higher system. (3-24-05)

h. To qualify for a Class III collection or distribution license an operator must have a high school diploma or GED and two (2) years of post high school education in the environmental control field, engineering or related science; and four (4) years of acceptable operating experience of a Class I or higher system, including two (2) years of experience in daily on-site charge, supervision of personnel, or management of a major segment of a system in the same or next lower class. (3-24-05)

i. To qualify for a Class IV collection or distribution license an operator must have a high school diploma or GED; and four (4) years of post high school education in the environmental control field, engineering or related science; and four (4) years of acceptable operating experience at a Class I or higher system, including two (2) years of experience in daily on-site charge, supervision of personnel, or management of a major segment of a system in the same or next lower class. (3-24-05)

j. To qualify for a lagoon license, an operator must have a high school diploma or GED and twelve (12) months of acceptable supervised operating experience at a Lagoon system. (3-24-05)

k. To qualify for a Wastewater Land Application license, an operator must have a high school diploma or GED, a current wastewater treatment license and minimum six (6) months of hands-on operating experience at a wastewater land application system. The wastewater land application operator that is a responsible charge or substitute responsible charge operator must be licensed at the type and class equal to or greater than the classification of the wastewater system. (3-24-05)

l. To qualify for a backflow assembly tester license, an applicant must have a high school diploma or GED, and shall document successful completion of a board approved backflow assembly tester training program in compliance with the Cross Connection Control Accepted Procedure and Practice Manual and consisting of theory instruction, practical instruction, and a practical examination in compliance with the USC Test procedures. (3-30-06)

m. To qualify for an original wastewater laboratory analyst license, an applicant must hold a current water treatment, wastewater treatment or lagoon license. (3-24-05)

03. Substituting Education for Experience. Applicants may substitute approved education for operating and responsible charge experience as specified below. (3-24-05)

a. No substitution for operating experience shall be permitted for licensure as a very small system operator or a Class I operator. (3-24-05)

b. For Classes II, III and IV, substitution shall only be allowed for the required experience when fifty percent (50%) of all stated experience (both operating and responsible charge) has been met by actual on-site operating experience. (3-24-05)

c. For Class II, a maximum of one and one-half (1½) years of post high school education in the environmental control field, engineering or related science may be substituted for one and one-half (1½) years of operating experience. (3-24-05)

d. For Class III and IV, a maximum of two (2) years of post high school education in the environmental control field, engineering or related science may be substituted for two (2) years of operating experience; however the applicant must still have one (1) year of responsible charge experience. (3-24-05)

e. Education substituted for operating experience may not be also credited toward the education requirement. (3-24-05)

f. One (1) year of post high school education may be substituted for one (1) year experience up to a maximum of fifty percent (50%) of the required operating or responsible charge experience. (3-24-05)

04. Substituting Experience for Education. Where applicable, approved operating and responsible charge experience may be substituted for education as specified below: (3-24-05)

a. One (1) year of operating experience may be substituted for two (2) years of grade school or one (1) year of high school with no limitation. (3-24-05)

b. For Class III and IV, additional responsible charge experience (that exceeding the two (2) year class requirements) may be substituted for post high school education on a two (2) for one (1) basis: two (2) years additional responsible charge = one (1) year post high school education. (3-24-05)

05. Substituting Experience for Experience. Related experience may be substituted for experience up to one-half (½) of the operating experience requirement for Class II, III and IV. Experience that may be substituted includes but is not limited to the following: (3-24-05)

a. Experience as an environmental or operations consultant; (3-24-05)

b. Experience in an environmental or engineering branch of federal, state, county, or local government; (3-24-05)

c. Experience as a wastewater collection system operator; (3-24-05)

d. Experience as a wastewater treatment plant operator; (3-24-05)

e. Experience as a water distribution system operator and/or manager; (3-24-05)

f. One (1) year of post high school education may be substituted for one (1) year experience up to a maximum of fifty percent (50%) of the required operating or responsible

charge experience. (3-24-05)

g. Experience in waste treatment operation and maintenance. (3-24-05)

06. Equivalency Policy. Substitutions for education or experience requirements needed to meet minimum requirements for license will be evaluated upon the following equivalency policies: (3-24-05)

a. High School - High School diploma = GED or equivalent as approved by the board = four (4) years. (3-24-05)

b. College - Thirty-five (35) credits = one (1) year (limited to curricula in environmental engineering, environmental sciences, water/wastewater technology, and/or related fields as determined by the board). (3-24-05)

c. Continuing Education Units (CEU) for operator training courses, seminars, related college courses, and other training activities. Ten (10) classroom hours = one (1) CEU; forty-five (45) CEUs = one (1) year of college. (3-24-05)

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.01 - RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO

DOCKET NO. 58-0101-0502

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Sections 67-5224 and 67-5291, Idaho Code. This rule was adopted as a temporary rule by the Board in February 2006 and is currently effective.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, June 7, 2006, Vol. 06-6, pages 128 through 133. The agency received no public comments, and the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/air/58_0101_0502_temporary_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This rule is broader in scope than federal law as the federal government has not yet indicated that these particular size and type of dairy farms must obtain air quality permits. The federal government is in the emissions information gathering stage of regulating emissions from dairy farms. This rule may be revised upon completion of additional state and federal scientific research. The negotiated rule group reached consensus that the ammonia control point value associated with the various BMPs is based on the best available peer reviewed science and supporting studies conducted in accordance with sound and objective scientific practices.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

DATED this 17th day of October, 2006.

DEPARTMENT OF ENVIRONMENTAL QUALITY **Docket No. 58-0101-0502**
Rules for the Control of Air Pollution in Idaho **PENDING RULE**

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before June 23, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: The Independent Dairy Environmental Action League (IDEAL) and the Idaho Conservation League (ICL) asked the Department of Environmental Quality (DEQ) to initiate a negotiated rulemaking to consider air quality permit rules to control ammonia from dairy farms. In February 2006, the Board adopted a temporary rule that requires dairy farms above the specified threshold numbers of cows or animal units to implement industry best management practices to control ammonia emissions through a permit by rule. In April 2006, the Board amended the temporary rule with the addition of Subsection 763.04, which exempts dairy farms from paying the permit by rule registration fee. The temporary rule, along with the amendment, will become effective on July 1, 2006. This proposed rule is the same text as the temporary rule adopted in February and amended in April.

DEQ is also seeking public comment on two documents: "Fact Sheet Docket 58-0101-0502: Rules for the Control of Ammonia from Dairy Farms" and "Scientific Basis for the Control of Ammonia from Dairy Farms Best Management Practices - 4/14/06". These documents may be obtained at www.deq.idaho.gov/air/permits_forms/permitting/pbr-dairies.cfm or by contacting Phyllis Heitman, phyllis.heitman@deq.idaho.gov, (208) 373-0256.

The text of this rule was developed by DEQ in conjunction with a negotiating committee made up of representatives from the dairy industry, the environmental community, other state agencies, and other persons having an interest in the development of this rule. After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in the fall of 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if adopted by the Board and approved by the Legislature.

IDAHO CODE 39-107D STATEMENT: This rule is broader in scope than federal law as the federal government has not yet indicated that these particular size and type of dairy farms must obtain air quality permits. The federal government is in the emissions information gathering stage of regulating emissions from dairy farms. This rule may be revised upon completion of additional state and federal scientific research. The negotiated rule group reached consensus that the ammonia control point value associated with the various BMPs is based on the best available peer- reviewed science and supporting studies conducted in accordance with sound and objective scientific practices.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal

impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

NEGOTIATED RULEMAKING: The text of the rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, April 6, 2005, Vol. 05-4, page 18.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Anyone may submit written comments by mail, fax, or e-mail at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before July 7, 2006.

DATED this 3rd day of May, 2006.

Paula J. Wilson, Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton, Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF DOCKET NO. 58-0101-0502

752. -- 7~~74~~59. (RESERVED).

760. RULES FOR THE CONTROL OF AMMONIA FROM DAIRY FARMS.
The purpose of Sections 760 through 764 is to set forth the requirements for the control of ammonia through best management practices (BMPs) for certain size dairy farms licensed by the Idaho State Department of Agriculture to sell raw milk for human consumption. Compliance with these sections does not relieve the owner or operator of a dairy farm from the responsibility of complying with all other federal, state and local applicable laws, regulations, and requirements, including, but not limited to, Sections 161, 650 and 651 of these rules. Registration forms and guidance documents relating to these rules are located at www.deq.idaho.gov. ( )

761. GENERAL APPLICABILITY.
The requirements of Sections 760 through 764 apply to the following size dairy farms:

SUMMARY: Animal Unit (AU) or mature cow threshold to produce 100 ton NH_3/year

Animal Unit (AU) Basis	Drylot	Free Stall/Scrape	Free Stall/Flush
	AU (100 t NH_3) Threshold		
No land app	7089	3893	2293
27% volatilization [1]	6842	3827	
80% volatilization [2]	6397	3700	
Cow Basis (1400 lbs)	Drylot	Free Stall/Scrape	Free Stall/Flush
	Total Cows (100 t NH_3) Threshold		
No land app	5063	2781	1638
27% volatilization [1]	4887	2733	
80% volatilization [2]	4569	2643	

[1] Assumes: Expected level of N->NH_3 volatilization for: drop-hose or ground level liquid manure application

[2] Assumes: Expected level of N->NH_3 volatilization for: center pivot or other conventional sprinkler irrigation liquid manure application

(____)

762. PERMIT BY RULE.

01. General Requirement. Owners and operators of dairy farms shall be deemed to have a permit by rule if they comply with all of the applicable provisions of Sections 760 through 764. Owners and operators of dairy farms subject to Sections 760 through 764 shall not operate without obtaining the applicable permit by rule within the time frame specified. (____)

02. Optional Permit by Rule. Nothing in Sections 760 through 764 shall preclude any owner or operator of a dairy farm from requesting and obtaining an air quality permit pursuant to Section 200, nor shall Sections 760 through 764 preclude an owner or operator of a dairy farm below the threshold size in Section 761 from complying with Sections 760 through 764 and thereby obtaining a permit by rule. (____)

03. Exemption. If a dairy farm not subject to Sections 760 through 764 otherwise would become subject to those sections as a result of an emergency, the dairy farm shall notify the Director in writing within fourteen (14) days of the emergency. The notification shall include an explanation of the emergency circumstances. The dairy farm shall be exempt from the requirements of Sections 760 through 764 as long as the consequences of the emergency continue (but in no case for more than one (1) year) unless for good cause the Director determines it is appropriate to limit, condition or revoke the exemption. For the purpose of this rule "emergency" shall be defined as a serious situation or occurrence that happens unexpectedly and demands immediate action. (____)

763. REGISTRATION FOR PERMIT BY RULE.

01. Registration Process. Any owner or operator of a new dairy farm subject to Sections 760 through 764, or an existing dairy farm that becomes subject to these sections due to change in size or type of operation, shall register prior to fifteen (15) days of triggering the threshold for which a permit is required. ( )

02. Registration Due Date. Any owner or operator of an existing dairy farm subject to Sections 760 through 764 shall register within fifteen (15) days of the effective date of Sections 760 through 764. ( )

03. Registration Information. The following information shall be provided by the registrant to the Department of Environmental Quality and the Department of Agriculture: ( )

a. Name, address, location of dairy farm, and telephone number. ( )

b. Information sufficient to establish that the dairy farm is of the size and type described in Section 761. ( )

c. Information describing what BMPs, as described in Section 764, are employed to total twenty-seven (27) points. ( )

04. Exemption from Registration Fee. Dairy farms subject to Sections 760 through 764 are exempt from paying the permit by rule registration fee set forth in Section 800. ( )

05. Inspection. Within thirty (30) days of receipt of the registration information, the state of Idaho shall conduct a qualifying inspection to ensure the requisite point total of BMPs are employed. ( )

764. DAIRY FARM BEST MANAGEMENT PRACTICES.

01. BMPs. Each dairy farm subject to Sections 760 through 764, or that otherwise obtains a permit by rule under these sections, shall employ BMPs for the control of ammonia to total twenty-seven (27) points. Points may be obtained through third party export with sufficient documentation. The table located at Subsection 764.02. lists available BMPs and the associated point value. As new information becomes available or upon request, the Director may determine a practice not listed in the table constitutes a BMP and assign a point value. ( )

02. Table - Ammonia Control Practices for Idaho Dairies.

		Ammonia Control Effectiveness [1]			
System	**Component**	**Open Lot**	**Freestall Scrape**	**Freestall Flush**	**Compliance Method[3]**
Waste Storage and Treatment Systems	Synthetic Lagoon Cover	15	20	20	1
	GeoteXtile Covers	10	13	13	1

		Ammonia Control Effectiveness [1]			
System	Component	Open Lot	Freestall Scrape	Freestall Flush	Compliance Method[3]
	Solids Separation	3	3	3	3, 4
	Composting	4	4	4	1
	Separate Slurry and Liquid Manure Basins	6	10	-	1
	In-House Separation	0	12	0	1
	Direct Utilization of Collected Slurry	6	10	-	1, 3, 4
	Direct Utilization of Parlor Wastewater	10	10	10	1
	Direct Utilization of Flush Water	8	0	13	3, 4
	Anaerobic Digester	-	-	-	-
	Anaerobic Lagoon	-	-	-	-
	Aerated Lagoon	10	12	15	2
	Sequencing-Batch Reactor	15	20	20	2
	Lagoon Nitrification/Denitrification Systems	15	20	20	2
	Fixed-Media Aeration Systems	15	20	20	2
General Practices	Vegetative or Wooded Buffers (established)	7	7	7	1
	Vegetative or Wooded Buffers (establishing)	2	2	2	1
	Alternatives to Copper Sulfate	-	-	-	-
Freestall Barns	Scrape Built Up Manure	-	3	3	1
	Frequent Manure Removal	UD	UD	UD	-
	Tunnel Ventilation	-	-	-	-
	Tunnel Ventilation w/Biofilters	-	10	10	1
	Tunnel Ventilation w/Washing Wall	-	10	10	3, 4
Open Lots and Corrals	Rapid Manure Removal	4	2	2	1, 2
	Corral Harrowing	4	2	2	1
	Surface Ammendments	10	5	5	2
	In-Corral Composting / Stockpiling	4	2	2	1

		Ammonia Control Effectiveness [1]			
System	**Component**	**Open Lot**	**Freestall Scrape**	**Freestall Flush**	**Compliance Method[3]**
	Summertime Deep Bedding	10	5	5	1
Animal Nutrition	Manage Dietary Protein	2	2	2	2
Composting Practices	Alum Incorporation	12	8	6	2
	Carbon:Nitrogen Ratio (C:N) Ratio Manipulation	10	7.5	5	2
	Composting with Windrows	-	-	-	-
	Composting Static Pile	6	4.5	3	1
	Forced Aeration Composting	10	7.5	5	1
	Forced Aeration Composting with Biofilter	12	8	6	1
Land Application[2]	Soil Injection - Slurry	10	15	7.5	2
	Incorporation of Manure within 24 hrs	10	10	10	2
	Incorporation of Manure within 48 hrs	5	5	5	2
	Nitrification of Lagoon Effluent	10	10	15	3, 4
	Low Energy/Pressure Application Systems	7	7	10	1
	Freshwater Dilution	5	8	8	1, 2
	Pivot Drag Hoses	8	8	10	1
	Subsurface Drip Irrigation	10	10	12	1

		Ammonia Control Effectiveness [1]			
System	Component	Open Lot	Freestall Scrape	Freestall Flush	Compliance Method[3]

Notes:
1. The ammonia emission reduction effectiveness of each practice is rated numerically based on practical year-round implementation. Variations due to seasonal practices and expected weather conditions have been factored into these ratings. Not implementing a BMP when it is not practicable to do so, does not reduce the point value assigned to the BMP, nor does it constitute failure to perform the BMP. UD indicates that the practice is still under development.

2. Land application practices assume practice is conducted on all manure; points will be pro-rated to reflect actual waste treatment; points can be obtained on exported material with sufficient documentation.

3. Method used by inspector to determine compliance
1=Observation by Inspector
2=On-Site Recordkeeping Required
3, 4=Deviation Reporting Required. Equipment upsets and/or breakdowns shall be recorded in a deviation log and if repaired in a reasonable timeframe does not constitute non-compliance with this rule.

(_____)

765. -- 774. (RESERVED).

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.01 - RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO

DOCKET NO. 58-0101-0601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, August 2, 2006, Vol. 06-8, pages 105 through 132. After consideration of public comments, the proposed rule has been revised at Sections 006, 107, 665, and 667. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/air/58_0101_0601_pending.cfm or by contacting the undersigned.

IDAHO CODE 39-107D STATEMENT: This rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Dated this 12th day of October, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

DEPARTMENT OF ENVIROMENTAL QUALITY ***Docket No. 58-0101-0601***
Control of Air Pollution in Idaho ***PENDING RULE***

PUBLIC HEARING SCHEDULE: A public hearing concerning this proposed rulemaking will be held as follows:

September 6, 2006 at 4:00 p.m.
Department of Environmental Quality Conference Center
1410 N. Hilton, Boise, Idaho

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made no later than five (5) days prior to the hearing. For arrangements, contact the undersigned at (208) 373-0418.

DESCRIPTIVE SUMMARY: The Department of Environmental Quality (DEQ) is tasked with developing a plan to address Regional Haze in Class I Wilderness Areas within Idaho and other Class I areas impacted by Idaho by December 17, 2007 as required by the Federal Clean Air Act, Regional Haze Rule, 40 CFR 51.308. The intent of the Regional Haze Rule is to reduce the impacts of man-made visibility impairing pollutants on Class I areas by 2064. The first implementation plan will cover the time period from 2008 through 2018. The plan will set "Reasonable Progress Goals" and develop control strategies to attain the progress goals.

Through the negotiated rule process, rules were drafted that provide DEQ with the authority to develop "Long-Term Strategies" for making reasonable progress toward improving visibility in mandatory Class I Federal Areas. The proposed rule also provides DEQ with the authority to establish "Reasonable Progress Goals," based on emission reduction control strategies identified through the "Long-Term Strategies" and the implementation of Best Available Retrofit Technologies, in order to obtain the goals and satisfy other requirements under 40 CFR 51.308 and Subpart P -- Protection of Visibility requirements.

The text of this rule was developed by DEQ in conjunction with a negotiating committee made up of persons having an interest in the development of this rule including industry representatives, federal land managers, and public officials. BART-eligible and other sources of air pollution may be affected by this rulemaking and may wish to submit comment. Representatives of the industrial community, special interest groups, public officials, federal land managers, metropolitan planning organizations, or members of the public who have an interest in the air quality in Idaho may also wish to comment on this proposed rule. The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in October 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if adopted by the Board and approved by the Legislature.

IDAHO CODE SECTION 39-107D STATEMENT: This proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

NEGOTIATED RULEMAKING: The text of the rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, January 4, 2006, Vol. 06-1, page 296.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning this rulemaking, contact Mike Edwards at (208) 373-0438, mike.edwards@deq.idaho.gov.

Anyone may submit written comments by mail, fax or e-mail at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before September 6, 2006.

DATED this 30th day of June, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

006. GENERAL DEFINITIONS.

01. Accountable. Any SIP emission trading program must account for the aggregate effect of the emissions trades in the demonstration of reasonable further progress, attainment, or maintenance. (4-5-00)

02. Act. The Environmental Protection and Health Act of 1972 as amended (Sections 39-101 through 39-130, Idaho Code). (5-1-94)

03. Actual Emissions. The actual rate of emissions of a pollutant from an emissions unit as determined in accordance with the following: (4-5-00)

a. In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period. (4-5-00)

b. The Department may presume that the source-specific allowable emissions for the unit are equivalent to actual emissions of the unit. (4-5-00)

c. For any emissions unit (other than an electric utility steam generating unit as specified below) which has not yet begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date. (4-5-00)

d. For an electric utility steam generating unit (other than a new unit or the replacement of an existing unit) actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit, provided the source owner or operator maintains and submits to the Department, on an annual basis for a period of five (5) years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed ten (10) years may be required by the Department if it determines such a period to be more representative of normal source post-change operations. (4-5-00)

04. **Adverse Impact on Visibility**. Visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I Area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairments, and how these factors correlate with: ( )

a. Times of visitor use of the Federal Class I Area; and ( )

b. The frequency and timing of natural conditions that reduce visibility. ( )

c. This term does not include affects on integral vistas when applied to 40 CFR 51.307. ( )

0~~4~~5. **Air Pollutant/Air Contaminant**. Any substance, including but not limited to, dust, fume, gas, mist, odor, smoke, vapor, pollen, soot, carbon or particulate matter or any combination thereof. (4-5-00)

0~~5~~6. **Air Pollution**. The presence in the outdoor atmosphere of any air pollutant or combination thereof in such quantity of such nature and duration and under such conditions as would be injurious to human health or welfare, to animal or plant life, or to property, or to interfere unreasonably with the enjoyment of life or property. (4-5-00)

0~~6~~7. **Air Quality**. The specific measurement in the ambient air of a particular air

pollutant at any given time. (5-1-94)

0~~7~~8. Air Quality Criterion. The information used as guidelines for decisions when establishing air quality goals and air quality standards. (5-1-94)

0~~8~~9. Allowable Emissions. The allowable emissions rate of a stationary source or facility calculated using the maximum rated capacity of the source or facility (unless the source or facility is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following: (4-5-00)

a. The applicable standards set forth in 40 CFR part 60 and 61; (4-5-00)

b. Any applicable State Implementation Plan emissions limitation including those with a future compliance date; or (4-5-00)

c. The emissions rate specified as a federally enforceable permit condition, including those with a future compliance date. (4-5-00)

~~09~~10. Ambient Air. That portion of the atmosphere, external to buildings, to which the general public has access. (5-1-94)

1~~0~~1. Ambient Air Quality Violation. Any ambient concentration that causes or contributes to an exceedance of a national ambient air quality standard as determined by 40 CFR Part 50. (4-11-06)

1~~1~~2. Atmospheric Stagnation Advisory. An air pollution alert declared by the Department when air pollutant impacts have been observed and/or meteorological conditions are conducive to additional air pollutant buildup. (4-11-06)

1~~2~~3. Attainment Area. Any area which is designated, pursuant to 42 U.S.C. Section 7407(d), as having ambient concentrations equal to or less than national primary or secondary ambient air quality standards for a particular air pollutant or air pollutants. (4-11-06)

14. BART-Eligible Source. Any of the following stationary sources of air pollutants, including any reconstructed source, which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit two hundred fifty (250) tons per year or more of any air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable, must be counted. (____)

a. Fossil-fuel fired steam electric plants of more than two hundred fifty (250) million BTU's per hour heat input; (____)

b. Coal cleaning plants (thermal dryers); (____)

c. Kraft pulp mills; (____)

d. Portland cement plants; (____)

e. Primary zinc smelters; ( )

f. Iron and steel mill plants; ( )

g. Primary aluminum ore reduction plants; ( )

h. Primary copper smelters; ( )

i. Municipal incinerators capable of charging more than two hundred fifty (250) tons of refuse per day; ( )

j. Hydrofluoric, sulfuric, and nitric acid plants; ( )

k. Petroleum refineries; ( )

l. Lime plants; ( )

m. Phosphate rock processing plants; ( )

n. Coke oven batteries; ( )

o. Sulfur recovery plants; ( )

p. Carbon black plants (furnace process); ( )

q. Primary lead smelters; ( )

r. Fuel conversion plants; ( )

s. Sintering plants; ( )

t. Secondary metal production facilities; ( )

u. Chemical process plants; ( )

v. Fossil-fuel boilers of more than two hundred fifty (250) million BTU's per hour heat input; ( )

w. Petroleum storage and transfer facilities with a capacity exceeding three hundred thousand (300,000) barrels; ( )

x. Taconite ore processing facilities; ( )

y. Glass fiber processing plants; and ( )

z. Charcoal production facilities. ( )

1~~3~~5. Baseline (Area, Concentration, Date). See Section 579. (5-1-94)

16. **Best Available Retrofit Technology (BART)**. Means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. ( )

1~~4~~7. **Board**. Idaho Board of Environmental Quality. (5-1-94)

1~~5~~8. **Breakdown**. An unplanned failure of any equipment or emissions unit which may cause excess emissions. (4-5-00)

1~~6~~9. **BTU**. British thermal unit. (5-1-94)

~~17~~20. **Clean Air Act**. The federal Clean Air Act, 42 U.S.C. Sections 7401 through 7671q. (5-1-94)

~~18~~21. **Collection Efficiency**. The overall performance of the air cleaning device in terms of ratio of materials collected to total input to the collector unless specific size fractions of the contaminant are stated or required. (5-1-94)

~~19~~22. **Commence Construction or Modification**. In general, this means initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation, this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change. (4-5-00)

2~~0~~3. **Complete**. A determination made by the Department that all information needed to process a permit application has been submitted for review. (5-1-94)

2~~1~~4. **Construction**. Fabrication, erection, installation, or modification of a stationary source or facility. (5-1-94)

2~~2~~5. **Control Equipment**. Any method, process or equipment which removes, reduces or renders less noxious, air pollutants discharged into the atmosphere. (5-1-94)

2~~3~~6. **Controlled Emission**. An emission which has been treated by control equipment to remove all or part of an air pollutant before release to the atmosphere. (5-1-94)

2~~4~~7. **Criteria Air Pollutant**. Any of the following: PM-10; sulfur oxides; ozone, nitrogen dioxide; carbon monoxide; lead. (4-5-00)

28. **Deciview**. A measurement of visibility impairment. A deciview is a haze index derived from calculated light extinction, such that uniform changes in haziness correspond to

uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired. The deciview haze index is calculated based on the following equation (for the purposes of calculating deciview, the atmospheric light extinction coefficient must be calculated from aerosol measurements): Deciview Haze Index = 10 $\ln_e$ (b_{ext} /10Mm^{-1}) where b_{ext} = the atmospheric light extinction coefficient, expressed in inverse megameters (Mm^{-1}). (____)

2~~5~~9. Department. The Department of Environmental Quality. (5-1-94)

~~26~~30. Designated Facility. Any of the following facilities: (5-1-94)

a. Fossil-fuel fired steam electric plants of more than two hundred fifty (250) million BTU's per hour heat input; (5-1-94)

b. Coal cleaning plants (thermal dryers); (5-1-94)

c. Kraft pulp mills; (5-1-94)

d. Portland cement plants; (5-1-94)

e. Primary zinc smelters; (5-1-94)

f. Iron and steel mill plants; (5-1-94)

g. Primary aluminum ore reduction plants; (5-1-94)

h. Primary copper smelters; (5-1-94)

i. Municipal incinerators capable of charging more than two hundred and fifty (250) tons of refuse per day; (5-1-94)

j. Hydrofluoric, sulfuric, and nitric acid plants; (5-1-94)

k. Petroleum refineries; (5-1-94)

l. Lime plants; (5-1-94)

m. Phosphate rock processing plants; (5-1-94)

n. Coke oven batteries; (5-1-94)

o. Sulfur recovery plants; (5-1-94)

p. Carbon black plants (furnace process); (5-1-94)

q. Primary lead smelters; (5-1-94)

r. Fuel conversion plants; (5-1-94)

s. Sintering plants; (5-1-94)

t. Secondary metal production facilities; (5-1-94)

u. Chemical process plants; (5-1-94)

v. Fossil-fuel boilers (or combination thereof) of more than two hundred and fifty (250) million BTU's per hour heat input; (5-1-94)

w. Petroleum storage and transfer facilities with a capacity exceeding three hundred thousand (300,000) barrels; (5-1-94)

x. Taconite ore processing facilities; (5-1-94)

y. Glass fiber processing plants; and (5-1-94)

z. Charcoal production facilities. (5-1-94)

~~27~~31. Director. The Director of the Department of Environmental Quality or his designee. (5-1-94)

~~28~~32. Effective Dose Equivalent. The sum of the products of absorbed dose and appropriate factors to account for differences in biological effectiveness due to the quality of radiation and its distribution in the body of reference man. The unit of the effective dose equivalent is the rem. It is generally calculated as an annual dose. (5-1-94)

~~29~~33. Emission. Any controlled or uncontrolled release or discharge into the outdoor atmosphere of any air pollutants or combination thereof. Emission also includes any release or discharge of any air pollutant from a stack, vent, or other means into the outdoor atmosphere that originates from an emission unit. (5-1-94)

3~~0~~4. Emission Standard. A permit or regulatory requirement established by the Department or EPA which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction. (4-5-00)

3~~1~~5. Emissions Unit. An identifiable piece of process equipment or other part of a facility which emits or may emit any air pollutant. This definition does not alter or affect the term "unit" for the purposes of 42 U.S.C. Sections 7651 through 7651o. (5-1-94)

3~~2~~6. EPA. The United States Environmental Protection Agency and its Administrator or designee. (5-1-94)

3~~3~~7. Environmental Remediation Source. A stationary source that functions to remediate or recover any release, spill, leak, discharge or disposal of any petroleum product or petroleum substance, any hazardous waste or hazardous substance from any soil, ground water or surface water, and shall have an operational life no greater than five (5) years from the inception

of any operations to the cessation of actual operations. Nothing in this definition shall be construed so as to actually limit remediation projects to five (5) years or less of total operation. (5-1-95)

3~~4~~8. Excess Emissions. Emissions that exceed an applicable emissions standard established for any facility, source or emissions unit by statute, regulation, rule, permit, or order. (4-11-06)

3~~5~~9. Existing Stationary Source or Facility. Any stationary source or facility that exists, is installed, or is under construction on the original effective date of any applicable provision of this chapter. (5-1-94)

~~36~~40. Facility. All of the pollutant-emitting activities which belong to the same industrial grouping, are located on one (1) or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual. The fugitive emissions shall not be considered in determining whether a permit is required unless required by federal law. (4-11-06)

~~37~~41. Federal Class I Area. Any federal land that is classified or reclassified "Class I" ~~*pursuant to Section 580*~~. ~~*(5-1-94)*~~(____)

~~38~~42. Federal Land Manager. The Secretary of the ~~*federal*~~ department with authority over ~~*any federal lands in the United States*~~ the Federal Class I Area (or the Secretary's designee). ~~*(5-1-94)*~~(____)

43. Federally Enforceable. All limitations and conditions which are enforceable by *EPA and* the Department under the Clean Air Act, including those requirements developed pursuant to 40 CFR Parts 60 and 61 requirements within any applicable State Implementation Plan, and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Parts 51, 52, 60*, or 63*. (____)

~~39~~44. Fire Hazard. The presence or accumulation of combustible material of such nature and in sufficient quantity that its continued existence constitutes an imminent and substantial danger to life, property, public welfare or adjacent lands. (5-1-94)

4~~0~~5. Fuel-Burning Equipment. Any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. (5-1-94)

4~~1~~6. Fugitive Dust. Fugitive emissions composed of particulate matter. (5-1-94)

4~~2~~7. Fugitive Emissions. Those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. (5-1-94)

4~~3~~8. Garbage. Any waste consisting of putrescible animal and vegetable materials resulting from the handling, preparation, cooking and consumption of food including, but not

limited to, waste materials from households, markets, storage facilities, handling and sale of produce and other food products. (5-1-94)

~~44~~49. **Grain Elevator**. Any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded. (5-1-94)

~~45~~50. **Grain Storage Elevator**. Any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean extraction plant which has a permanent grain storage capacity of thirty five thousand two hundred (35,200) cubic meters (ca. 1 million bushels). (5-1-94)

~~46~~51. **Grain Terminal Elevator**. Any grain elevator which has a permanent storage capacity of more than eighty-eight thousand one hundred (88,100) cubic meters (ca. 2.5 million bushels), except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots. (5-1-94)

~~47~~52. **Hazardous Air Pollutant (HAP)**. Any air pollutant listed pursuant to Section 112(b) of the Clean Air Act. Hazardous Air Pollutants are regulated air pollutants. (4-11-06)

~~48~~53. **Hazardous Waste**. Any waste or combination of wastes of a solid, liquid, semisolid, or contained gaseous form which, because of its quantity, concentration or characteristics (physical, chemical or biological) may: (5-1-94)

a. Cause or significantly contribute to an increase in deaths or an increase in serious, irreversible, or incapacitating reversible illnesses; or (5-1-94)

b. Pose a substantial threat to human health or to the environment if improperly treated, stored, disposed of, or managed. Such wastes include, but are not limited to, materials which are toxic, corrosive, ignitable, or reactive, or materials which may have mutagenic, teratogenic, or carcinogenic properties; provided that such wastes do not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are allowed under a national pollution discharge elimination system permit, or source, special nuclear, or by-product material as defined by 42 U.S.C. Sections 2014(e),(z) or (aa). (5-1-94)

~~49~~54. **Hot-Mix Asphalt Plant**. Those facilities conveying proportioned quantities or batch loading of cold aggregate to a drier, and heating, drying, screening, classifying, measuring and mixing the aggregate and asphalt for the purpose of paving, construction, industrial, residential or commercial use. (5-1-94)

5~~0~~5. Incinerator. Any source consisting of a furnace and all appurtenances thereto designed for the destruction of refuse by burning. “Open Burning” is not considered incineration. For purposes of these rules, the destruction of any combustible liquid or gaseous material by burning in a flare stack shall be considered incineration. (5-1-94)

5~~1~~5. Indian Governing Body. The governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government. (5-1-94)

5~~7~~. **Integral Vista**. A view perceived from within the mandatory Class I Federal Area of a specific landmark or panorama located outside the boundary of the mandatory Class I Federal Area. (____)

5~~2~~8. **Kraft Pulping**. Any pulping process which uses, for a cooking liquor, an alkaline sulfide solution containing sodium hydroxide and sodium sulfide. (5-1-94)

59. **Least Impaired Days**. The average visibility impairment (measured in deciviews) for the twenty percent (20%) of monitored days in a calendar year with the lowest amount of visibility impairment. (____)

~~53~~60. **Lowest Achievable Emission Rate (LAER)**. For any source, the more stringent rate of emissions based on the following: (4-5-00)

a. The most stringent emissions limitation which is contained in any State Implementation Plan for such class or category of facility, unless the owner or operator of the proposed facility demonstrates that such limitations are not achievable; or (4-5-00)

b. The most stringent emissions limitation which is achieved in practice by such class or category of facilities. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the facility. In no event shall the application of the term permit a proposed new or modified facility to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance. (4-5-00)

61. **Mandatory Class I Federal Area**. Any area identified in 40 CFR 81.400 through 81.437. (____)

~~54~~62. **Member of the Public**. For purposes of Subsection 006.~~89~~103.a.xvi., a person located at any off-site point where there is a residence, school, business or office. ~~(4-11-06)~~(____)

~~55~~63. **Modification**. (4-11-06)

a. Any physical change in, or change in the method of operation of, a stationary source or facility which results in an emission increase as defined in Section 007 or which results in the emission of any regulated air pollutant not previously emitted. (4-11-06)

b. Any physical change in, or change in the method of operation of, a stationary source or facility which results in an increase in the emissions rate of any state only toxic air pollutant, or emissions of any state only toxic air pollutant not previously emitted. (4-11-06)

c. Fugitive emissions shall not be considered in determining whether a permit is required for a modification unless required by federal law. (4-11-06)

d. For purposes of ~~*Subsections 006.55.a. and 006.55.b.*~~ this definition of modification, routine maintenance, repair and replacement shall not be considered physical changes and the following shall not be considered a change in the method of operation:

~~(4-11-06)~~(____)

i. An increase in the production rate if such increase does not exceed the operating design capacity of the affected stationary source, and if a more restrictive production rate is not specified in a permit; (5-1-94)

ii. An increase in hours of operation if more restrictive hours of operation are not specified in a permit; and (5-1-94)

iii. Use of an alternative fuel or raw material if the stationary source is specifically designed to accommodate such fuel or raw material and use of such fuel or raw material is not specifically prohibited in a permit. (4-5-00)

~~5~~64. Monitoring. Sampling and analysis, in a continuous or noncontinuous sequence, using techniques which will adequately measure emission levels and/or ambient air concentrations of air pollutants. (5-1-94)

65. Most Impaired Days. The average visibility impairment (measured in deciviews) for the twenty percent (20%) of monitored days in a calendar year with the highest amount of visibility impairment. (____)

~~57~~66. Multiple Chamber Incinerator. Any article, machine, equipment, contrivance, structure or part of a structure used to dispose of combustible refuse by burning, consisting of three (3) or more refractory lined combustion furnaces in series physically separated by refractory walls, interconnected by gas passage ports or ducts and employing adequate parameters necessary for maximum combustion of the material to be burned. (5-1-94)

67. Natural Conditions. Includes naturally occurring phenomena that reduce visibility as measured in terms of light extinction, visual range, contrast, or coloration. (____)

~~58~~68. New Stationary Source or Facility. (5-1-94)

a. Any stationary source or facility, the construction or modification of which is commenced after the original effective date of any applicable provision of this chapter; or (5-1-94)

b. The restart of a nonoperating facility shall be considered a new stationary source or facility if: (5-1-94)

i. The restart involves a modification to the facility; or (5-1-94)

ii. After the facility has been in a nonoperating status for a period of two (2) years, and the Department receives an application for a Permit to Construct in the area affected by the existing nonoperating facility, the Department will, within five (5) working days of receipt of the application notify the nonoperating facility of receipt of the application for a Permit to Construct. Upon receipt of this Departmental notification, the nonoperating facility will comply with the following restart schedule or be considered a new stationary source or facility when it does restart: Within thirty (30) working days after receipt of the Department's notification of the

application for a Permit to Construct, the nonoperating facility shall provide the Department with a schedule detailing the restart of the facility. The restart must begin within sixty (60) days of the date the Department receives the restart schedule. (5-1-94)

~~59~~69. **Nonattainment Area**. Any area which is designated, pursuant to 42 U.S.C. Section 7407(d), as not meeting (or contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. (5-1-94)

~~60~~70. **Noncondensibles**. Gases and vapors from processes that are not condensed at standard temperature and pressure unless otherwise specified. (5-1-94)

~~61~~71. **Odor**. The sensation resulting from stimulation of the human sense of smell. (5-1-94)

~~62~~72. **Opacity**. A state which renders material partially or wholly impervious to rays of light and causes obstruction of an observer's view, expressed as percent. (5-1-94)

~~63~~73. **Open Burning**. The burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the ambient air without passing through a stack, duct or chimney. (5-1-94)

~~64~~74. **Operating Permit**. A permit issued by the Director pursuant to Sections 300 through 386 and/or 400 through 461. (4-5-00)

~~65~~75. **Particulate Matter**. Any material, except water in uncombined form, that exists as a liquid or a solid at standard conditions. (5-1-94)

~~66~~76. **Particulate Matter Emissions**. All particulate matter emitted to the ambient air as measured by an applicable reference method, or any equivalent or alternative method in accordance with Section 157. (4-5-00)

~~6~~7. **Permit to Construct**. A permit issued by the Director pursuant to Sections 200 through 228. (7-1-02)

~~68~~78. **Person**. Any individual, association, corporation, firm, partnership or any federal, state or local governmental entity. (5-1-94)

~~69~~79. **PM-10**. All particulate matter in the ambient air with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers as measured by a reference method based on Appendix J of 40 CFR Part 50 and designated in accordance with 40 CFR Part 53 or by an equivalent method designated in accordance with 40 CFR Part 53. (5-1-94)

~~70~~80. **PM-10 Emissions**. All particulate matter, including condensible particulates, with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method in accordance with Section 157. (4-5-00)

~~71~~81. **Potential to Emit/Potential Emissions**. The maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, ~~*provided the limitation or its effect on emissions is state or federally enforceable, shall be treated as part of its design. Limitations may include, but are not limited to,*~~ including air pollution control equipment~~,~~ and restrictions on hours of operation ~~*and restrictions*~~ or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. ~~*This definition does not alter or affect the term "capacity factor" as defined in 42 U.S.C. Sections 7651 through 7651o.*~~ Secondary emissions do not count in determining the potential to emit of a facility or stationary source. ~~*(4-5-00)*~~( )

~~72~~82. **Portable Equipment**. Equipment which is designed to be dismantled and transported from one (1) job site to another job site. (5-1-94)

~~73~~83. **PPM (parts per million)**. Parts of a gaseous contaminant per million parts of gas by volume. (5-1-94)

~~74~~84. **Prescribed Fire Management Burning**. The controlled application of fire to wildland fuels in either their natural or modified state under such conditions of weather, fuel moisture, soil moisture, etc., as will allow the fire to be confined to a predetermined area and at the same time produce the intensity of heat and rate of spread required to accomplish planned objectives, including: (5-1-94)

a. Fire hazard reduction; (5-1-94)

b. The control of pests, insects, or diseases; (5-1-94)

c. The promotion of range forage improvements; (5-1-94)

d. The perpetuation of natural ecosystems; (5-1-94)

e. The disposal of woody debris resulting from a logging operation, the clearing of rights of way, a land clearing operation, or a driftwood collection system; (5-1-94)

f. The preparation of planting and seeding sites for forest regeneration; and (5-1-94)

g. Other accepted natural resource management purposes. (5-1-94)

~~75~~85. **Primary Ambient Air Quality Standard**. That ambient air quality which, allowing an adequate margin of safety, is requisite to protect the public health. (5-1-94)

~~76~~86. **Process or Process Equipment**. Any equipment, device or contrivance for changing any materials whatever or for storage or handling of any materials, and all appurtenances thereto, including ducts, stack, etc., the use of which may cause any discharge of an air pollutant into the ambient air but not including that equipment specifically defined as fuel-burning equipment or refuse-burning equipment. (5-1-94)

~~77~~87. **Process Weight**. The total weight of all materials introduced into any source operation which may cause any emissions of particulate matter. Process weight includes solid fuels charged, but does not include liquid and gaseous fuels charged or combustion air. Water which occurs naturally in the feed material shall be considered part of the process weight. (5-1-94)

~~78~~8. **Process Weight Rate**. The rate established as follows: (5-1-94)

a. For continuous or long-run steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof; (4-5-00)

b. For cyclical or batch source operations, the total process weight for a period that covers a complete cycle of operation or an integral number of cycles, divided by the hours of actual process operation during such a period. Where the nature of any process or operation or the design of any equipment is such as to permit more than one (1) interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply. (4-5-00)

~~7~~89. **Quantifiable**. The Department must be able to determine the emissions impact of any SIP trading programs requirement(s) or emission limit(s). (4-5-00)

~~8~~90. **Radionuclide**. A type of atom which spontaneously undergoes radioactive decay. (5-1-94)

91. **Regional Haze**. Visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area. Such sources include, but are not limited to, major and minor stationary sources, mobile sources, and area sources. (____)

~~81~~92. **Regulated Air Pollutant**. (4-11-06)

a. For purposes of determining applicability of major source permit to operate requirements, issuing, and modifying permits pursuant to Sections 300 through 397, and in accordance with Title V of the federal Clean Air Act amendments of 1990, 42 U.S.C. Section 7661 et seq., "regulated air pollutant" shall have the same meaning as in Title V of the federal Clean Air Act amendments of 1990, and any applicable federal regulations promulgated pursuant to Title V of the federal Clean Air Act amendments of 1990, 40 CFR Part 70; (4-11-06)

b. For purposes of determining applicability of any other operating permit requirements, issuing, and modifying permits pursuant to Sections 400 through 410, the federal definition of "regulated air pollutant" as defined in Subsection 006.~~81~~94.a. shall also apply; ~~(4-11-06)~~(____)

c. For purposes of determining applicability of permit to construct requirements, issuing, and modifying permits pursuant to Sections 200 through 228, except Section 214, and in accordance with Part D of Subchapter I of the federal Clean Air Act, 42 U.S.C. Section 7501 et seq., "regulated air pollutant" shall mean those air contaminants that are regulated in non-attainment areas pursuant to Part D of Subchapter I of the federal Clean Air Act and applicable federal regulations promulgated pursuant to Part D of Subchapter I of the federal Clean Air Act,

40 CFR 51.165; and (4-11-06)

d. For purposes of determining applicability of any other major or minor permit to construct requirements, issuing, and modifying permits pursuant to 200 through 228, except Section 214, "regulated air pollutant" shall mean those air contaminants that are regulated in attainment and unclassifiable areas pursuant to Part C of Subchapter I of the federal Clean Air Act, 40 CFR 52.21, and any applicable federal regulations promulgated pursuant to Part C of Subchapter I of the federal Clean Air Act, 42 U.S.C. Section 7470 et seq. (4-11-06)

82<u>93</u>**.** **Replicable**. Any SIP procedures for applying emission trading shall be structured so that two (2) independent entities would obtain the same result when determining compliance with the emission trading provisions. (4-5-00)

83<u>94</u>**.** **Responsible Official**. One (1) of the following: (5-1-94)

a. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one (1) or more manufacturing, production, or operating facilities applying for or subject to a permit and either: (5-1-94)

i. The facilities employ more than two hundred fifty (250) persons or have gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars); or (4-5-00)

ii. The delegation of authority to such representative is approved in advance by the Department. (5-1-94)

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively. (5-1-94)

c. For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of Section 123, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA). (4-5-00)

d. For Phase II sources: (5-1-94)

i. The designated representative in so far as actions, standards, requirements, or prohibitions under 42 U.S.C. Sections 7651 through 7651o or the regulations promulgated thereunder are concerned; and (5-1-94)

ii. The designated representative for any other purposes under 40 CFR Part 70. (5-1-94)

84<u>95</u>**.** **Safety Measure**. Any shutdown (and related startup) or bypass of equipment or

processes undertaken to prevent imminent injury or death or severe damage to equipment or property which may cause excess emissions. (4-5-00)

~~85~~96. **Salvage Operation**. Any source consisting of any business, trade or industry engaged in whole or in part in salvaging or reclaiming any product or material, such as, but not limited to, reprocessing of used motor oils, metals, chemicals, shipping containers, or drums, and specifically including automobile graveyards and junkyards. (5-1-94)

~~86~~97. **Scheduled Maintenance**. Planned upkeep, repair activities and preventative maintenance on any air pollution control equipment or emissions unit, including process equipment, and including shutdown and startup of such equipment. (3-20-97)

~~87~~98. **Secondary Ambient Air Quality Standard**. That ambient air quality which is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of air pollutants in the ambient air. (5-1-94)

~~1~~99. **Secondary Emissions**. Emissions which would occur as a result of the construction, modification, or operation of a stationary source or facility, but do not come from the stationary source or facility itself. Secondary emissions must be specific, well defined, quantifiable, and affect the same general area as the stationary source, facility, or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the primary stationary source, facility or modification. Secondary emissions do not include any emissions which come directly from a mobile source regulated under 42 U.S.C. Sections 7521 through 7590. ( )

~~88~~100. **Shutdown**. The normal and customary time period required to cease operations of air pollution control equipment or an emissions unit beginning with the initiation of procedures to terminate normal operation and continuing until the termination is completed. (5-1-94)

~~89~~101. **Significant**. In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following: (4-11-06)

a. Pollutant and emissions rate: (4-11-06)

i. Carbon monoxide, one hundred (100) tons per year; (5-1-94)

ii. Nitrogen oxides, forty (40) tons per year; (5-1-94)

iii. Sulfur dioxide, forty (40) tons per year; (5-1-94)

iv. Particulate matter, twenty-five (25) tons per year of particulate matter emissions; fifteen (15) tons per year of PM_{10} emissions; (4-11-06)

v. Ozone, forty (40) tons per year of volatile organic compounds; (4-11-06)

vi. Lead, six-tenths (0.6) of a ton per year; (5-1-94)

vii. Fluorides, three (3) tons per year; (5-1-94)

viii. Sulfuric acid mist, seven (7) tons per year; (5-1-94)

ix. Hydrogen sulfide (H2S), ten (10) tons per year; (5-1-94)

x. Total reduced sulfur (including H2S), ten (10) tons per year; (5-1-94)

xi. Reduced sulfur compounds (including H2S), ten (10) tons per year; (5-1-94)

xii. Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans), thirty-five ten-millionths (0.0000035) tons per year; (5-1-94)

xiii. Municipal waste combustor metals (measured as particulate matter), fifteen (15) tons per year; (5-1-94)

xiv. Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride), forty (40) tons per year; (5-1-94)

xv. Municipal solid waste landfill emissions (measured as nonmethane organic compounds), fifty (50) tons per year; or (4-11-06)

xvi. Radionuclides, a quantity of emissions, from source categories regulated by 40 CFR Part 61, Subpart H, that have been determined in accordance with 40 CFR Part 61, Appendix D and by Department approved methods, that would cause any member of the public to receive an annual effective dose equivalent of at least one tenth (0.1) mrem per year, if total facility-wide emissions contribute an effective dose equivalent of less than three (3) mrem per year; or any radionuclide emission rate, if total facility-wide radionuclide emissions contribute an effective dose equivalent of greater than or equal to three (3) mrem per year. (5-1-95)

b. In reference to a net emissions increase or the potential of a source or facility to emit a regulated air pollutant not listed in Subsection 006.~~89~~103.a. above and not a toxic air pollutant, any emission rate; or ~~(4-11-06)~~(____)

c. For a major facility or major modification which would be constructed within ten (10) kilometers of a Class I area, the emissions rate which would increase the ambient concentration of an emitted regulated air pollutant in the Class I area by one (1) microgram per cubic meter, twenty-four (24) hour average, or more. (4-5-00)

~~**90**~~**102. Significant Contribution**. Any increase in ambient concentrations which would exceed the following: (5-1-94)

a. Sulfur dioxide: (5-1-94)

i. One (1.0) microgram per cubic meter, annual average; (5-1-94)

ii. Five (5) micrograms per cubic meter, twenty-four (24) hour average; (5-1-94)

iii. Twenty-five (25) micrograms per cubic meter, three (3) hour average; (5-1-94)

b. Nitrogen dioxide, one (1.0) microgram per cubic meter, annual average; (5-1-94)

c. Carbon monoxide: (5-1-94)

i. One-half (0.5) milligrams per cubic meter, eight (8) hour average; (5-1-94)

ii. Two (2) milligrams per cubic meter, one (1) hour average; (5-1-94)

d. PM-10: (5-1-94)

i. One (1.0) microgram per cubic meter, annual average; (5-1-94)

ii. Five (5.0) micrograms per cubic meter, twenty-four (24) hour average. (5-1-94)

***~~91~~*103. Small Fire**. A fire in which the material to be burned is not more than four (4) feet in diameter nor more than three (3) feet high. (5-1-94)

***~~92~~*104. Smoke**. Small gas-borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon and other combustible material. (5-1-94)

***~~93~~*105. Smoke Management Plan**. A document issued by the Director to implement Sections 606 through 616, Categories of Allowable Burning. (5-1-94)

***~~94~~*106. Smoke Management Program**. A program whereby meteorological information, fuel conditions, fire behavior, smoke movement and atmospheric dispersal conditions are used as a basis for scheduling the location, amount and timing of open burning operations so as to minimize the impact of such burning on identified smoke sensitive areas. (5-1-94)

***~~95~~*107. Source**. A stationary source. (5-1-94)

***~~96~~*108. Source Operation**. The last operation preceding the emission of air pollutants, when this operation: (5-1-94)

a. Results in the separation of the air pollutants from the process materials or in the conversion of the process materials into air pollutants, as in the case of fuel combustion; and (5-1-94)

b. Is not an air cleaning device. (5-1-94)

***~~97~~*109. Stack**. Any point in a source arranged to conduct emissions to the ambient air, including a chimney, flue, conduit, or duct but not including flares. (5-1-94)

***~~98~~*110. Standard Conditions**. Except as specified in Subsection 576.02 for ambient air quality standards, a dry gas temperature of twenty degrees Celsius (20C) sixty-eight degrees

Fahrenheit (68F) and a gas pressure of seven hundred sixty (760) millimeters of mercury (14.7 pounds per square inch) absolute. (4-5-00)

~~99~~11~~1~~. **Startup**. The normal and customary time period required to bring air pollution control equipment or an emissions unit, including process equipment, from a nonoperational status into normal operation. (5-1-94)

1~~00~~1~~2~~. **Stationary Source**. Any building, structure, facility, emissions unit, or installation which emits or may emit any air pollutant. The fugitive emissions shall not be considered in determining whether a permit is required unless required by federal law. (4-11-06)

1~~0~~1~~3~~. **Tier I Source**. Any of the following: (5-1-94)

a. Any source located at any major facility as defined in Section 008; (4-5-00)

b. Any source, including an area source, subject to a standard, limitation, or other requirement under 42 U.S.C. Section 7411 or 40 CFR Part 60, and required by EPA to obtain a Part 70 permit; (4-11-06)

c. Any source, including an area source, subject to a standard or other requirement under 42 U.S.C. Section 7412, 40 CFR Part 61 or 40 CFR Part 63, and required by EPA to obtain a Part 70 permit, except that a source is not required to obtain a permit solely because it is subject to requirements under 42 U.S.C. Section 7412(r); (4-11-06)

d. Any Phase II source; and (5-1-94)

e. Any source in a source category designated by the Department. (5-1-94)

1~~02~~1~~4~~. **Total Suspended Particulates**. Particulate matter as measured by the method described in 40 CFR 50 Appendix B. (4-5-00)

1~~03~~1~~5~~. **Toxic Air Pollutant**. An air pollutant that has been determined by the Department to be by its nature, toxic to human or animal life or vegetation and listed in Section 585 or 586. (5-1-94)

1~~04~~1~~6~~. **Toxic Air Pollutant Carcinogenic Increments**. Those ambient air quality increments based on the probability of developing excess cancers over a seventy (70) year lifetime exposure to one (1) microgram per cubic meter (1 ug/m3) of a given carcinogen and expressed in terms of a screening emission level or an acceptable ambient concentration for a carcinogenic toxic air pollutant. They are listed in Section 586. (5-1-94)

1~~05~~1~~7~~. **Toxic Air Pollutant Non-carcinogenic Increments**. Those ambient air quality increments based on occupational exposure limits for airborne toxic chemicals expressed in terms of a screening emission level or an acceptable ambient concentration for a non-carcinogenic toxic air pollutant. They are listed in Section 585. (5-1-94)

1~~06~~1~~8~~. **Toxic Substance**. Any air pollutant that is determined by the Department to be by its nature, toxic to human or animal life or vegetation. (5-1-94)

1~~07~~19. Trade Waste. Any solid, liquid or gaseous material resulting from the construction or demolition of any structure, or the operation of any business, trade or industry including, but not limited to, wood product industry waste such as sawdust, bark, peelings, chips, shavings and cull wood. (5-1-94)

1~~08~~20. TRS (Total Reduced Sulfur). Hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyl disulfide and any other organic sulfide present. (5-1-94)

1~~09~~21. Unclassifiable Area. An area which, because of a lack of adequate data, is unable to be classified pursuant to 42 U.S.C. Section 7407(d) as either an attainment or a nonattainment area. (5-1-94)

1~~10~~22. Uncontrolled Emission. An emission which has not been treated by control equipment. (5-1-94)

1~~11~~23. Upset. An unplanned disruption in the normal operations of any equipment or emissions unit which may cause excess emissions. (4-5-00)

124. Visibility Impairment. Any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions. (____)

125. Visibility in Any Mandatory Class I Federal Area. Includes any integral vista associated with that area. (____)

1~~12~~26. Wigwam Burner. Wood waste burning devices commonly called teepee burners, silos, truncated cones, and other such burners commonly used by the wood product industry for the disposal by burning of wood wastes. (5-1-94)

1~~13~~27. Wood Stove Curtailment Advisory. An air pollution alert issued through local authorities and/or the Department to limit wood stove emissions during air pollution episodes. (5-1-94)

007. DEFINITIONS FOR THE PURPOSES OF SECTIONS 200 THROUGH 228 AND 400 THROUGH 461.

~~*01. **Adverse Impact on Visibility**. Visibility impairment which interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairments, and how these factors correlate with: (4-5-00)*~~

~~*a. Times of visitor use of the Federal Class I area; and (4-5-00)*~~

~~*b. The frequency and timing of natural conditions that reduce visibility. (4-5-00)*~~

~~*c. This term does not include affects on integral vistas. (4-5-00)*~~

0~~2~~1. Agricultural Activities and Services. For the purposes of Subsection 222.02.f., the usual and customary activities of cultivating the soil, producing crops and raising livestock for use and consumption. Agricultural activities and services do not include manufacturing, bulk storage, handling for resale or the formulation of any agricultural chemical listed in Sections 585 or 586. (5-1-94)

0~~3~~2. Baseline Actual Emissions. The rate of emissions, in tons per year, of a regulated air pollutant as determined by the following provisions: (4-11-06)

a. For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the regulated air pollutant during any consecutive twenty-four (24) month period selected by the owner or operator within the five (5) year period immediately preceding when the owner or operator begins actual construction of the project. The Director shall allow the use of a different time period upon a determination that it is more representative of normal source operation. (4-11-06)

i. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions. (4-11-06)

ii. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive twenty-four (24) month period. (4-11-06)

iii. For a regulated air pollutant, when a project involves multiple emissions units, only one (1) consecutive twenty-four (24) month period must be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive twenty-four (24) month period can be used for each regulated air pollutant. (4-11-06)

iv. The average rate shall not be based on any consecutive twenty-four (24) month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by Subsection 007.0~~3~~2.a.ii. ~~(4-11-06)~~(____)

b. For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the regulated air pollutant during any consecutive twenty-four (24) month period selected by the owner or operator within the ten (10) year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Director for a permit required under these rules, whichever is earlier, except that the ten (10) year period shall not include any period earlier than November 15, 1990. (4-11-06)

i. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions. (4-11-06)

ii. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive twenty-four (24) month period. (4-11-06)

iii. The average rate shall be adjusted downward to exclude any emission limitation with which the source must currently comply, had such source been required to comply with such limitations during the consecutive twenty-four (24) month period; however, if an emission limitation is part of a standard or other requirement under 40 CFR Part 63, the baseline actual emissions need only be adjusted if the Department has taken credit for such emissions reductions in an attainment demonstration or maintenance plan. (4-11-06)

iv. For a regulated air pollutant, when a project involves multiple emissions units, only one (1) consecutive twenty-four (24) month period must be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive twenty-four (24) month period can be used for each regulated air pollutant. (4-11-06)

v. The average rate shall not be based on any consecutive twenty-four (24) month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by Subsections 006.03.b.ii. and 006.03.b.iii. (4-11-06)

c. For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero (0); and, thereafter, for all other purposes, shall equal the unit's potential to emit. (4-11-06)

d. For a plantwide applicability limit (PAL) for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in Subsection 007.0~~3~~2.a, for other existing emissions units in accordance with the procedures contained in Subsection 007.0~~3~~2.b, and for a new emissions unit in accordance with the procedures contained in Subsection 007.0~~3~~2.c. ~~(4-11-06)~~(____)

0~~4~~3. **Begin Actual Construction**. Commence construction. (4-11-06)

0~~5~~4. **Emissions Increase**. The amount by which projected actual emissions exceed baseline actual emissions of an emissions unit. (4-11-06)

0~~6~~5. **Innovative Control Technology**. Any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice, or of achieving at least comparable reductions at lower cost in terms of energy, economics, or non-air quality environmental effects. (5-1-94)

~~*07. **Integral Vista**. A view perceived from within the mandatory federal Class I area of a specific landmark or panorama located outside the boundary of the mandatory federal Class I area. Integral vistas are identified by the responsible federal land manager in accordance with criteria adopted pursuant to 40 CFR Part 51.304(a).* (5-1-94)~~

~~*08. **Mandatory Federal Class I Area**. Any area designated under 42 U.S.C. Section 7472(a) as Class I and never to be redesignated.* (5-1-94)~~

0~~9~~6. Net Emissions Increase. For purposes of Sections 204 and 205, a net emissions increase shall be defined by the federal regulations incorporated by reference. For purposes of Section 210, a net emissions increase shall be an emissions increase from a particular modification plus any other increases and decreases in actual emissions at the facility that are creditable and contemporaneous with the particular modification, where: (4-11-06)

a. A creditable increase or decrease in actual emissions is contemporaneous with a particular modification if it occurs between the date five (5) years before the commencement of construction or modification on the particular change and the date that the increase from the particular modification occurs. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed one hundred and eighty (180) days; (4-5-00)

b. A decrease in actual emissions is creditable only if it satisfies the requirements for emission reduction credits (Section 460) and has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular modification, and is federally enforceable at and after the time that construction of the modification commences. (4-5-00)

c. The increase in toxic air pollutant emissions from an already operating or permitted source is not included in the calculation of the net emissions increase for a proposed new source or modification if: (5-1-95)

i. The already operating or permitted source commenced construction or modification prior to July 1, 1995; or (5-1-95)

ii. The uncontrolled emission rate from the already operating or permitted source is ten per cent (10%) or less of the applicable screening emissions level listed in Section 585 or 586; or (6-30-95)

iii. The already operating or permitted source is an environmental remediation source subject to or regulated by the Resource Conservation and Recovery Act (42 U.S.C. Sections 6901-6992k) and "Idaho Rules and Standards for Hazardous Waste," (IDAPA 58.01.05.000 et seq.) or the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 6901-6992k) or a consent order. (6-30-95)

~~1~~07. Pilot Plant. A stationary source located at least one quarter (1/4) mile from any sensitive receptor that functions to test processing, mechanical, or pollution control equipment to determine full-scale feasibility and which does not produce products that are offered for sale except in developmental quantities. (5-1-94)

~~11~~08. Projected Actual Emissions. (4-11-06)

a. The maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated air pollutant in any one (1) of the five (5) years (twelve (12) month period) following the date the unit resumes regular operation after the project, or in any one (1) of the ten (10) years following that date, if the project involves increasing the emissions unit's design

capacity or its potential to emit that regulated air pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at an existing major stationary source. (4-11-06)

b. In determining the projected actual emissions, the owner or operator of the stationary source: (4-11-06)

i. Shall consider all relevant information including, but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with state or federal regulatory authorities, and compliance plans under the approved state implementation plan; and (4-11-06)

ii. Shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions; and (4-11-06)

iii. Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive twenty-four (24) month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth; or (4-11-06)

iv. In lieu of using the method set out in Subsections 007.11.b.i. through 007.11.b.iii., may elect to use the emissions unit's potential to emit, in tons per year. (4-11-06)

~~12~~09. Reasonable Further Progress (RFP). Annual incremental reductions in emissions of the applicable air pollutant as identified in the SIP which are sufficient to provide for attainment of the applicable ambient air quality standard by the required date. (4-11-06)

~~***13. Secondary Emissions**. Emissions which would occur as a result of the construction, modification, or operation of a stationary source or facility, but do not come from the stationary source or facility itself. Secondary emissions must be specific, well defined, quantifiable, and affect the same general area as the stationary source, facility, or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the primary stationary source, facility or modification. Secondary emissions do not include any emissions which come directly from a mobile source regulated under 42 U.S.C. Sections 7521 through 7590. (4-5-00)~~

1~~4~~0. Sensitive Receptor. Any residence, building or location occupied or frequented by persons who, due to age, infirmity or other health based criteria, may be more susceptible to the deleterious effects of a toxic air pollutant than the general population including, but not limited to, elementary and secondary schools, day care centers, playgrounds and parks, hospitals, clinics and nursing homes. (5-1-94)

1~~5~~1. Short Term Source. Any new stationary source or modification to an existing source, with an operational life no greater than five (5) years from the inception of any operations to the cessation of actual operations. (5-1-94)

1~~65~~2. Toxic Air Pollutant Reasonably Available Control Technology (T-RACT). An emission standard based on the lowest emission of toxic air pollutants that a particular source is capable of meeting by the application of control technology that is reasonably available, as determined by the Department, considering technological and economic feasibility. If control technology is not feasible, the emission standard may be based on the application of a design, equipment, work practice or operational requirement, or combination thereof. (5-1-94)

~~***17. Visibility Impairment**. Any humanly perceptible change in visibility (visual range, contrast, coloration) from that which would have existed under natural conditions. (4-5-00)*~~

(BREAK IN CONTINUITY OF SECTIONS)

107. INCORPORATIONS BY REFERENCE.

01. General. Unless expressly provided otherwise, any reference in these rules to any document identified in Subsection 107.03 shall constitute the full incorporation into these rules of that document for the purposes of the reference, including any notes and appendices therein. The term "documents" includes codes, standards or rules which have been adopted by an agency of the state or of the United States or by any nationally recognized organization or association. (5-1-94)

02. Availability of Referenced Material. Copies of the documents incorporated by reference into these rules are available at the following locations: (5-1-94)

a. All federal publications: U.S. Government Printing Office, http://www.gpoaccess.gov/index.html; and (3-20-04)

b. All documents herein incorporated by reference: (7-1-97)

i. Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706-1255 at (208) 373-0502. (7-1-97)

ii. State Law Library, 451 W. State Street, P.O. Box 83720, Boise, Idaho 83720-0051, (208) 334-3316. (7-1-97)

03. Documents Incorporated by Reference. The following documents are incorporated by reference into these rules: (5-1-94)

a. Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Appendix W to Part 51--Guideline on Air Quality Models. 40 CFR Parts 51 and 52 revised as of July 1, 2005. (4-11-06)

b. Implementation Plan for the Control of Air Pollution in the State of Idaho (SIP), Department of Environmental Quality, November 1996. (3-19-99)

c. National Primary and Secondary Ambient Air Quality Standards, 40 CFR Part 50, revised as of July 1, 2005. (4-11-06)

d. Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Protection of Visibility, ~~*Identification of Integral Vistas, Subsection a,*~~ 40 CFR ~~*Part*~~ 51.301, 51.304(a), 51.307, and 51.308, revised as of July 1, 200~~5~~6. ~~*(4-11-06)*~~( )

e. Approval and Promulgation of Implementation Plans, 40 CFR Part 52, revised as of July 1, 2005. (4-11-06)

f. Ambient Air Monitoring Reference and Equivalent Methods, 40 CFR Part 53, revised as of July 1, 2005. (4-11-06)

g. Ambient Air Quality Surveillance, Quality Assurance Requirements for Prevention of Significant Deterioration (PSD Air Monitoring), 40 CFR Part 58, Appendix B, revised as of July 1, 2005. (4-11-06)

h. Standards of Performance for New Stationary Sources, 40 CFR Part 60, revised as of July 1, 2005. (4-11-06)

i. National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61, revised as of July 1, 2005. (4-11-06)

j. National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR Part 63, revised as of July 1, 2005. (4-11-06)

k. Compliance Assurance Monitoring, 40 CFR Part 64, revised as of July 1, 2005. (4-11-06)

l. Permits, 40 CFR Part 72, revised as of July 1, 2005. (4-11-06)

m. Sulfur Dioxide Allowance System, 40 CFR Part 73, revised as of July 1, 2005. (4-11-06)

n. Protection of Stratospheric Ozone, 40 CFR Part 82, revised as of July 1, 2005. (4-11-06)

o. Clean Air Act, 42 U.S.C. Sections 7401 through 7671g (1997). (3-19-99)

p. Determining Conformity of Federal Actions to State or Federal Implementation Plans: Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws, 40 CFR Part 93, Subpart A, Sections 93.100 through 93.129, revised as of July 1, 2005, except that Sections 93.102(c), 93.104(d), 93.104(e)(2), 93.105, 93.109(c)-(f), 93.118(e), 93.119(f)(3), 93.120(a)(2), 93.121(a)(1), and 93.124(b) are expressly omitted from the incorporation by reference. (4-11-06)

q. The final rule for Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28,606 (May 18, 2005), corrected at 70 Fed. Reg. 51,267, is expressly excluded from any incorporation by reference into these rules. (4-11-06)

(BREAK IN CONTINUITY OF SECTIONS)

204. PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN NONATTAINMENT AREAS.
New major facilities or major modifications proposed for location in a nonattainment area and which would be major for the nonattainment regulated air pollutant are considered nonattainment new source review (NSR) actions and are subject to the requirements in Section 204. Section 202 contains application requirements and Section 209 contains processing requirements for nonattainment NSR permitting actions. The intent of Section 204 is to incorporate the federal nonattainment NSR rule requirements. (4-6-05)

01. Incorporated Federal Program Requirements. Requirements contained in the following subparts of 40 CFR 51.165, revised as of July 1, 2005, are hereby incorporated by reference. Requirements contained in the following subparts of 40 CFR 52.21, revised as of July 1, 2005, are hereby incorporated by reference. These CFR sections have been codified in the electronic CFR which is available at www.gpoaccess.gov/ecfr.

40 CFR Reference	40 CFR Reference Title
40 CFR 51.165(a)(1)	Definitions
40 CFR 51.165(a)(2)(ii)(A) - (J)	Applicability Provisions
40 CFR 51.165(a)(6)(i) - (v)	Applicability Provisions
40 CFR 51.165(c)	Clean Unit Test for Emission Units that are Subject to LAER
40 CFR 51.165(d)	Clean Unit Provisions for Emission Units that Achieve an Emission Limitation Comparable to LAER
40 CFR 52.21(z)(1) - (3) and (6)	PCP Exclusion Procedural Requirements
40 CFR 52.21(aa)	Actual PALs

(4-11-06)

02. Additional Requirements. The applicant must demonstrate to the satisfaction of the Department the following: (4-6-05)

a. LAER. Except as otherwise provided in Section 204, the new major facility or major modification would be operated at the lowest achievable emission rate (LAER) for the nonattainment regulated air pollutant, specifically: (4-6-05)

i. A new major facility would meet the lowest achievable emission rate at each new emissions unit which emits the nonattainment regulated air pollutant; and (4-5-00)

ii. A major modification would meet the lowest achievable emission rate at each new or modified emissions unit which has a net emissions increase of the nonattainment regulated air pollutant. (4-5-00)

b. Required offsets. Allowable emissions from the new major facility or major modification are offset by reductions in actual emissions from stationary sources, facilities, and/or mobile sources in the nonattainment area so as to represent reasonable further progress. All offsetting emission reductions must satisfy the requirements for emission reduction credits (Section 460) and provide for a net air quality benefit which satisfies the requirements of Section 208. If the offsets are provided by other stationary sources or facilities, a permit to construct shall not be issued for the new major facility or major modification until the offsetting reductions are made enforceable through the issuance of operating permits. The new major facility or major modification may not commence operation, and an operating permit for the new major facility or major modification shall not be effective before the date the offsetting reductions are achieved. (4-5-00)

c. Compliance status. All other sources in the State owned or operated by the applicant, or by any entity controlling, controlled by or under common control with such person, are in compliance with all applicable emission limitations and standards or subject to an enforceable compliance schedule. (5-1-94)

d. Effect on visibility. The effect on visibility of any federal Class I area, Class I area designated by the Department, or integral vista of a mandatory ~~*federal*~~ Class I Federal ~~*a*~~Area, by the new major facility or major modification, is consistent with making reasonable progress toward ~~*remedying existing and preventing future visibility impairment*~~ the national visibility goal referred to in 40 CFR 51.300(a). The Department may take into account the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance and the useful life of the source. Any integral vista which the Federal Land Manager has not identified at least six (6) months prior to the submittal of a complete application, or which the Department determines was not identified in accordance with the criteria adopted pursuant to 40 CFR ~~*Part*~~ 51.304(a), may be exempted from Section 204 by the Department. ~~*(4-6-05)*~~(____)

03. Nonmajor Requirements. If the proposed action meets the requirements of an exemption or exclusion under the provisions of 40 CFR 51.165 or 40 CFR 52.21 incorporated in Section 204, the nonmajor facility or stationary source permitting requirements of Sections 200 through 228 apply, including the exemptions in Sections 220 through 223. (4-6-05)

205. PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN ATTAINMENT OR UNCLASSIFIABLE AREAS.
The prevention of significant deterioration (PSD) program is a construction permitting program for new major facilities and major modifications to existing major facilities located in areas in attainment or in areas that are unclassifiable for any criteria air pollutant. Section 202 contains application requirements and Section 209 contains processing requirements for PSD permit actions. The intent of Section 205 is to incorporate the federal PSD rule requirements. (4-6-05)

01. Incorporated Federal Program Requirements. Requirements contained in the following subparts of 40 CFR 52.21, revised as of July 1, 2005, are hereby incorporated by

reference. These CFR sections have been codified in the electronic CFR which is available at www.gpoaccess.gov/ecfr.

40 CFR Reference	40 CFR Reference Title
40 CFR 52.21(a)(2)	Applicability Procedures
40 CFR 52.21(b)	Definitions
40 CFR 52.21(i)	Review of Major Stationary Sources and Major Modifications - Source Applicability and Exempting
40 CFR 52.21(j)	Control Technology Review
40 CFR 52.21(k)	Source Impact Analysis
40 CFR 52.21(r)	Source Obligation
40 CFR 52.21(v)	Innovative Control Technology
40 CFR 52.21(w)	Permit Rescission
40 CFR 52.21(x)	Clean Unit Test
40 CFR 52.21(y)	Clean Unit Provisions for Emissions Units that Achieve an Emission Limit Comparable to BACT
40 CFR 52.21(z)(1) - (3) and (6)	PCP Exclusion Procedural Requirements
40 CFR 52.21(aa)	Actual PALS

(4-11-06)

02. **Effect on Visibility**. The applicant must demonstrate that the effect on visibility of any federal Class I area, Class I area designated by the Department, or integral vista of a mandatory Class I Federal Area, by the new major facility or major modification, is consistent with making reasonable progress toward the national visibility goal referred to in 40 CFR 51.300(a). The Department may take into account the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance and the useful life of the source. Any integral vista which the Federal Land Manager has not identified at least six (6) months prior to the submittal of a complete application, or which the Department determines was not identified in accordance with the criteria adopted pursuant to 40 CFR 51.304(a), may be exempted from this requirement by the Department. ( )

0~~2~~3. Exception to Incorporation by Reference of 40 CFR 52.21. Every use of the word Administrator in 40 CFR 52.21 means the Department except for the following: (4-6-05)

a. In 40 CFR 52.21(b)(17), the definition of federally enforceable, Administrator means the EPA Administrator. (4-6-05)

b. In 40 CFR 52.21(l)(2), air quality models, Administrator means the EPA Administrator. (4-6-05)

c. In 40 CFR 52.21(b)(43), permit program approved by the Administrator, Administrator means the EPA Administrator. (4-6-05)

d. In 40 CFR 52.21(b)(48)(ii)(c), MACT standard that is proposed or promulgated by the Administrator, Administrator means the EPA Administrator. (4-6-05)

e. In 40 CFR 52.21(b)(50)(i), regulated NSR pollutant as defined by Administrator, Administrator means the EPA Administrator. (4-6-05)

f. In 40 CFR 52.21(y)(4)(i), Administrator for BACT, LAER and RACT clearinghouse, Administrator means the EPA Administrator. (4-6-05)

0~~3~~4. **Nonmajor Requirements**. If the proposed action meets the requirements of an exemption or exclusion under the provisions of 40 CFR 52.21 incorporated in Section 205, the nonmajor facility or stationary source permitting requirements of Sections 200 through 228 apply, including the exemptions in Sections 220 through 223. (4-6-05)

(BREAK IN CONTINUITY OF SECTIONS)

600. RULES FOR CONTROL OF OPEN BURNING.
The purpose of Sections 600 through 617 is to reduce the amount of emissions and minimize the impact of open burning to protect human health and the environment from air pollutants resulting from open burning as well as to reduce the visibility impairment in mandatory Class I Federal Areas in accordance with the regional haze long-term strategy referenced at Section 667.
~~(3-21-03)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

651. GENERAL RULES.
All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities, the proximity to mandatory Class I Federal Areas and atmospheric conditions which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following:
~~(5-1-94)~~(____)

01. Use of Water or Chemicals. Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. (5-1-94)

02. Application of Dust Suppressants. Application, where practical, of asphalt, oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust. (5-1-94)

03. Use of Control Equipment. Installation and use, where practical, of hoods, fans and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations. (5-1-94)

04. Covering of Trucks. Covering, when practical, open bodied trucks transporting materials likely to give rise to airborne dusts. (5-1-94)

05. Paving. Paving of roadways and their maintenance in a clean condition, where practical. (5-1-94)

06. Removal of Materials. Prompt removal of earth or other stored material from streets, where practical. (5-1-94)

652. -- 6~~7~~64. (RESERVED).

665. REGIONAL HAZE RULES.
The purpose of Sections 665 through 668 is to address regional haze visibility impairment in mandatory Class I Federal Areas. The intent of Sections 665 through 668 is to *set forth the requirements to implement the federal programs for visibility protection and regional haze*.( )

666. REASONABLE PROGRESS GOALS.
The Department will establish reasonable progress goals, expressed in deciviews for each mandatory Class I Federal Area located within Idaho. These goals will provide for reasonable progress toward achieving natural visibility conditions. The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period. The reasonable progress goals are not directly enforceable, but will be implemented through enforceable strategies in the long-term strategy. ( )

01. Process for Setting Reasonable Progress Goals. In establishing a reasonable progress goal for any mandatory Class I Federal Area within Idaho, the Department shall: ( )

a. Consider the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources, and include a demonstration showing how these factors were taken into consideration in selecting the goal. ( )

b. Analyze and determine the rate of progress needed to attain natural visibility conditions by the year 2064. To calculate this rate of progress, the Department will compare baseline visibility conditions to natural visibility conditions in the mandatory Class 1 Federal Area and determine the uniform rate of visibility improvement (measured in deciviews) that would need to be maintained during each implementation period in order to attain natural visibility conditions by 2064. In establishing the reasonable progress, the Department will consider the uniform rate of improvement in visibility and the emission reduction measures needed to achieve it for the period covered by the implementation plan. ( )

c. Consult with those states which may reasonably be anticipated to cause or contribute to visibility impairment in the mandatory Class I Federal Area. ( )

02. Justification for Reasonable Progress Goals. If the Department establishes a reasonable progress goal that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, the Department will demonstrate, based on the factors in Subsection 666.01.a., that the rate of progress for the implementation plan to attain natural conditions by 2064 is not reasonable; and that the progress goal adopted by the Department is reasonable. The Department will provide to the public for review, as part of its implementation plan, an assessment of the number of years it would take to attain natural conditions if visibility improvement continues at the rate of progress selected by the Department as reasonable. ( )

667. LONG-TERM STRATEGY FOR REGIONAL HAZE.
The purpose of Section 667 is to develop a long-term strategy for making reasonable progress toward the national goal of preventing any future and remedying any existing impairment of visibility in mandatory Class I Federal Areas in which impairment results from man-made air pollution. ( )

01. Submittal of Long-Term Strategy. The Department will submit *to EPA* a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal Area within the state and for each mandatory Class I Federal Area located outside the state which may be affected by emissions from the state. ( )

02. Enforceable Emission Limitations. The long-term strategy must include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by the Department. ( )

03. Requirements for Long-Term Strategy. In establishing long-term strategy for regional haze, the Department will meet the following requirements: ( )

a. The Department will document the technical basis, including modeling, monitoring and emissions information, on which the state is relying to determine its apportionment of emission reduction obligations necessary for achieving reasonable progress in each mandatory Class I Federal Area it affects. The Department may meet this requirement by relying on technical analyses developed by the regional planning organization and approved by all state participants. The Department will identify the baseline emission inventory on which its strategies are based. The baseline emissions inventory year is presumed to be the most recent year of the consolidated periodic emissions inventory. ( )

b. The Department will identify all anthropogenic sources of visibility impairment considered by the Department in developing its long-term strategy. The Department should consider major and minor stationary sources, mobile sources, and area sources. ( )

c. The Department will consider, at a minimum, the following factors in developing its long-term strategy: ( )

i. Emission reductions due to ongoing air pollution control programs, including

measures to address reasonably attributable visibility impairment; ( )

ii. Measures to mitigate the impacts of construction activities; ( )

iii. Emissions limitations and schedules for compliance to achieve the reasonable progress goal; ( )

iv. Source retirement replacement schedules; ( )

v. Smoke management techniques for agricultural and forestry management purposes including plans as currently exist with the state for these purposes; ( )

vi. Enforceability of emissions limitations and control measures; and ( )

vii. The anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions over the period addressed by the long-term strategy. ( )

04. Interstate Consultation. The Department will undertake the following process in developing the long-term strategy where interstate consultation is required. ( )

a. Where Idaho has emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal Area located in another state or states, the Department will consult with the other state(s) in order to develop coordinated emission management strategies. ( )

b. The Department will consult with any other state having emissions that are reasonably anticipated to contribute to visibility impairment in any mandatory Class I Federal Area within Idaho. ( )

c. Where other states cause or contribute to impairment in a mandatory Class I Federal Area, the Department must demonstrate that the state has included in its implementation plan all measures necessary to obtain its share of the emission reductions needed to meet the progress goal for the area. If the state of Idaho has participated in a regional planning process, the Department must ensure the state has included all measures needed to achieve its apportionment of emission reduction obligations agreed upon through that process. ( )

668. BART REQUIREMENT FOR REGIONAL HAZE.
The purpose of Section 668 is to implement the BART requirements in 40 CFR 51.308(e). The following analysis and documentation is required for each BART-eligible source: ( )

01. BART-Eligible Sources. The Department shall identify a list of all BART-eligible sources within the state. ( )

02. BART Determination. The Department shall complete a determination of BART for each BART-eligible source in the state that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class 1 Federal Area. All such sources are subject to BART. ( )

a. A single source that is responsible for a one (1.0) deciview change or more in any mandatory Class I Federal Area is considered to "cause" visibility impairment. ( )

b. A single source that is responsible for a one-half (0.5) deciview change or more in any mandatory Class I Federal Area is considered to "contribute" to visibility impairment. ( )

c. The determination of BART must be based on an analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each BART-eligible source that is subject to BART within the state. In this analysis, the following must be taken into consideration: ( )

i. Costs of compliance; ( )

ii. Energy and non-air quality environmental impacts of compliance; ( )

iii. Any pollution control equipment in use at the source; ( )

iv. The remaining useful life of the source; and ( )

v. The degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. ( )

d. The Department may determine that a BART determination is not required: ( )

i. For sulfur dioxide (SO_2) or for nitrogen oxides (NO_x) if a BART-eligible source has the potential to emit less than forty (40) tons per year of such pollutant(s); or ( )

ii. For PM10 if a BART-eligible source emits less than fifteen (15) tons per year of such pollutant. ( )

03. Alternative to Infeasible Emission Standards. If the Department determines in establishing BART that technological or economic limitations on the applicability of measurement methodology to a particular source would make the imposition of an emission standard infeasible, it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof, to require the application of BART. Such standard, to the degree possible, is to set forth the emission reduction to be achieved by implementation of such design, equipment, work practice, or operation and must provide for compliance by means which achieve equivalent results. ( )

04. BART Installation and Operation Due Date. Each source subject to BART is required to install and operate BART as expeditiously as practicable, but in no event later than five (5) years after approval of the implementation plan. ( )

05. Maintenance of BART Equipment. Each source subject to BART is required to maintain the control equipment required by the Department and establish procedures to ensure such equipment is properly operated and maintained. ( )

06. BART Alternative. As an alternative to the installation of BART for a source or sources, the Department may approve a BART alternative. If the Department approves source grouping as a BART alternative, only sources (including BART-eligible and non-BART eligible sources) causing or contributing to visibility impairment to the same mandatory Class I Federal Area may be grouped together. ( )

a. If a source(s) proposes a BART alternative, the resultant emissions reduction and visibility impacts must be compared with those that would result from the BART options evaluated for the source(s). ( )

b. Source(s) proposing a BART alternative must demonstrate that this BART alternative will achieve greater reasonable progress than would be achieved through the installation and operation of BART. ( )

c. Source(s) proposing a BART alternative shall include in the BART analysis an analysis and justification of the averaging period and method of evaluating compliance with the proposed emission limitation. ( )

07. Reasonable Progress Goal Requirements for BART-Eligible Sources. Once the Department has met the requirements for BART or BART alternative, as identified in Subsection 668.06, BART-eligible sources will be subject to the requirements of reasonable progress goals, as defined in 40 CFR 51.308(d), in the same manner as other sources. ( )

669. -- 674. (RESERVED).

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.01 - RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO

DOCKET NO. 58-0101-0602

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Sections 39-105 and 39-107, Idaho Code. This rulemaking updates citations to the federal regulations incorporated by reference as mandated by the U.S. Environmental Protection Agency (EPA) for approval of the state's Title V Operating Permit Program pursuant to 40 CFR Part 70 and fulfilling the requirements of Idaho's delegation agreement with EPA under Sections 111 and 112(l) of the Clean Air Act.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, September 6, 2006, Vol. 06-9, pages 224 through 232. After consideration of public comments, the proposed rule has been revised at Section 107. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/air/58_0101_0602_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Dated this 16th day of November, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

DEPARTMENT OF ENVIROMENTAL QUALITY ***Docket No. 58-0101-0602***
Rules for the Control of Air Pollution in Idaho ***PENDING RULE***

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. The action is authorized by Sections 39-105 and 39-107, Idaho Code. This rulemaking updates citations to the federal regulations incorporated by reference as mandated by the U.S. Environmental Protection Agency (EPA) for approval of the state's Title V Operating Permit Program pursuant to 40 CFR Part 70 and fulfilling the requirements of Idaho's delegation agreement with EPA under Sections 111 and 112(l) of the Clean Air Act.

PUBLIC HEARING SCHEDULE: A public hearing concerning this proposed rulemaking will be held as follows:

October 10, 2006, 3:00 p.m.
Department of Environmental Quality Conference Center
1410 N. Hilton, Boise, Idaho.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made no later than five (5) days prior to the hearing. For arrangements, contact the undersigned at (208) 373-0418.

DESCRIPTIVE SUMMARY: This rulemaking is necessary to ensure that the Rules for the Control of Air Pollution in Idaho remain consistent with federal regulations. This proposed rule updates citations to federal regulations incorporated by reference to include those revised as of July 1, 2006 and deletes unnecessary, outdated references.

This rulemaking also specifically exempts certain federal regulations from incorporation by reference into IDAPA 58.01.01, Rules for the Control of Air Pollution in Idaho:

1) In accordance with New York v. EPA, 413 F.3d 3 (D.C. Cir. 2005), this proposed rule expressly omits the clean unit and pollution control project provisions currently incorporated by reference in IDAPA 58.01.01, Sections 107, 204 and 205. The Federal Court vacated these provisions.

2) For clarity and consistency with Proposed Rule Docket No. 58-0101-0601, which addresses Regional Haze in Class I Wilderness Areas within Idaho (published in the August 2006 Idaho Administrative Bulletin), this proposed rule expressly omits certain sections of 40 CFR Part 51, Subpart P, Protection of Visibility, and Appendix Y to Part 51, Guidelines for BART Determinations Under the Regional Haze Rule. See IDAPA 58.01.01, Subsection 107.03.a.

3) Federal Register publications regarding coal fired utilities are specifically exempted in IDAPA 58.01.01, Subsection 107.03.p.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in November 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the conclusion of the 2007 session of the Idaho

Legislature if adopted by the Board and approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

NEGOTIATED RULEMAKING: Due to the nature of this rulemaking, negotiations were not held.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Anyone may submit written comments by mail, fax or e-mail at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before October 10, 2006.

DATED this 4th day of August, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

008. DEFINITIONS FOR THE PURPOSES OF SECTIONS 300 THROUGH 386.

01. Affected States. All States: (5-1-94)

a. Whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or (5-1-94)

b. That are within fifty (50) miles of the Tier I source. (5-1-94)

02. Allowance. An authorization allocated to a Phase II source by the EPA to emit during or after a specified calendar year, one (1) ton of sulfur dioxide. (5-1-94)

03. Applicable Requirement. All of the following if approved or promulgated by EPA as they apply to emissions units in a Tier I source (including requirements that have been promulgated through rulemaking at the time of permit issuance but which have future-effective compliance dates): (5-1-94)

a. Any standard or other requirement provided for in the applicable state implementation plan, including any revisions to that plan that are specified in 40 CFR Parts 52.670 through 52.690. (5-1-94)

b. Any term or condition of any permits to construct issued by the Department pursuant to Sections 200 through 223 or by EPA pursuant to 42 U.S.C. Sections 7401 through 7515; provided that terms or conditions relevant only to toxic air pollutants are not applicable requirements. (4-5-00)

c. Any standard or other requirement under 42 U.S.C. Section 7411 including 40 CFR Part 60; (5-1-94)

d. Any standard or other requirement under 42 U.S.C. Section 7412 including 40 CFR Part 61 and 40 CFR Part 63; (5-1-94)

e. Any standard or other requirement of the acid rain program under 42 U.S.C. Sections 7651 through 7651o; (5-1-94)

f. Any requirements established pursuant to 42 U.S.C. Section 7414(a)(3), 42 U.S.C. Section 7661c(b) or Sections 120 through 128 of these rules; (3-23-98)

g. Any standard or other requirement governing solid waste incineration, under 42 U.S.C. Section 7429; (5-1-94)

h. Any standard or other requirement for consumer and commercial products and tank vessels, under 42 U.S.C. Sections 7511b(e) and (f); and (5-1-94)

i. Any standard or other requirement under 42 U.S.C. Sections 7671 through 7671q including 40 CFR Part 82. (5-1-94)

j. Any ambient air quality standard or increment or visibility requirement provided in 42 U.S.C. Sections 7470 through 7492, but only as applied to temporary sources receiving Tier I operating permits under Section 324. (5-1-94)

04. Designated Representative. A responsible person or official authorized by the owner or operator of a Phase II unit to represent the owner or operator in matters pertaining to the holding, transfer, or disposition of allowances allocated to a Phase II unit, and the submission of and compliance with permits, permit applications, and compliance plans for the Phase II unit. (5-1-94)

05. Draft Permit. The version of a Tier I operating permit that is made available by the Department for public participation and affected State review. (5-1-94)

06. Emergency. For the purposes of Section 332, an emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the owner or operator, including acts of God, which situation requires immediate corrective action to restore normal operation and that causes the Tier I source to exceed a technology-based emission limitation under the Tier I operating permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. (4-5-00)

07. Final Permit. The version of a Tier I permit issued by the Department that has completed all review procedures required in Sections 364 and 366. (5-1-94)

08. General Permit. A Tier I permit issued pursuant to Section 335. (3-23-98)

09. Insignificant Activity. Those activities that qualify as insignificant in accordance with Section 317. (3-23-98)

10. Major Facility. A facility (as defined in Section 006) is major if the facility meets any of the following criteria: (3-23-98)

a. For hazardous air pollutants: (3-23-98)

i. The facility emits or has the potential to emit ten (10) tons per year (tpy) or more of any hazardous air pollutant, other than radionuclides, which has been listed pursuant to 42 U.S.C. Section 7412(b); provided that emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any oil or gas pipeline compressor or pump station shall not be aggregated with emissions from other similar emission units within the facility. (5-1-94)

ii. The facility emits or has the potential to emit twenty-five (25) tpy or more of any combination of any hazardous air pollutants, other than radionuclides, which have been listed pursuant to 42 U.S.C. 7412(b); provided that emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any oil or gas pipeline compressor or pump station shall not be aggregated with emissions from other similar emission units within the facility. (5-1-94)

b. For non-attainment areas: (3-23-98)

i. The facility is located in a “serious” particulate matter (PM-10) nonattainment area and the facility has the potential to emit seventy (70) tpy or more of PM-10. (5-1-94)

ii. The facility is located in a “serious” carbon monoxide nonattainment area in which stationary sources are significant contributors to carbon monoxide levels and the facility has the potential to emit fifty (50) tpy or more of carbon monoxide. (5-1-94)

iii. The facility is located in an ozone transport region established pursuant to 42 U.S.C. Section 7511c and the facility has the potential to emit fifty (50) tpy or more of volatile organic compounds. (5-1-94)

iv. The facility is located in an ozone nonattainment area and, depending upon the classification of the nonattainment area, the facility has the potential to emit the following amounts of volatile organic compounds or oxides of nitrogen; provided that oxides of nitrogen shall not be included if the facility has been identified in accordance with 42 U.S.C. Section 7411a(f)(1) or (2) if the area is "marginal" or "moderate", one hundred (100) tpy or more, if the area is "serious", fifty (50) tpy or more, if the area is "severe", twenty-five (25) tpy or more, and if the area is "extreme", ten (10) tpy or more. (3-23-98)

c. The facility emits or has the potential to emit one hundred (100) tons per year or more of any regulated air pollutant. The fugitive emissions shall not be considered in determining whether the facility is major unless the facility belongs to one (1) of the following categories: (4-11-06)

i. Designated facilities. (3-23-98)

ii. All other source categories regulated by 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63, but only with respect to those air pollutants that have been regulated for that category and only if determined by rule by the Administrator of EPA pursuant to Section 302(j) of the Clean Air Act. (4-5-00)

11. Part 70. Unless specified otherwise in this chapter, all definitions adopted under 40 CFR Part 70, revised as of July 1, 200~~5~~6, are hereby incorporated by reference. ~~*(4-11-06)*~~(_____)

12. Permit Revision. Any permit modification, administrative amendment or reopening. (3-19-99)

13. Phase II Source. A source that is subject to emissions reduction requirements of 42 U.S.C. Section 7651 through 7651o and shall have the meaning given to it pursuant to those sections. (5-1-94)

14. Phase II Unit. A unit that is subject to emissions reduction requirements of 42 U.S.C. Sections 7651 through 7651o and the term shall have the meaning given to it pursuant to those sections. (5-1-94)

15. Proposed Permit. The version of a permit that the Department proposes to issue and forwards to the EPA for review. (5-1-94)

16. Section 502(b)(10) Changes. Changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements. (3-19-99)

17. Tier I Operating Permit. Any permit covering a Tier I source that is issued, renewed, amended, or revised pursuant to Sections 300 through 386. (3-19-99)

(BREAK IN CONTINUITY OF SECTIONS)

107. INCORPORATIONS BY REFERENCE.

01. General. Unless expressly provided otherwise, any reference in these rules to any document identified in Subsection 107.03 shall constitute the full incorporation into these rules of that document for the purposes of the reference, including any notes and appendices therein. The term "documents" includes codes, standards or rules which have been adopted by an agency of the state or of the United States or by any nationally recognized organization or association. (5-1-94)

02. Availability of Referenced Material. Copies of the documents incorporated by reference into these rules are available at the following locations: (5-1-94)

a. All federal publications: U.S. Government Printing Office, http://www.gpoaccess.gov/index.html; and (3-20-04)

b. All documents herein incorporated by reference: (7-1-97)

i. Department of Environmental Quality, 1410 N. Hilton, Boise, Idaho 83706-1255 at (208) 373-0502. (7-1-97)

ii. State Law Library, 451 W. State Street, P.O. Box 83720, Boise, Idaho 83720-0051, (208) 334-3316. (7-1-97)

03. Documents Incorporated by Reference. The following documents are incorporated by reference into these rules: (5-1-94)

a. Requirements for Preparation, Adoption, and Submittal of Implementation Plans~~;~~ and Appendix W to Part 51--Guideline on Air Quality Models. 40 CFR Parts 51 ~~*and 52*~~ revised as of July 1, 200~~5~~6. The following portions of 40 CFR Part 51 are expressly excluded from any incorporation by reference into these rules: ~~*(4-11-06)*~~( )

i. The clean unit and pollution control project provisions in 40 CFR 51.165; ( )

ii. All sections included in 40 CFR Part 51, Subpart P, Protection of Visibility, except that 40 CFR 51.301, 51.304(a), 51.307, and 51.308 are incorporated by reference into these rules; and ( )

iii. Appendix Y to Part 51, Guidelines for BART Determinations Under the Regional Haze Rule. ( )

~~b. Implementation Plan for the Control of Air Pollution in the State of Idaho (SIP), Department of Environmental Quality, November 1996. (3-19-99)~~

~~e~~b. National Primary and Secondary Ambient Air Quality Standards, 40 CFR Part 50, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~d~~c. Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Protection of Visibility, Identification of Integral Vistas, Subsection a, 40 CFR Part 51.304(a), revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~e~~d. Approval and Promulgation of Implementation Plans, 40 CFR Part 52, excluding the clean unit and pollution control project provisions in 40 CFR 52.21, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~f~~e. Ambient Air Monitoring Reference and Equivalent Methods, 40 CFR Part 53, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~g~~f. Ambient Air Quality Surveillance, Quality Assurance Requirements for Prevention of Significant Deterioration (PSD Air Monitoring), 40 CFR Part 58, Appendix B, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~h~~g. Standards of Performance for New Stationary Sources, 40 CFR Part 60, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~i~~h. National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~j~~i. National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR Part 63, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~k~~j. Compliance Assurance Monitoring, 40 CFR Part 64, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~l~~k. Permits, 40 CFR Part 72, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~m~~l. Sulfur Dioxide Allowance System, 40 CFR Part 73, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~n~~m. Protection of Stratospheric Ozone, 40 CFR Part 82, revised as of July 1, 200~~5~~6. ~~(4-11-06)~~(____)

~~o~~n. Clean Air Act, 42 U.S.C. Sections 7401 through 7671g (1997). (3-19-99)

~~p~~o. Determining Conformity of Federal Actions to State or Federal Implementation Plans: Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws, 40 CFR Part 93, Subpart A, Sections 93.100 through 93.129, revised as of July 1, 200~~5~~6, except that Sections 93.102(c), 93.104(d), 93.104(e)(2), 93.105, 93.109(c)-(f), 93.118(e), 93.119(f)(3),

93.120(a)(2), 93.121(a)(1), and 93.124(b) are expressly omitted from the incorporation by reference. ~~(4-11-06)~~(____)

~~q.~~ **p.** The final rule for Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28,606 (May 18, 2005), corrected at 70 Fed. Reg. 51,26~~7~~6~~, is~~; *the final rule for* Standards of Performance for Electric Utility Steam Generating Units, Industrial-Commercial-Institutional Steam Generating Units, and Small Industrial-Commercial-Institutional Steam Generating Units*, only as it applies to coal fired electric steam generating units as defined in 40 CFR 60.24*, 71 Fed. Reg. 9865 (February 27, 2006); Revision of December 2000 Clean Air Act Section 112(n) Finding Regarding Electric Utility Steam Generating Units; and Standards of Performance for New and Existing Electric Utility Steam Generating Units: Reconsideration, 71 Fed. Reg. 33,388 (June 9, 2006) are expressly excluded from any incorporation by reference into these rules. ~~(4-11-06)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

200. PROCEDURES AND REQUIREMENTS FOR PERMITS TO CONSTRUCT.
The purposes of Sections 200 through 228 is to establish uniform procedures and requirements for the issuance of "Permits to Construct". As used throughout Sections 200 through 228 and 578 through 581, major facility shall be defined as major stationary source in 40 CFR 52.21(b), revised as of July 1, 2005, and major modification shall be defined as in 40 CFR 52.21(b), revised as of July 1, 200~~5~~6. These CFR sections have been codified in the electronic CFR which is available at www.gpoaccess.gov/ecfr. ~~(4-11-06)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

204. PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN NONATTAINMENT AREAS.
New major facilities or major modifications proposed for location in a nonattainment area and which would be major for the nonattainment regulated air pollutant are considered nonattainment new source review (NSR) actions and are subject to the requirements in Section 204. Section 202 contains application requirements and Section 209 contains processing requirements for nonattainment NSR permitting actions. The intent of Section 204 is to incorporate the federal nonattainment NSR rule requirements. (4-6-05)

01. Incorporated Federal Program Requirements. Requirements contained in the following subparts of 40 CFR 51.165, excluding the clean unit and pollution control project provisions, revised as of July 1, 2005, are hereby incorporated by reference. Requirements contained in the following subparts of 40 CFR 52.21, revised as of July 1, 200~~5~~6, are hereby incorporated by reference. These CFR sections have been codified in the electronic CFR which is available at www.gpoaccess.gov/ecfr

40 CFR Reference	40 CFR Reference Title
40 CFR 51.165(a)(1)	Definitions
40 CFR 51.165(a)(2)(ii)(A) - (J)	Applicability Provisions
40 CFR 51.165(a)(6)(i) - (v)	Applicability Provisions
~~40 CFR 51.165(c)~~	~~Clean Unit Test for Emission Units that are Subject to LAER~~
~~40 CFR 51.165(d)~~	~~Clean Unit Provisions for Emission Units that Achieve an Emission Limitation Comparable to LAER~~
~~40 CFR 52.21(z)(1) - (3) and (6)~~	~~PCP Exclusion Procedural Requirements~~
40 CFR 52.21(aa)	Actual PALs

~~(4-11-06)~~(_____)

02. Additional Requirements. The applicant must demonstrate to the satisfaction of the Department the following: (4-6-05)

a. LAER. Except as otherwise provided in Section 204, the new major facility or major modification would be operated at the lowest achievable emission rate (LAER) for the nonattainment regulated air pollutant, specifically: (4-6-05)

i. A new major facility would meet the lowest achievable emission rate at each new emissions unit which emits the nonattainment regulated air pollutant; and (4-5-00)

ii. A major modification would meet the lowest achievable emission rate at each new or modified emissions unit which has a net emissions increase of the nonattainment regulated air pollutant. (4-5-00)

b. Required offsets. Allowable emissions from the new major facility or major modification are offset by reductions in actual emissions from stationary sources, facilities, and/or mobile sources in the nonattainment area so as to represent reasonable further progress. All offsetting emission reductions must satisfy the requirements for emission reduction credits (Section 460) and provide for a net air quality benefit which satisfies the requirements of Section 208. If the offsets are provided by other stationary sources or facilities, a permit to construct shall not be issued for the new major facility or major modification until the offsetting reductions are made enforceable through the issuance of operating permits. The new major facility or major modification may not commence operation, and an operating permit for the new major facility or major modification shall not be effective before the date the offsetting reductions are achieved. (4-5-00)

c. Compliance status. All other sources in the State owned or operated by the applicant, or by any entity controlling, controlled by or under common control with such person, are in compliance with all applicable emission limitations and standards or subject to an enforceable compliance schedule. (5-1-94)

d. Effect on visibility. The effect on visibility of any federal Class I area, Class I area

designated by the Department, or integral vista of a mandatory federal Class I area, by the new major facility or major modification is consistent with making reasonable progress toward remedying existing and preventing future visibility impairment. Any integral vista which the Federal Land Manager has not identified at least six (6) months prior to the submittal of a complete application, or which the Department determines was not identified in accordance with the criteria adopted pursuant to 40 CFR Part 51.304(a), may be exempted from Section 204 by the Department. (4-6-05)

03. Nonmajor Requirements. If the proposed action meets the requirements of an exemption or exclusion under the provisions of 40 CFR 51.165 or 40 CFR 52.21 incorporated in Section 204, the nonmajor facility or stationary source permitting requirements of Sections 200 through 228 apply, including the exemptions in Sections 220 through 223. (4-6-05)

205. PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN ATTAINMENT OR UNCLASSIFIABLE AREAS.
The prevention of significant deterioration (PSD) program is a construction permitting program for new major facilities and major modifications to existing major facilities located in areas in attainment or in areas that are unclassifiable for any criteria air pollutant. Section 202 contains application requirements and Section 209 contains processing requirements for PSD permit actions. The intent of Section 205 is to incorporate the federal PSD rule requirements. (4-6-05)

01. Incorporated Federal Program Requirements. Requirements contained in the following subparts of 40 CFR 52.21, excluding the clean unit and pollution control project provisions, revised as of July 1, 200~~5~~6, are hereby incorporated by reference. These CFR sections have been codified in the electronic CFR which is available at www.gpoaccess.gov/ecfr.

40 CFR Reference	40 CFR Reference Title
40 CFR 52.21(a)(2)	Applicability Procedures
40 CFR 52.21(b)	Definitions
40 CFR 52.21(i)	Review of Major Stationary Sources and Major Modifications - Source Applicability and Exempting
40 CFR 52.21(j)	Control Technology Review
40 CFR 52.21(k)	Source Impact Analysis
40 CFR 52.21(r)	Source Obligation
40 CFR 52.21(v)	Innovative Control Technology
40 CFR 52.21(w)	Permit Rescission
~~40 CFR 52.21(x)~~	~~Clean Unit Test~~
~~40 CFR 52.21(y)~~	~~Clean Unit Provisions for Emissions Units that Achieve an Emission Limit Comparable to BACT~~
~~40 CFR 52.21(z)(1) - (3) and (6)~~	~~PCP Exclusion Procedural Requirements~~
40 CFR 52.21(aa)	Actual PALS

~~(4-11-06)~~(_____)

02. Exception to Incorporation by Reference of 40 CFR 52.21. Every use of the word Administrator in 40 CFR 52.21 means the Department except for the following: (4-6-05)

a. In 40 CFR 52.21(b)(17), the definition of federally enforceable, Administrator means the EPA Administrator. (4-6-05)

b. In 40 CFR 52.21(l)(2), air quality models, Administrator means the EPA Administrator. (4-6-05)

c. In 40 CFR 52.21(b)(43), permit program approved by the Administrator, Administrator means the EPA Administrator. (4-6-05)

d. In 40 CFR 52.21(b)(48)(ii)(c), MACT standard that is proposed or promulgated by the Administrator, Administrator means the EPA Administrator. (4-6-05)

e. In 40 CFR 52.21(b)(50)(i), regulated NSR pollutant as defined by Administrator, Administrator means the EPA Administrator. (4-6-05)

~~***f.*** *In 40 CFR 52.21(y)(4)(i), Administrator for BACT, LAER and RACT clearinghouse, Administrator means the EPA Administrator.* *(4-6-05)*~~

03. Nonmajor Requirements. If the proposed action meets the requirements of an exemption or exclusion under the provisions of 40 CFR 52.21 incorporated in Section 205, the nonmajor facility or stationary source permitting requirements of Sections 200 through 228 apply, including the exemptions in Sections 220 through 223. (4-6-05)

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.01 - RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO

DOCKET NO. 58-0101-0603

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature if the rule is approved by concurrent resolution in accordance with Sections 67-5224 and 67-5291, Idaho Code.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, October 4, 2006, Vol. 06-10, pages 597 and 598. After consideration of public comments, the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/air/58_0101_0603_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Dated this 16th day of November, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. The action is authorized by Sections 39-105 and 39-107, Idaho Code.

DEPARTMENT OF ENVIROMENTAL QUALITY **Docket No. 58-0101-0603**
Rules for the Control of Air Pollution in Idaho **PENDING RULE**

PUBLIC HEARING SCHEDULE: A public hearing concerning this proposed rulemaking will be held as follows:

November 3, 2006, 3 p.m.
Department of Environmental Quality Conference Center
1410 N. Hilton, Boise, Idaho.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made no later than five (5) days prior to the hearing. For arrangements, contact the undersigned at (208) 373-0418.

DESCRIPTIVE SUMMARY: Federal law requires the state of Idaho to submit a plan to EPA by November 17, 2006, that (1) ensures the state meets its Annual Coal Fired Electric Utility Steam Generating Unit (EGU) Mercury (Hg) budget for the appropriate periods; and (2) requires EGUs to comply with various monitoring, recordkeeping and reporting provisions. 40 CFR 60.24(h).

As part of the plan, DEQ proposes a rule to opt out of, or not participate in, the federal cap and trade program for Hg emissions from EGUs, codified at 40 CFR Part 60, Subpart HHHH. Additionally, to meet the state of Idaho's zero budget, DEQ proposes a rule that prohibits the construction of any EGU with Hg emissions.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in November 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the conclusion of the 2007 session of the Idaho Legislature if adopted by the Board and approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

NEGOTIATED RULEMAKING: Negotiated rulemaking was not initiated because the rulemaking schedule did not allow for the timing of it.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning this rulemaking, contact Martin Bauer at (208) 373-0440, martin.bauer@deq.idaho.gov.

Anyone may submit written comments by mail, fax or e-mail at the address below regarding this proposed rule. DEQ will consider all written comments received by the undersigned on or before

November 3, 2006.

DATED this 24th day of August, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

182. -- 19~~9~~8. (RESERVED).

199. ELECTRIC GENERATING UNIT CONSTRUCTION PROHIBITION.
No owner or operator shall construct or operate an Electric Generating Unit (EGU), as defined in 40 CFR 60.24, with a potential to emit mercury (Hg) emissions. (____)

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.02 - WATER QUALITY STANDARDS

DOCKET NO. 58-0102-0505

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, June 7, 2006, Vol. 06-6, pages 134 through 150. After consideration of public comments, the proposed rule has been revised at Sections 010 and 200. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/water/58_0102_0505_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: The revisions included in this rule are not broader in scope, nor more stringent, than federal regulations and do not regulate an activity not regulated by the federal government.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact Don Essig at don.essig@deq.idaho.gov, (208)373-0119.

Dated this 12th day of October, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. This action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

DEPARTMENT OF ENVIRONMENTAL QUALITY ***Docket No. 58-0102-0505***
Water Quality Standards ***PENDING RULE***

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before June 23, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: In this rulemaking, the Department of Environmental Quality (DEQ) proposes to add language to Section 053, Beneficial Use Support Status, which codifies support for an existing policy that allows consideration of frequency of exceedance of numeric criteria for certain water quality parameters (pH, turbidity, DO, and temperature) in assessing achievement of water quality objectives and support of beneficial uses. DEQ also proposes to revise several definitions to improve clarity and utility and to make other miscellaneous corrections. The proposed revisions at Subsections 100.01.b., 250.02.f., and 250.04 have been included for consistency with existing rule text and to clarify DEQ's determination of salmonid spawning.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. Everyone with an interest in the quality of surface water in Idaho likely has an interest in this rulemaking. In particular, those concerned with how DEQ judges support of beneficial uses may be affected.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in October 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: The revisions included in this proposed rule are not broader in scope, nor more stringent, than federal regulations and do not regulate an activity not regulated by the federal government.

NEGOTIATED RULEMAKING: The text of the proposed rule has been drafted based on discussions held during a negotiation conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, November 2, 2005, Vol. 05-11, page 65.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Don Essig at (208) 373-0119, Don.Essig@deq.idaho.gov.

Anyone may submit written comments on the proposed rule by mail, fax or e-mail at the address

below. DEQ will consider all written comments received by the undersigned on or before July 7, 2006.

Dated this 20th day of April, 2006.

THIS NOTICE WAS PUBLISHED WITH THE NEGOTIATED RULE

AUTHORITY: In compliance with Section 67-5220, Idaho Code, and IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality," Sections 810 through 815, notice is hereby given that this agency intends to promulgate a rule and desires public participation before publishing a proposed rule. This rulemaking action is authorized by Sections 39-105, 39-107, and 39-3601 et seq., Idaho Code.

MEETING SCHEDULE: Those interested in participating in the negotiated rulemaking process are encouraged to attend the following meeting. Additional meetings may be scheduled if necessary. For information regarding additional meetings, contact Don Essig at don.essig@deq.idaho.gov, (208)373-0119.

November 18, 2005, 9 a.m. to 12 noon
Department of Environmental Quality
Conference Room B
1410 N. Hilton, Boise, Idaho

PRELIMINARY DRAFT: A preliminary draft of the rule can be obtained at http://www.deq.idaho.gov/rules/water/58_0102_0505_negotiated.cfm or by contacting Paula Wilson at paula.wilson@deq.idaho.gov, (208)373-0418.

DESCRIPTIVE SUMMARY: In this rulemaking, the Department of Environmental Quality (DEQ) proposes to add language to Section 053, Beneficial Use Support Status, that codifies support for an existing policy which allows consideration of frequency of exceedance of numeric criteria for certain water quality parameters (pH, turbidity, DO, and temperature) in assessing achievement of water quality objectives and support of beneficial uses. DEQ also proposes to revise several definitions to improve clarity and utility and to make other miscellaneous corrections and clarifications. Everyone with an interest in the quality of surface water in Idaho likely has an interest in this rulemaking. In particular, those concerned with how DEQ judges support of beneficial uses may be affected.

Upon conclusion of negotiations, DEQ intends to publish a proposed rule for public comment in the summer of 2005 and then present the final proposal to the Board of Environmental Quality for adoption of a pending rule in the fall of 2006.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning the negotiated rulemaking, contact Don

Essig at don.essig@deq.idaho.gov, (208) 373-0119.

Anyone may submit written comments during this negotiated rulemaking by mail, fax or e-mail at the address below. Written comments on the preliminary draft must be received by November 23, 2005. For information regarding submission of written comments on subsequent drafts of the negotiated rule, and to receive the most recent version of the draft negotiated rule, contact the undersigned.

DATED this 11th day of October, 2005.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

010. DEFINITIONS.
For the purpose of the rules contained in IDAPA 58.01.02, "Water Quality Standards," the following definitions apply: (4-11-06)

01. Acute. ~~*Involving a*~~ A stimulus severe enough to ~~*rapidly*~~ induce a rapid response~~;~~. ~~*i*~~In aquatic toxicity tests, ~~*a response measuring lethality observed in*~~ acute refers to a single or short-term (i.e., ninety-six (96) hours or less) ~~*is typically considered acute*~~ exposure to a concentration of a toxic substance or effluent which results in death to fifty percent (50%) of the test organisms. When referring to human health, an acute effect is not always measured in terms of lethality. ~~*(3-20-97)*~~(____)

02. Acute Criteria. Unless otherwise specified in these rules, the maximum instantaneous or one (1) hour average concentration of a toxic substance or effluent which ensures adequate protection of sensitive species of aquatic organisms from acute toxicity ~~*resulting from*~~ due to exposure to the toxic substance or effluent. Acute criteria ~~*will*~~ are expected to adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. ~~*The terms "acute criteria" and "criterion maximum concentration" (CMC) are equivalent.*~~ This is also known as the Criterion Maximum Concentration (CMC). There are no specific acute criteria for human health; however, the human health criteria are based on chronic health effects and are expected to adequately protect against acute effects. ~~*(3-15-02)*~~(____)

~~***03. Acute Toxicity****. The existence of mortality or injury to aquatic organisms resulting from a single or short-term (i.e., ninety-six (96) hours or less) exposure to a substance. As applied to toxicity tests, acute toxicity refers to the response of aquatic test organisms to a concentration***~~

~~of a toxic substance or effluent which results in a LC-50.~~ ~~(3-20-97)~~

0~~4~~3. **Aquatic Species**. Any plant or animal that lives at least part of its life in the water column or benthic portion of waters of the state. (8-24-94)

0~~5~~4. **Background**. The biological, chemical or physical condition of waters measured at a point immediately upstream (up-gradient) of the influence of an individual point or nonpoint source discharge. If several discharges to the water exist or if an adequate upstream point of measurement is absent, the department will determine where background conditions should be measured. (8-24-94)

0~~6~~5. **Basin Advisory Group**. No less than one advisory group named by the Director, in consultation with the designated agencies, for each of the state's six (6) major river basins which shall generally advise the Director on water quality objectives for each basin, work in a cooperative manner with the Director to achieve these objectives, and provide general coordination of the water quality programs of all public agencies pertinent to each basin. Each basin advisory group named by the Director shall reflect a balanced representation of the interests in the basin and shall, where appropriate, include representatives from each of the following: agriculture, mining, nonmunicipal point source discharge permittees, forest products, local government, livestock, Indian tribes (for areas within reservation boundaries), water-based recreation, and environmental interests. (3-20-97)

0~~7~~6. **Beneficial Use**. Any of the various uses which may be made of the water of Idaho, including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics. The beneficial use is dependent upon actual use, the ability of the water to support a non-existing use either now or in the future, and its likelihood of being used in a given manner. The use of water for the purpose of wastewater dilution or as a receiving water for a waste treatment facility effluent is not a beneficial use. (8-24-94)

0~~8~~7. **Best Management Practice**. A practice or combination of practices, techniques or measures developed, or identified, by the designated agency and identified in the state water quality management plan which are determined to be the cost-effective and practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals. (3-20-97)

0~~9~~8. **Bioaccumulation**. The process by which a compound is taken up by, and accumulated in the tissues of an aquatic organism from the environment, both from water and through food. (8-24-94)

~~1~~09. **Biological Monitoring or Biomonitoring**. The use of a biological entity as a detector and its response as a measure to determine environmental conditions. Toxicity tests and biological surveys, including habitat monitoring, are common biomonitoring methods. (8-24-94)

1~~1~~0. **Board**. The Idaho Board of Environmental Quality. (7-1-93)

1~~2~~1. **Chronic**. ~~*Involving a*~~ A stimulus that ~~*lingers*~~ persists or continues for a ~~*relatively*~~ long period of time~~, often one-tenth (.01) of~~ relative to the life span ~~*or more*~~ of an organism.

~~*Chronic should be considered a relative term depending on the life span of an organism. The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in addition to lethality.*~~ In aquatic toxicity tests, chronic refers to continuous exposure to a concentration of a toxic substance or effluent which results in mortality, injury, reduced growth, impaired reproduction, or other adverse effect to aquatic organisms. The test duration is long enough that sub-lethal effects can be reliably measured. When referring to human health, a chronic effect is usually measured in terms of estimated changes in rates (# of cases/ 1000 persons) of illness over a lifetime of exposure. ~~*(8-24-94)*~~(____)

1~~3~~2. Chronic Criteria. Unless otherwise specified in these rules, the four (4) day average concentration of a toxic substance or effluent which ensures adequate protection of sensitive species of aquatic organisms from chronic toxicity ~~*resulting from*~~ due to exposure to the toxic substance or effluent. Chronic criteria ~~*will*~~ are expected to adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. ~~*The terms "chronic criteria" and "criterion continuous concentration" (CCC) are equivalent.*~~ This is also known as the Criterion Continuous Concentration (CCC). Human health chronic criteria are based on lifetime exposure. ~~*(3-15-02)*~~(____)

1~~5~~3. Compliance Schedule or Schedule Of Compliance. A schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard. (8-24-94)

1~~4~~. ~~***Chronic Toxicity****. The existence of mortality, injury, reduced growth, impaired reproduction, or any other adverse effect on aquatic organisms resulting from a long-term (i.e., one-tenth (0.1) or more of the organism's life span) exposure to a substance. As applied to toxicity tests, chronic toxicity refers to the response of aquatic organisms to a concentration of a toxic substance or effluent which results in an IC-25.*~~ **Daily Maximum (Minimum)**. The highest (lowest) value measured during one (1) calendar day or a twenty-four (24) hour period, as appropriate. For ambient monitoring of dissolved oxygen, pH, and temperature, multiple measurements should be obtained at intervals short enough that the difference between consecutive measurements around the daily maximum (minimum) is less than zero point two (0.2) ppm for dissolved oxygen, zero point one (0.1) SU for pH, or zero point five (0.5) degree C for temperature. ~~*(8-24-94)*~~(____)

1~~5~~4. Compliance Schedule or Schedule Of Compliance. A schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard. (8-24-94)

~~***16. Criterion Continuous Concentration (CCC)****. Unless otherwise specified in these rules, the four (4) day average concentration of a toxic substance or effluent which ensures adequate protection of sensitive species of aquatic organisms from chronic toxicity resulting from exposure to the toxic substance or effluent. The CCC will adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. The terms "criterion continuous concentration" and "chronic criteria" are equivalent.* *(3-15-02)*~~

~~***17. Criterion Maximum Concentration (CMC)****. Unless otherwise specified in these rules, the maximum instantaneous or one (1) hour average concentration of a toxic substance or effluent which ensures adequate protection of sensitive species of aquatic organisms from acute*~~

~~toxicity resulting from exposure to the toxic substance or effluent. The CMC will adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. The terms "criterion maximum concentration" and "acute criteria" are equivalent. (3-15-02)~~

1~~8~~5. **Daily Mean**. The average of at least two (2) appropriately spaced measurements, acceptable to the department, calculated over a period of one (1) day: (3-20-97)

a. Confidence bounds around the point estimate of the mean may be required to determine the sample size necessary to calculate a daily mean; (8-24-94)

b. If any measurement is greater or less than five-tenths (0.5) times the average, additional measurements over the one-day period may be needed to obtain a more representative average; (3-20-97)

c. In calculating the daily mean for dissolved oxygen, values used in the calculation shall not exceed the dissolved oxygen saturation value. If a measured value exceeds the dissolved oxygen saturation value, then the dissolved oxygen saturation value will be used in calculating the daily mean. (8-24-94)

d. For ambient monitoring of temperature, the daily mean should be calculated from equally spaced measurements, at intervals such that the difference between any two (2) consecutive measurements does not exceed one point zero (1.0) degree C. ( )

1~~9~~6. **Deleterious Material**. Any nontoxic substance which may cause the tainting of edible species of fish, taste and odors in drinking water supplies, or the reduction of the usability of water without causing physical injury to water users or aquatic and terrestrial organisms. (8-24-94)

~~20~~17. **Department**. The Idaho Department of Environmental Quality. (7-1-93)

~~21~~8. **Design Flow**. The critical flow used for steady-state wasteload allocation modeling.(8-24-94)

~~22~~19. **Designated Agency**. The department of lands for timber harvest activities, oil and gas exploration and development, and mining activities; the soil conservation commission for grazing and agricultural activities; the transportation department for public road construction; the department of agriculture for aquaculture; and the Department's division of environmental quality for all other activities. (3-20-97)

2~~3~~0. **Designated Beneficial Use or Designated Use**. Those beneficial uses assigned to identified waters in Idaho Department of Environmental Quality Rules, IDAPA 58.01.02, "Water Quality Standards and Wastewater Treatment Requirements," Sections 110 through 160, whether or not the uses are being attained. (4-5-00)

2~~4~~1. **Desirable Species**. Species indigenous to the area or those introduced species identified as desirable by the Idaho Department of Fish and Game. (3-15-02)

2~~5~~2. **Director**. The Director of the Idaho Department of Environmental Quality or his

authorized agent. (7-1-93)

2~~6~~3. **Discharge**. When used without qualification, any spilling, leaking, emitting, escaping, leaching, or disposing of a pollutant into the waters of the state. (8-24-94)

2~~7~~4. **Dissolved Oxygen (DO)**. The measure of the amount of oxygen dissolved in the water, usually expressed in mg/1. (7-1-93)

2~~8~~5. **Dissolved Product**. Petroleum product constituents found in solution with water. (8-24-94)

2~~9~~6. **Dynamic Model**. A computer simulation model that uses real or derived time series data to predict a time series of observed or derived receiving water concentrations. Dynamic modeling methods include continuous simulation, Monte Carlo simulations, lognormal probability modeling, or other similar statistical or deterministic techniques. (8-24-94)

~~30~~27. **E. coli (Escherichia coli)**. A common fecal and intestinal organism of the coliform group of bacteria found in warm-blooded animals. (4-5-00)

~~31~~28. **Effluent**. Any wastewater discharged from a treatment facility. (7-1-93)

~~32~~9. **Effluent Biomonitoring**. The measurement of the biological effects of effluents (e.g., toxicity, biostimulation, bioaccumulation, etc.). (8-24-94)

3~~3~~0. **EPA**. The United States Environmental Protection Agency. (7-1-93)

3~~4~~1. **Ephemeral Waters**. A stream, reach, or water body that flows naturally only in direct response to precipitation in the immediate watershed and whose channel is at all times above the water table. (4-11-06)

3~~5~~2. **Existing Beneficial Use Or Existing Use**. Those beneficial uses actually attained in waters on or after November 28, 1975, whether or not they are designated for those waters in Idaho Department of Environmental Quality Rules, IDAPA 58.01.02, "Water Quality Standards". (4-11-06)

3~~6~~3. **Facility**. As used in Section 850 only, any building, structure, installation, equipment, pipe or pipeline, well pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock or aircraft, area, place or property from which an unauthorized release of hazardous materials has occurred. (8-24-94)

3~~7~~4. **Four Day Average**. The ~~*mean of the twenty-four (24) hour average values calculated over*~~ average of all measurements within a period of ninety-six (96) consecutive hours. While a minimum of one (1) measurement per each twenty-four (24) hours is preferred, for toxic chemicals in Section 210, any number of data points is acceptable. ~~*(3-20-97)*~~( )

3~~8~~5. **Free Product**. A petroleum product that is present as a nonaqueous phase liquid. Free product includes the presence of petroleum greater than one-tenth (0.1) inch as measured on the water surface for surface water or the water table for ground water. (7-1-93)

3~~9~~6. Full Protection, Full Support, or Full Maintenance of Designated Beneficial Uses of Water. Compliance with those levels of water quality criteria listed in Sections 200, 210, 250, 251, 252, 253, and 275 (if applicable) or where no major biological group such as fish, macroinvertebrates, or algae has been modified by human activities significantly beyond the natural range of the reference streams or conditions approved by the Director in consultation with the appropriate basin advisory group. (3-15-02)

~~40~~37. Geometric Mean. The geometric mean of "n" quantities is the "nth" root of the product of the quantities. (7-1-93)

~~41~~38. Ground Water. ~~*Subsurface water comprising the zone of saturation.*~~ Any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil. ~~*(8-24-94)*~~(____)

~~42~~39. Harmonic Mean Flow. The number of daily flow measurements divided by the sum of the reciprocals of the flows (i.e., the reciprocal of the mean of reciprocals). (8-24-94)

4~~3~~0. Hazardous Material. A material or combination of materials which, when discharged in any quantity into state waters, presents a substantial present or potential hazard to human health, the public health, or the environment. Unless otherwise specified, published guides such as Quality Criteria for Water (1976) by EPA, Water Quality Criteria (Second Edition, 1963) by the state of California Water Quality Control Board, their subsequent revisions, and more recent research papers, regulations and guidelines will be used in identifying individual and specific materials and in evaluating the tolerances of the identified materials for the beneficial uses indicated. (7-1-93)

4~~4~~1. Hydrologic Unit Code (HUC). A unique eight (8) digit number identifying a subbasin. A subbasin is a United States Geological Survey cataloging unit comprised of water body units. (4-5-00)

4~~5~~2. Hydrologically-Based Design Flow. A statistically derived receiving water design flow based on the selection and identification of an extreme value (e.g., 1Q10, 7Q10). The underlying assumption is that the design flow will occur X number of times in Y years, and limits the number of years in which one or more excursions below the design flow can occur. (8-24-94)

4~~6~~3. Hypolimnion. The ~~*deepest zone*~~ bottom layer in a thermally-stratified body of water. It is fairly uniform in temperature and ~~*lies*~~ lays beneath a zone of water which exhibits a rapid temperature drop with depth ~~*of at least one (1) degree C per meter*~~ such that mixing with overlying water is inhibited. ~~*(3-20-97)*~~(____)

4~~7~~4. Inter-Departmental Coordination. Consultation with those agencies responsible for enforcing or administering the practices listed as approved best management practices in Subsection 350.03. (7-1-93)

4~~8~~5. Intermittent Waters. A stream, reach, or water body which naturally has a period of zero (0) flow for at least one (1) week during most years. Where flow records are available, a stream with a 7Q2 hydrologically-based unregulated flow of less than one-tenth (0.1) cubic feet

per second (cfs) is considered intermittent. Streams with natural perennial pools containing significant aquatic life uses are not intermittent. (4-11-06)

4~~9~~6. LC-50. The toxicant concentration killing fifty percent (50%) of exposed organisms at a specific time of observation (e.g., ninety-six (96) hours). (3-20-97)

~~50~~47. Load Allocation (LA). The portion of a receiving water's loading capacity that is attributed either to one (1) of its existing or future nonpoint sources of pollution or to natural background sources. (8-24-94)

~~51~~48. Loading Capacity. The greatest amount of pollutant loading that a water can receive without violating water quality standards. (8-24-94)

~~52~~49. Lower Water Quality. A measurable and adverse anthropogenic change in a chemical, physical, or biological parameter of water relevant to a beneficial use, and which can be expressed numerically. Measurable change ~~is~~ may be determined by a statistically significant difference ~~between sample means~~ using standard methods for analysis and statistical interpretation appropriate to the parameter. Statistical significance is defined as the ninety-five percent (95%) confidence limit when significance is not otherwise defined for the parameter in standard methods or practices. ~~(3-20-97)~~(____)

5~~3~~0. Lowest Observed Effect Concentration (LOEC). The lowest concentration of a toxic~~ant~~ substance or an effluent that results in observable adverse effects in the aquatic test population. ~~(8-24-94)~~(____)

5~~4~~1. Man-Made Waterways. Canals, flumes, ditches, wasteways, drains, laterals, and/or ~~similar~~ associated features, constructed for the purpose of water conveyance. This may include channels modified for such purposes prior to November 28, 1975. These waterways may have uniform and rectangular cross-sections, straight channels, follow rather than cross topographic contours, be lined to reduce water loss, and be operated or maintained to promote water conveyance. ~~(7-1-93)~~(____)

5~~5~~2. Maximum Weekly Maximum Temperature (MWMT). The weekly maximum temperature (WMT) is the mean of daily maximum temperatures measured over a consecutive seven (7) day period ending on the day of calculation. When used seasonally, e.g., spawning periods, the first applicable WMT occurs on the seventh day into the time period. The MWMT is the single highest WMT that occurs during a given year or other period of interest, e.g., a spawning period. ~~(3-15-02)~~(____)

5~~6~~3. Milligrams Per Liter (mg/l). Milligrams of solute per liter of solution, equivalent to parts per million, assuming unit density. (7-1-93)

5~~7~~4. Mixing Zone. A defined area or volume of the receiving water surrounding or adjacent to a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria or standards. It is considered a place where wastewater mixes with receiving water and not as a place where effluents are treated. (7-1-93)

5~~8~~5. National Pollutant Discharge Elimination System (NPDES). Point source

permitting program established pursuant to Section 402 of the federal Clean Water Act. (8-24-94)

5~~9~~6. Natural Background Conditions. ~~*No measurable change in*~~ The physical, chemical, biological, or radiological conditions existing in a water body without human sources of pollution within the watershed. Natural disturbances including, but not limited to, wildfire, *geologic disturbance*, diseased vegetation, or flow extremes that affect the physical, chemical, and biological integrity of the water are part of natural background conditions. Natural background conditions should be described and evaluated *taking into account this inherent variability with time and place.* ~~*(3-15-02)*~~( )

~~*60*~~57. Nephelometric Turbidity Units (NTU). A measure of turbidity based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of the light scattered by a standard reference suspension under the same conditions. (8-24-94)

~~*61*~~58. Nonpoint Source Activities. Activities on a geographical area on which pollutants are deposited or dissolved or suspended in water applied to or incident on that area, the resultant mixture being discharged into the waters of the state. Nonpoint source activities on ORWs do not include issuance of water rights permits or licenses, allocation of water rights, operation of diversions, or impoundments. Nonpoint sources activities include, but are not limited to: (3-20-97)

a. Irrigated and nonirrigated lands used for: (7-1-93)

i. Grazing; (7-1-93)

ii. Crop production; (7-1-93)

iii. Silviculture; (7-1-93)

b. Log storage or rafting; (7-1-93)

c. Construction sites; (7-1-93)

d. Recreation sites; (3-20-97)

e. Septic tank disposal fields. (8-24-94)

f. Mining; (3-20-97)

g. Runoff from storms or other weather related events; and (3-20-97)

h. Other activities not subject to regulation under the federal national pollutant discharge elimination system. (3-20-97)

~~*62*~~59. Nuisance. Anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the state. (7-1-93)

6~~3~~0. Nutrients. The major substances necessary for the growth and reproduction of aquatic plant life, consisting of nitrogen, phosphorus, and carbon compounds. (7-1-93)

6~~4~~1. One Day Minimum. The lowest daily instantaneous value measured. (3-20-97)

6~~5~~2. One Hour Average. The mean of at least two (2) appropriately spaced measurements, as determined by the Department, calculated over a period of one (1) hour. When three (3) or more measurements have been taken, and if any measurement is greater or less than five-tenths (0.5) times the mean, additional measurements over the one-hour period may be needed to obtain a more representative mean. (3-20-97)

6~~6~~3. Operator. For purposes of Sections 851 and 852, any person presently or who was at any time during a release in control of, or having responsibility for, the daily operation of the petroleum storage tank (PST) system. (4-2-03)

6~~7~~4. Outstanding Resource Water (ORW). A high quality water, such as water of national and state parks and wildlife refuges and water of exceptional recreational or ecological significance, which has been designated by the legislature and subsequently listed in this chapter. ORW constitutes an outstanding national or state resource that requires protection from point and nonpoint source activities that may lower water quality. (3-20-97)

6~~8~~5. Outstanding Resource Water Mixing Zone. An area or volume of an ORW where pollutants are allowed to mix with the ORW receiving water at a location distinct from the sampling point where compliance with ORW quality standards is measured. An ORW mixing zone will be downstream from the discharge of a tributary or a segment immediately upstream which contains man caused pollutants as a result of nonpoint source activities occurring on that tributary or segment. As a result of the discharge, the mixing zone may not meet all water quality standards applicable to the ORW, but shall still be protected for existing beneficial uses. The Department, after consideration of input from interested parties, will determine the size, configuration and location of mixing zones which are necessary to meet the requirements of this chapter. (7-1-93)

6~~9~~6. Owner. For purposes of Sections 851 and 852, any person who owns or owned a petroleum storage tank (PST) system any time during a release and the current owner of the property where the PST system is or was located. (4-2-03)

~~70~~67. Person. An individual, public or private corporation, partnership, association, firm, joint stock company, joint venture, trust, estate, state, municipality, commission, political subdivision of the state, state or federal agency, department or instrumentality, special district, interstate body or any legal entity, which is recognized by law as the subject of rights and duties. (3-20-97)

~~71~~68. Petroleum Products. Products derived from petroleum through various refining processes. (7-1-93)

~~72~~69. Petroleum Storage Tank (PST) System. Any one (1) or combination of storage tanks or other containers, including pipes connected thereto, dispensing equipment, and other connected ancillary equipment, and stationary or mobile equipment, that contains petroleum or a

mixture of petroleum with de minimis quantities of other regulated substances. (7-1-93)

7~~3~~0. **Point Source**. Any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture, discharges from dams and hydroelectric generating facilities or any source or activity considered a nonpoint source by definition. (7-1-93)

7~~4~~1. **Pollutant**. Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, silt, cellar dirt; and industrial, municipal and agricultural waste, gases entrained in water; or other materials which, when discharged to water in excessive quantities, cause or contribute to water pollution. Provided however, biological materials shall not include live or occasional dead fish that may accidentally escape into the waters of the state from aquaculture facilities. (3-20-97)

7~~5~~2. **Project Plans**. Documents which describe actions to be taken under a proposed activity. These documents include environmental impact statements, environmental assessments, and other land use or resource management plans. (7-1-93)

7~~6~~3. **Public Swimming Beaches**. Areas indicated by features such as signs, swimming docks, diving boards, slides, or the like, boater exclusion zones, map legends, collection of a fee for beach use, or any other unambiguous invitation to public swimming. Privately owned swimming docks or the like which are not open to the general public are not included in this definition. (4-11-06)

7~~7~~4. **Receiving Waters**. Those waters which receive pollutants from point or nonpoint sources. (7-1-93)

7~~8~~5. **Reference Stream or Condition**. A water body which represents the minimum conditions necessary to fully support the applicable designated beneficial uses as further specified in these rules, or natural conditions with few impacts from human activities and which are representative of the highest level of support attainable in the basin. In highly mineralized areas or in the absence of such reference streams or water bodies, the Director, in consultation with the basin advisory group and the technical advisors to it, may define appropriate hypothetical reference conditions or may use monitoring data specific to the site in question to determine conditions in which the beneficial uses are fully supported. (3-20-97)

7~~9~~6. **Release**. Any unauthorized spilling, leaking, emitting, discharging, escaping, leaching, or disposing into soil, ground water, or surface water. (8-24-94)

~~80~~77. **Resident Species**. Those species that commonly occur in a site including those that occur only seasonally or intermittently. This includes the species, genera, families, orders, classes, and phyla that: (8-24-94)

a. Are usually present at the site; (8-24-94)

b. Are present only seasonally due to migration; (8-24-94)

c. Are present intermittently because they periodically return or extend their ranges into the site; (8-24-94)

d. Were present at the site in the past but are not currently due to degraded conditions, and are expected to be present at the site when conditions improve; and (8-24-94)

e. Are present in nearby bodies of water but are not currently present at the site due to degraded conditions, and are expected to be present at the site when conditions improve. (8-24-94)

~~81~~78. Responsible Persons in Charge. Any person who: (8-24-94)

a. By any acts or omissions, caused, contributed to or exacerbated an unauthorized release of hazardous materials; (8-24-94)

b. Owns or owned the facility from which the unauthorized release occurred and the current owner of the property where the facility is or was located; or (8-24-94)

c. Presently or who was at any time during an unauthorized release in control of, or had responsibility for, the daily operation of the facility from which an unauthorized release occurred. (8-24-94)

79. Sediment. Undissolved inorganic matter. ( )

8~~2~~0. Seven Day Mean. The average of the daily mean values calculated over a period of seven (7) consecutive days. (3-20-97)

8~~3~~1. Sewage. The water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present. (8-24-94)

8~~4~~2. Short-Term or Temporary Activity. An activity which is as short as possible but lasts for no more than one (1) year, is limited in scope and is expected to have only minimal impact on water quality as determined by the Director. Short-term or temporary activities include, but are not limited to, those activities described in Subsection 080.02. ~~(3-20-97)~~( )

8~~5~~3. Silviculture. Those activities associated with the regeneration, growing and harvesting of trees and timber including, but not limited to, disposal of logging slash, preparing sites for new stands of trees to be either planted or allowed to regenerate through natural means, road construction and road maintenance, drainage of surface water which inhibits tree growth or logging operations, fertilization, application of herbicides or pesticides, all logging operations, and all forest management techniques employed to enhance the growth of stands of trees or timber. (3-20-97)

8~~6~~4. Sludge. The semi-liquid mass produced by partial dewatering of potable or spent process waters or wastewater. (7-1-93)

8~~7~~5. Special Resource Water. Those specific segments or bodies of water which are recognized as needing intensive protection: (7-1-93)

a. To preserve outstanding or unique characteristics; or (7-1-93)

b. To maintain current beneficial use. (7-1-93)

8~~8~~6. Specialized Best Management Practices. Those practices designed with consideration of geology, land type, soil type, erosion hazard, climate and cumulative effects in order to fully protect the beneficial uses of water, and to prevent or reduce the pollution generated by nonpoint sources. (3-3-87)

8~~9~~7. State. The state of Idaho. (7-1-93)

~~90~~88. State Water Quality Management Plan. The state management plan developed and updated by the Department in accordance with Sections 205, 208, and 303 of the Clean Water Act. (3-20-97)

~~91~~89. Suspended Sediment. ~~*Organic and*~~ The undissolved inorganic ~~*particulate*~~ fraction of matter ~~*which has been removed from its site of origin and measured while*~~ suspended in surface water. ~~*(7-1-93)*~~(____)

90. Suspended Solids. The undissolved organic and inorganic matter suspended in surface water. (____)

9~~2~~1. Technology-Based Effluent Limitation. Treatment requirements under Section 301(b) of the Clean Water Act that represent the minimum level of control that must be imposed in a permit issued under Section 402 of the Clean Water Act. (8-24-94)

9~~3~~2. Total Maximum Daily Load (TMDL). The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. (8-24-94)

9~~4~~3. Toxicity Test. A procedure used to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent. (8-24-94)

9~~5~~4. Toxic Substance. Any substance, material or disease-causing agent, or a combination thereof, which after discharge to waters of the State and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126) priority pollutants

identified by EPA pursuant to Section 307(a) of the federal Clean Water Act. (8-24-94)

9~~6~~5. Treatment. A process or activity conducted for the purpose of removing pollutants from wastewater. (7-1-93)

9~~7~~6. Treatment System. Any physical facility or land area for the purpose of collecting, treating, neutralizing or stabilizing pollutants including treatment by disposal plants, the necessary intercepting, outfall and outlet sewers, pumping stations integral to such plants or sewers, equipment and furnishing thereof and their appurtenances. A treatment system may also be known as a treatment facility. (4-11-06)

9~~8~~7. Twenty-Four Hour Average. The mean of at least two (2) appropriately spaced measurements, as determined by the Department, calculated over a period of twenty-four (24) consecutive hours. When three (3) or more measurements have been taken, and if any measurement is greater or less than five-tenths (0.5) times the mean, additional measurements over the twenty-four (24)-hour period may be needed to obtain a more representative mean. (3-20-97)

9~~9~~8. Unique Ecological Significance. The attribute of any stream or water body which is inhabited or supports an endangered or threatened species of plant or animal or a species of special concern identified by the Idaho Department of Fish and Game, which provides anadromous fish passage, or which provides spawning or rearing habitat for anadromous or desirable species of lake dwelling fishes. (8-24-94)

~~100~~99. Wasteload Allocation (WLA). The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. (8-24-94)

10~~1~~0. Wastewater. Unless otherwise specified, sewage, industrial waste, agricultural waste, and associated solids or combinations of these, whether treated or untreated, together with such water as is present. (7-1-93)

10~~2~~1. Water Body Unit. Includes all named and unnamed tributaries within a drainage and is considered a single unit unless designated otherwise. (4-5-00)

10~~3~~2. Water Pollution. Any alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the state, or the discharge of any pollutant into the waters of the state, which will or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to fish and wildlife, or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses. (8-24-94)

10~~4~~3. Water Quality-Based Effluent Limitation. An effluent limitation that refers to specific levels of water quality that are expected to render a body of water suitable for its designated or existing beneficial uses. (8-24-94)

10~~5~~4. Water Quality Limited Water Body. After monitoring, evaluation of required pollution controls, and consultation with the appropriate basin and watershed advisory groups, a water body identified by the Department, which does not meet applicable water quality standards,

and/or is not expected to meet applicable water quality standards after the application of required pollution controls. A water body identified as water quality limited shall require the development of a TMDL or other equivalent process in accordance with Section 303 of the Clean Water Act and Sections 39-3601 et seq., Idaho Code. (3-20-97)

10~~6~~5. Waters And Waters Of The State. All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state. (7-1-93)

10~~7~~6. Watershed. The land area from which water flows into a stream or other body of water which drains the area. (3-20-97)

10~~8~~7. Watershed Advisory Group. An advisory group appointed by the Director, with the advice of the appropriate Basin Advisory Group, which will recommend to the Department those specific actions needed to control point and nonpoint sources of pollution affecting water quality limited water bodies within the watershed. Members of each watershed advisory group shall be representative of the industries and interests affected by the management of that watershed, along with representatives of local government and the land managing or regulatory agencies with an interest in the management of that watershed and the quality of the water bodies within it. (3-20-97)

10~~9~~8. Whole-Effluent Toxicity. The aggregate toxic effect of an effluent measured directly with a toxicity test. (8-24-94)

1~~1~~09. Zone of Initial Dilution (ZID). An area within a Department authorized mixing zone where acute criteria may be exceeded. This area should be as small as practicable and assure that drifting organisms are not exposed to acute concentrations for more than one (1) hour more than once in three (3) years. The actual size of the ZID will be determined by the Department for a discharge on a case-by-case basis, taking into consideration mixing zone modeling and associated size recommendations and any other pertinent chemical, physical, and biological data available. (4-11-06)

(BREAK IN CONTINUITY OF SECTIONS)

053. BENEFICIAL USE SUPPORT STATUS.

In determining whether a water body fully supports designated and existing beneficial uses, the Department shall determine whether all of the applicable water quality standards are being achieved, including any criteria developed pursuant to these rules, and whether a healthy, balanced biological community is present. The Department shall utilize biological and aquatic habitat parameters listed below and in the current version of the "Water Body Assessment Guidance", as published by the Idaho Department of Environmental Quality, as a guide to assist in the assessment of beneficial use status. Revisions to this guidance will be made after notice and an opportunity for public comment. These parameters are not to be considered or treated as individual water quality criteria or otherwise interpreted or applied as water quality standards. The Department shall employ a weight of evidence approach in evaluating a combination of water quality data types (including, but not limited to, aquatic habitat and biological parameters), when

such a combination of data are available, in making its final use support determination. ~~(4-5-00)~~(____)

01. Aquatic Habitat Parameters. These parameters may include, but are not limited to, stream width, stream depth, stream shade, measurements of sediment impacts, bank stability, water flows, and other physical characteristics of the stream that affect habitat for fish, macroinvertebrates or other aquatic life~~; and~~. ~~(3-20-97)~~(____)

02. Biological Parameters. These parameters may include, but are not limited to, evaluation of aquatic macroinvertebrates including Ephemeroptera, Plecoptera and Trichoptera (EPT), Hilsenhoff Biotic Index, measures of functional feeding groups, and the variety and number of fish or other aquatic life to determine biological community diversity and functionality. (3-20-97)

03. Use of Data Regarding pH, Turbidity, Dissolved Oxygen, and Temperature. In making use support determinations, the Department may give less weight to departures from criteria in Section 250 for pH, turbidity, dissolved oxygen, and temperature that are infrequent, brief, and small if aquatic habitat and biological data indicate to the assessor that aquatic life beneficial uses are otherwise supported. Unless otherwise determined by the Department, "infrequent" means less than ten percent (10%) of valid, applicable, representative measurements when continuous data are available; "brief" means two (2) hours or less; and "small" means conditions that avoid acute effects. Subsection 053.03 only applies to use of this data for determination of beneficial use support status. Subsection 053.03 does not apply to or affect the application of criteria for any other regulatory purpose including, but not limited to, determining whether a particular discharge or activity violates water quality standards. (____)

0~~3~~4. Natural Conditions. There is no impairment of beneficial uses or violation of water quality standards where natural background conditions exceed any applicable water quality criteria as determined by the Department, and such natural background conditions shall not, alone, be the basis for placing a water body on the list of water quality limited water bodies described in Section 054. (3-15-02)

05. Rigor, Quality and Relevance of Data. In making any use support determination, the Department shall consider the scientific rigor associated with the collection of samples or data (e.g., the scientific methods used to collect samples or data); the quality of measurements and/or analysis of the samples (e.g., methodology, instrumentation, accuracy, precision, and limits of detection where applicable); and the relevance of the data (e.g., the relationship to a water quality standard, beneficial use or cause of impairment, and how representative the samples or data are of the water body in question). (____)

(BREAK IN CONTINUITY OF SECTIONS)

100. SURFACE WATER USE DESIGNATIONS.
Waterbodies are designated in Idaho to protect water quality for existing or designated uses. The designated use of a waterbody does not imply any rights to access or ability to conduct any activity related to the use designation, nor does it imply that an activity is safe. For example, a

designation of primary or secondary contact recreation may occur in areas where it is unsafe to enter the water due to water flows, depth or other hazardous conditions. Another example is that aquatic life uses may be designated in areas that are closed to fishing or access is not allowed by property owners. Wherever attainable, the designated beneficial uses for which the surface waters of the state are to be protected include: (3-15-02)

01. Aquatic Life. (7-1-93)

a. Cold water (COLD): water quality appropriate for the protection and maintenance of a viable aquatic life community for cold water species. (4-5-00)

b. Salmonid spawning (SS): waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes. ~~(7-1-93)~~(____)

c. Seasonal cold water (SC): water quality appropriate for the protection and maintenance of a viable aquatic life community of cool and cold water species, where cold water aquatic life may be absent during, or tolerant of, seasonally warm temperatures. (4-5-00)

d. Warm water (WARM): water quality appropriate for the protection and maintenance of a viable aquatic life community for warm water species. (4-5-00)

e. Modified (MOD): water quality appropriate for an aquatic life community that is limited due to one (1) or more conditions set forth in 40 CFR 131.10(g) which preclude attainment of reference streams or conditions. (4-5-00)

02. Recreation. (7-1-93)

a. Primary contact recreation (PCR): water quality appropriate for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those used for swimming, water skiing, or skin diving. (4-5-00)

b. Secondary contact recreation (SCR): water quality appropriate for recreational uses on or about the water and which are not included in the primary contact category. These activities may include fishing, boating, wading, infrequent swimming, and other activities where ingestion of raw water is not likely to occur. (4-5-00)

03. Water Supply. (7-1-93)

a. Domestic: water quality appropriate for drinking water supplies. (4-5-00)

b. Agricultural: water quality appropriate for the irrigation of crops or as drinking water for livestock. This use applies to all surface waters of the state. (4-5-00)

c. Industrial: water quality appropriate for industrial water supplies. This use applies to all surface waters of the state. (4-5-00)

04. Wildlife Habitats. Water quality appropriate for wildlife habitats. This use applies

to all surface waters of the state. (4-5-00)

05. Aesthetics. This use applies to all surface waters of the state. (7-1-93)

(BREAK IN CONTINUITY OF SECTIONS)

200. GENERAL SURFACE WATER QUALITY CRITERIA.
The following general water quality criteria apply to all surface waters of the state, in addition to the water quality criteria set forth for specifically designated waters. (4-5-00)

01. Hazardous Materials. Surface waters of the state shall be free from hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses. These materials do not include suspended sediment produced as a result of nonpoint source activities. (8-24-94)

02. Toxic Substances. Surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses. These substances do not include suspended sediment produced as a result of nonpoint source activities. (8-24-94)

03. Deleterious Materials. Surface waters of the state shall be free from deleterious materials in concentrations that impair designated beneficial uses. These materials do not include suspended sediment produced as a result of nonpoint source activities. (8-24-94)

04. Radioactive Materials. (7-1-93)

a. Radioactive materials or radioactivity shall not exceed the values listed in the Code of Federal Regulations, Title 10, Chapter 1, Part 20, Appendix B, Table 2, Effluent Concentrations, Column 2. (8-24-94)

b. Radioactive materials or radioactivity shall not exceed concentrations required to meet the standards set forth in Title 10, Chapter 1, Part 20, of the Code of Federal Regulations for maximum exposure of critical human organs in the case of foodstuffs harvested from these waters for human consumption. (7-1-93)

05. Floating, Suspended or Submerged Matter. Surface waters of the state shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. This matter does not include suspended sediment produced as a result of nonpoint source activities. (8-24-94)

06. Excess Nutrients. Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses. (8-24-94)

07. Oxygen-Demanding Materials. Surface waters of the state shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition.

(7-1-93)

08. Sediment. Sediment shall not exceed quantities specified in Sections 250 and 252, or, in the absence of specific sediment criteria, quantities which impair designated beneficial uses. Determinations of impairment shall be based on water quality monitoring and surveillance and the information utilized as described in Section 350. (4-5-00)

09. Natural Background Conditions *as Criteria*. When natural background conditions exceed any applicable water quality criteria set forth in Sections 210, 250, 251, 252, or 253, the applicable water quality criteria shall not apply; instead, ~~*pollutant levels shall not exceed the*~~ *there shall be no lowering of water quality from* natural background conditions*. Provided, however*, ~~*except*~~ that temperature ~~*levels*~~ may be increased above natural background conditions when allowed under Section 401. ~~*(3-15-02)*~~( )

(BREAK IN CONTINUITY OF SECTIONS)

250. SURFACE WATER QUALITY CRITERIA FOR AQUATIC LIFE USE DESIGNATIONS.

01. General Criteria. The following criteria apply to all aquatic life use designations. Surface waters are not to vary from the following characteristics due to human activities: (3-15-02)

a. Hydrogen Ion Concentration (pH) values within the range of six point five (6.5) to nine point zero (9.0); (3-30-01)

b. The total concentration of dissolved gas not exceeding one hundred and ten percent (110%) of saturation at atmospheric pressure at the point of sample collection; (7-1-93)

02. Cold Water. Waters designated for cold water aquatic life are not to vary from the following characteristics due to human activities: (3-15-02)

a. Dissolved Oxygen Concentrations exceeding six (6) mg/l at all times. In lakes and reservoirs this standard does not apply to: (7-1-93)

i. The bottom twenty percent (20%) of water depth in natural lakes and reservoirs where depths are thirty-five (35) meters or less. (7-1-93)

ii. The bottom seven (7) meters of water depth in natural lakes and reservoirs where depths are greater than thirty-five (35) meters. (7-1-93)

iii. Those waters of the hypolimnion in stratified lakes and reservoirs. (7-1-93)

b. Water temperatures of twenty-two (22) degrees C or less with a maximum daily average of no greater than nineteen (19) degrees C. (8-24-94)

c. Temperature in lakes shall have no measurable change from natural background conditions. Reservoirs with mean detention times of greater than fifteen (15) days are considered lakes for this purpose. (3-15-02)

d. Ammonia. The following criteria are not to be exceeded dependent upon the temperature, T (degrees C), and pH of the water body: (3-15-02)

i. Acute Criterion (Criterion Maximum Concentration (CMC)). The one (1) hour average concentration of total ammonia nitrogen (in mg N/L) is not to exceed, more than once every three (3) years, the value calculated using the following equation:

$$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

(3-15-02)

ii. Chronic Criterion (Criterion Continuous Concentration (CCC)). (3-15-02)

(1) The thirty (30) day average concentration of total ammonia nitrogen (in mg N/L) is not to exceed, more than once every three (3) years, the value calculated using the following equations: (3-15-02)

(a) When fish early life stages are likely present:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet MIN(2.85, 1.45 \cdot 10^{0.028 \cdot (25-T)})$$

(3-15-02)

(b) When fish early life stages are likely absent:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \bullet 1.45 \cdot 10^{0.028 \cdot (25-T)})$$

(3-15-02)

(2) The highest four-day (4) average within the thirty-day (30) period should not exceed two point five (2.5) times the CCC. (3-15-02)

(3) Because the Department presumes that many waters in the state may have both spring-spawning and fall-spawning species of fish present, early life stages of fish may be present throughout much of the year. Accordingly, the Department will apply the CCC for when fish early life stages are present at all times of the year unless: (3-15-02)

(a) Time frames during the year are identified when early life stages are unlikely to be present, and (3-15-02)

(b) The Department is provided all readily available information supporting this finding such as the fish species distributions, spawning periods, nursery periods, and the duration of early life stages found in the water body; and (3-15-02)

(c) The Department determines early life stages are likely absent. (3-15-02)

e. Turbidity, below any applicable mixing zone set by the Department, shall not exceed background turbidity by more than fifty (50) NTU instantaneously or more than twenty-five (25) NTU for more than ten (10) consecutive days. (8-24-94)

f. Salmonid ~~s~~Spawning~~:~~. The Department shall determine spawning periods on a waterbody specific basis taking into account knowledge of local fisheries biologists, published literature, records of the Idaho Department of Fish and Game, and other appropriate records of spawning and incubation, as further described in the current version of the "Water Body Assessment Guidance" published by the Idaho Department of Environmental Quality. ~~w~~Waters designated for salmonid spawning, in areas used for spawning and during the time spawning and incubation occurs, are not to ~~*exhibit*~~ vary from the following characteristics ~~*during the spawning period and incubation for the particular species inhabiting those waters*~~ due to human activities: ~~*(7-1-93)*~~(____)

i. Dissolved Oxygen. (8-24-94)

(1) Intergravel Dissolved Oxygen. (8-24-94)

(a) One (1) day minimum of not less than five point zero (5.0) mg/l. (8-24-94)

(b) Seven (7) day average mean of not less than six point zero (6.0) mg/l. (8-24-94)

(2) Water-Column Dissolved Oxygen. (8-24-94)

(a) One (1) day minimum of not less than six point zero (6.0) mg/l or ninety percent (90%) of saturation, whichever is greater. (8-24-94)

ii. Water temperatures of thirteen (13) degrees C or less with a maximum daily average no greater than nine (9) degrees C. (8-24-94)

g. Bull Trout Temperature Criteria. Water temperatures for the waters identified under Subsection 250.02.g.i. shall not exceed thirteen degrees Celsius (13C) maximum weekly maximum temperature (MWMT) during June, July and August for juvenile bull trout rearing, and nine degrees Celsius (9C) daily average during September and October for bull trout spawning. For the purposes of measuring these criteria, the values shall be generated from a recording device with a minimum of six (6) evenly spaced measurements in a twenty-four (24) hour period. The MWMT is the mean of daily maximum water temperatures measured over the annual warmest consecutive seven (7) day period occurring during a given year. (3-30-01)

i. The bull trout temperature criteria shall apply to all tributary waters, not including fifth order main stem rivers, located within areas above fourteen hundred (1400) meters elevation south of the Salmon River basin-Clearwater River basin divide, and above six hundred (600)

meters elevation north of the Salmon River basin-Clearwater River basin divide, in the fifty-nine (59) Key Watersheds listed in Table 6, Appendix F of Governor Batt's State of Idaho Bull Trout Conservation Plan, 1996, or as designated under Sections 110 through 160 of this rule. (3-23-98)

ii. No thermal discharges will be permitted to the waters described under Subsection 250.02.g.i. unless socially and economically justified as determined by the Department, and then only if the resultant increase in stream temperature is less than five-tenths degrees Celsius (0.5C). (4-5-00)

h. Kootenai River sturgeon temperature criteria. Water temperatures within the Kootenai River from Bonners Ferry to Shorty's Island, shall not exceed a seven (7) day moving average of fourteen degrees celsius (14C) based on daily average water temperatures, during May 1 through July 1. (3-23-98)

03. Seasonal Cold Water. Between the summer solstice and autumn equinox, waters designated for seasonal cold water aquatic life are not to vary from the following characteristics due to human activities. For the period from autumn equinox to summer solstice the cold water criteria will apply: (3-15-02)

a. Dissolved Oxygen Concentrations exceeding six (6) mg/l at all times. In lakes and reservoirs this standard does not apply to: (4-5-00)

i. The bottom twenty percent (20%) of water depth in natural lakes and reservoirs where depths are thirty-five (35) meters or less. (4-5-00)

ii. The bottom seven (7) meters of water depth in natural lakes and reservoirs where depths are greater than thirty-five (35) meters. (4-5-00)

iii. Those waters of the hypolimnion in stratified lakes and reservoirs. (4-5-00)

b. Water temperatures of twenty-six (26) degrees C or less as a daily maximum with a daily average of no greater than twenty-three (23) degrees C. (3-30-01)

c. Temperature in lakes shall have no measurable change from natural background conditions. Reservoirs with mean detention times of greater than fifteen (15) days are considered lakes for this purpose. (3-15-02)

d. Ammonia. Concentration of ammonia are not to exceed the criteria defined at Subsection 250.02.d. (3-15-02)

04. Warm Water. Waters designated for warm water aquatic life are not to ~~*exhibit*~~ vary from the following characteristics due to human activities: ~~*(4-5-00)*~~( )

a. Dissolved oxygen concentrations exceeding five (5) mg/l at all times. In lakes and reservoirs this standard does not apply to: (7-1-93)

i. The bottom twenty percent (20%) of the water depth in natural lakes and reservoirs

where depths are thirty-five (35) meters or less. (7-1-93)

ii. The bottom seven (7) meters of water depth in natural lakes and reservoirs where depths are greater than thirty-five (35) meters. (7-1-93)

iii. Those waters of the hypolimnion in stratified lakes and reservoirs. (7-1-93)

b. Water temperatures of thirty-three (33) degrees C or less with a maximum daily average not greater than twenty-nine (29) degrees C. (8-24-94)

c. Temperature in lakes shall have no measurable change from natural background conditions. Reservoirs with mean detention times of greater than fifteen (15) days are considered lakes for this purpose. (3-15-02)

d. Ammonia. The following criteria are to be met dependent upon the temperature, T (degrees C), and pH of the water body: (3-15-02)

i. Acute Criterion (Criterion Maximum Concentration (CMC)). The one (1) hour average concentration of total ammonia nitrogen (in mg N/L) is not to exceed, more than once every three (3) years, the value calculated using the following equation:

$$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

(3-15-02)

ii. Chronic Criterion (Criterion Continuous Concentration (CCC)). Concentrations of ammonia are not to exceed the criteria defined at Subsection 250.02.d.ii. (3-15-02)

05. Modified. Water quality criteria for modified aquatic life will be determined on a case-by-case basis reflecting the chemical, physical, and biological levels necessary to attain the existing aquatic life community. These criteria, when determined, will be adopted into these rules. (3-15-02)

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.05 - RULES AND STANDARDS FOR HAZARDOUS WASTE

DOCKET NO. 58-0105-0602

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Chapters 44 and 58, Title 39, Idaho Code. In addition, 40 CFR 271.21(e) and Section 39-4404, Idaho Code, require DEQ to adopt amendments to federal law as proposed under this docket.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, August 2, 2006, Vol. 06-8, pages 133 through 139.

No written public comments were received; however, the rule has been revised at Sections 000, 005, 006, 008 and 009 in response to a verbal suggestion received from the U.S. EPA, Region 10 (EPA). Upon review of the proposed rule, EPA suggested that reference to the Hazardous Waste Management Act of 1983 and the Hazardous Waste Facility Siting Act of 1985 should be clarified by adding the term "as amended" at the end of the full title of each of the acts. EPA also suggested that certain federal regulation citations should be added to clarify the meaning of EPA within the Idaho state rules. The addition of these citations makes DEQ's incorporation by reference of the federal hazardous waste regulations more accurate. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/haz_waste/58_0105_0602_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact John Brueck at john.brueck@deq.idaho.gov, (208)373-0458.

Dated this 12th day of October, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. The action is authorized by Chapters 44 and 58, Title 39, Idaho Code. In addition, 40 CFR 271.21(e) and Section 39-4404, Idaho Code, require DEQ to adopt amendments to federal law as proposed under this docket.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before August 16, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: Idaho's Rules and Standards for Hazardous Waste are updated annually to maintain consistency with the U.S. Environmental Protection Agency's federal regulations implementing the Resource Conservation and Recovery Act (RCRA) as directed by the Idaho Hazardous Waste Management Act (HWMA). Idaho has historically adopted both required and optional federal regulations so that Idaho's hazardous waste rules are the same as federal requirements. Optional federal regulations usually allow more flexibility to the regulated community; required federal regulations are necessary to maintain program primacy. Adoption by reference allows the Department of Environmental Quality (DEQ) to keep its rules up to date with federal regulation changes and minimizes the EPA Region 10 effort needed to keep Idaho's authorization current. Adoption by reference also simplifies compliance for the regulated community. This proposed rule updates citations to the federal regulations incorporated by reference to include those revised as of July 1, 2006.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in October 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the conclusion of the 2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: This proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

NEGOTIATED RULEMAKING: Due to the nature of this rulemaking, negotiations were not held.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning the proposed rulemaking, contact John Brueck, john.brueck@deq.idaho.gov, (208)373-0458.

Anyone can submit written comments by mail, fax or e-mail at the address below regarding this proposed rule. The Department will consider all written comments received by the undersigned on or before August 30, 2006.

Dated this 30th day of June, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton/Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

000. LEGAL AUTHORITY.
These rules are adopted pursuant to the authority vested in the Board of Environmental Quality by the Hazardous Waste Management Act of 1983, *as amended* (HWMA), Sections 39-4401 et seq., Idaho Code, and the authority vested in the Director of the Department of Environmental Quality by the Hazardous Waste Facility Siting Act of 1985, *as amended*, Sections 39-5801 et seq., Idaho Code. ~~*(3-1-93)*~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

002. INCORPORATION BY REFERENCE OF FEDERAL REGULATIONS.
Any reference in these rules to requirements, procedures, or specific forms contained in the Code of Federal Regulations (CFR), Title 40, Parts 124, 260-~~*266,*~~ 268, 270, 273, and 279 shall constitute the full adoption by reference of that part and Subparts as they appear in 40 CFR, revised as of July 1, 200~~5~~6, including any notes and appendices therein, unless expressly provided otherwise in these rules. ~~*(4-11-06)*~~(____)

01. Exceptions. Nothing in 40 CFR Parts 260 - ~~266,~~ 268, 270, 273, 279 or Part 124 as pertains to permits for Underground Injection Control (U.I.C.) under the Safe Drinking Water Act, the Dredge or Fill Program under Section 404 of the Clean Water Act, the National Pollution Discharge Elimination System (NPDES) under the Clean Water Act or Prevention of Significant Deterioration Program (PSD) under the Clean Air Act is adopted or included by reference herein. ~~(7-2-97)~~(____)

02. Availability of Referenced Material. The federal regulations adopted by reference throughout these rules are maintained at the following locations: (7-2-97)

a. U.S. Government Printing Office, http://www.gpoaccess.gov/index.html; and (3-20-04)

b. State Law Library, 451 W. State Street, P.O. Box 83720, Boise, ID 83720-0051, (208)334-3316; and (7-2-97)

c. Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, (208)373-0502. (7-2-97)

(BREAK IN CONTINUITY OF SECTIONS)

004. HAZARDOUS WASTE MANAGEMENT SYSTEM.
40 CFR Part 260 and all Subparts, except 40 CFR 260.2, are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 260.10, in the definition of hazardous waste constituent, "Administrator" shall be defined as the U.S. Environmental Protection Agency Administrator. For purposes of 40 CFR 260.20, "Federal Register" shall be defined as the Idaho Administrative Bulletin. ~~(4-11-06)~~(____)

005. IDENTIFICATION AND LISTING OF HAZARDOUS WASTE.
40 CFR Part 261 and all Subparts, except the language "in the Region where the sample is collected" in 40 CFR 261.4(e)(3)(iii), except remanded waste codes "K064, K065, K066, K090 and K091" listed in 40 CFR Part 261 Appendix VII, except "49 CFR 173.300" in 40 CFR 261.21(a)(3) as replaced with "49 CFR 173.115 or equivalent test methods in Chapter 7 of SW-846," except "49 CFR 173.151" in 40 CFR 261.21(a)(4) as replaced with "49 CFR 173.127" and except 40 CFR 261.23(a)(8), are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 261.10 and 40 CFR 261.11, "Administrator" shall be defined as the U.S. Environmental Protection Agency Administrator. For purposes of *40 CFR 261.4(b)(11)(ii) and* 40 CFR 261 Appendix IX, "EPA" shall be defined as the U.S. Environmental Protection Agency. ~~(4-11-06)~~(____)

01. Excluded Wastes. Chemically Stabilized Electric Arc Furnace Dust (CSEAFD) generated by Envirosafe Services of Idaho, Inc. (ESII) at ESII's facility in Grand View, Idaho using the Super Detox(R) treatment process as modified by ESII and that is disposed of in a

Subtitle D or Subtitle C landfill is excluded from the lists of hazardous waste provided ESII implements a program that meets the following conditions: (3-16-96)

a. Verification Testing Requirements. Sample Collection and analyses, including quality control procedures, conducted pursuant to Subsections 005.01.b. and 005.01.c., must be performed according to SW-846 methodologies and the RCRA Part B permit, including future revisions. (3-16-96)

b. Initial Verification Testing. (3-16-96)

i. For purposes of Subsections 005.01.b., "new source" shall mean any generator of Electric Arc Furnace Dust (EAFD), EPA and Idaho Department of Environmental Quality Hazardous Waste No. KO61, whose waste has not previously been processed by ESII using the Super Detox(R) treatment process resulting in processed EAFD which has been subjected to initial verification testing and has demonstrated compliance with the delisting levels specified in Subsection 005.01.d. (3-16-96)

ii. Prior to the initial treatment of any new source of EAFD, ESII must notify the Department in writing. The written notification shall include: (3-16-96)

(1) The waste profile information; and (3-16-96)

(2) The name and address of the generator. (3-16-96)

iii. The first four (4) consecutive batches treated must be sampled in accordance with Subsection 005.01.a. Each of the four (4) samples shall be analyzed to determine if the CSEAFD generated meets the delisting levels specified in Subsection 005.01.d. (3-16-96)

iv. If the initial verification testing demonstrates that the CSEAFD samples meet the delisting levels specified in Subsection 005.01.d., ESII shall submit the operational and analytical test data, including quality control information, to the Department, in accordance with Subsection 005.01.f. Subsequent to such data submittal, the CSEAFD generated from EAFD originating from the new source shall be considered delisted. (3-16-96)

v. CSEAFD generated by ESII from EAFD originating from a new source shall be managed as hazardous waste in accordance with Subtitle C of RCRA until: (3-16-96)

(1) Initial verification testing demonstrates that the CSEAFD meets the delisting levels specified in Subsection 005.01.d.; and (3-16-96)

(2) The operational and analytical test data is submitted to the Department pursuant to Subsection 005.01.b.iv. (3-16-96)

vi. For purposes of Subsections 005.01.b. and 005.01.c., "batch" shall mean the CSEAFD which results from a single treatment episode in a full scale mixing vessel. (3-16-96)

c. Subsequent Verification Testing. (3-16-96)

i. Subsequent to initial verification testing, ESII shall collect a representative sample, in accordance with Subsection 005.01.a., from each batch of CSEAFD generated by ESII. ESII may, at its discretion, conduct subsequent verification testing on composite samples. In no event shall a composite sample consist of representative samples from more than twenty (20) batches of CSEAFD. (3-16-96)

ii. The samples shall be analyzed prior to disposal of each batch of CSEAFD to determine if the CSEAFD meets the delisting levels specified in Subsection 005.01.d. (3-16-96)

iii. Each batch of CSEAFD generated by ESII shall be subjected to subsequent verification testing no later than thirty (30) days after it is generated by ESII. (3-16-96)

iv. If the levels of constituents measured in a sample, or composite sample, of CSEAFD do not exceed the levels set forth in Subsection 005.01.d., then any batch of CSEAFD which contributed to the sample that does not exceed the levels set forth in Subsection 005.01.d. is non-hazardous and may be managed and/or disposed of in a Subtitle D or Subtitle C landfill. (3-16-96)

v. If the constituent levels in a sample, or composite sample, exceed any of the delisting levels set forth in Subsection 005.01.d., then ESII must submit written notification of the results of the analysis to the Department within fifteen (15) days from receiving the final analytical results, and any CSEAFD which contributed to the sample must be: (3-16-96)

(1) Retested, and retreated if necessary, until it meets the levels set forth in Subsection 005.01.d.; or (3-16-96)

(2) Managed and disposed of in accordance with Subtitle C of RCRA. (3-16-96)

vi. Each batch of CSEAFD shall be managed as hazardous waste in accordance with Subtitle C of RCRA until subsequent verification testing demonstrates that the CSEAFD meets the delisting levels specified in Subsection 005.01.d. (3-16-96)

d. Delisting Levels. (3-16-96)

i. All leachable concentrations for these metals must not exceed the following levels (mg/l):

antimony	0.06
arsenic	0.50
barium	7.60
beryllium	0.010
cadmium	0.050
chromium	0.33
lead	0.15
mercury	0.009

nickel	1
selenium	0.16
silver	0.30
thallium	0.020
vanadium	2
zinc	70

(3-16-96)

ii. Metal concentrations must be measured in the waste leachate by the method specified in 40 CFR Part 261.24. (3-16-96)

e. Modification of Treatment Process. (3-16-96)

i. If ESII makes a decision to modify the Super Detox(R) treatment process from the description of the process as set forth in ESII's Petition for Delisting Treated K061 Dust by the Super Detox(R) Process submitted to the Department on July 14, 1995, ESII shall notify the Department in writing prior to implementing the modification. (3-16-96)

ii. After ESII's receipt of written approval from the Department, and subject to any conditions included with the approval, ESII may implement the proposed modification. (3-16-96)

iii. If ESII modifies its treatment process without first receiving written approval from the Department, this exclusion of waste will be void from the time the process was modified. (3-16-96)

iv. ESII's Petition for Delisting Treated K061 Dust by the Super Detox(R) Process submitted to the Department on July 14, 1995 is available at the Department of Environmental Quality, Permits and Enforcement, 1410 N. Hilton, Boise, Idaho 83706. (3-16-96)

f. Records and Data Retention and Submittal. (3-16-96)

i. Records of disposal site, operating conditions and analytical data from verification testing must be compiled, summarized, and maintained at ESII's Grand View facility for a minimum of five (5) years from the date the records or data are generated. (3-16-96)

ii. The records and data maintained by ESII must be furnished upon request to the Department or EPA. (3-16-96)

iii. Failure to submit requested records or data within ten (10) business days of receipt of a written request or failure to maintain the required records and data on site for the specified time, will be considered by the Department, at its discretion, sufficient basis to revoke the exclusion to the extent directed by the Department. (3-16-96)

iv. All records or data submitted to the Department must be accompanied by a signed copy of the following certification statement to attest to the truth and accuracy of the records or

data submitted: "Under civil and/or criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete. As to any identified sections of this document for which I cannot personally verify the truth and accuracy, I certify as the ESII official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete. In the event that any of this information is determined by the Department in its sole discretion to be false, inaccurate, or incomplete, and upon conveyance of this fact to ESII, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by the Department and that ESII will be liable for any actions taken in contravention of ESII's RCRA and CERCLA obligations premised upon ESII's reliance on the void exclusion." (3-16-96)

g. Facility Merger and Name Change. On May 4, 2001, the Department was notified of a stock transfer that resulted in ESII's facility merging with American Ecology. This created a name change from Envirosafe Services of Idaho, Inc. (ESII) to US Ecology Idaho, Inc. effective May 1, 2001. All references to Envirosafe Services of Idaho, Inc. or ESII now refer to US Ecology Idaho, Inc. (3-15-02)

006. STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE.

01. Incorporation by Reference. 40 CFR Part 262 and all Subparts, except for the language "for the Region in which the generator is located" in 40 CFR 262.42(a)(2) and 40 CFR 262.42(b), are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 262.55, 262.56, and 262.57(b), "Administrator" shall be defined as the U.S. Environmental Protection Agency Region 10 Regional Administrator. Copies of advance notification, annual reports, and exception reports, required under those sections, shall also be provided to the Director. For purposes of 40 CFR *262.21,* 262.51, 262.53, *262.54(e),* 262.54(g)(1), *262.60,* and 262.85(g), EPA shall be defined as the U.S. Environmental Protection Agency. For purposes of 40 CFR Part 262 Subparts E, F, H, and 40 CFR 262.41(a)(4), "United States or U.S." shall be defined as the United States. ~~*(4-11-06)*~~(____)

02. Generator Emergency Notification. In addition to the emergency notification required by 40 CFR 265.56(d)(2), 262.34(d)(5)(iv)(C), (see 40 CFR 262.34(a)(4)), 263.30(c)(1), and 264.56(d)(2), the emergency coordinator must also immediately notify the State Communications Center by telephone, 1-800-632-8000, to file an identical report. (3-15-02)

007. STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE.
40 CFR Part 263 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 263.20(g), 263.20(g)(1), 263.20(g)(4), 263.21(a)(4), and 263.22(d), "United States" shall be defined as the United States.
~~*(4-11-06)*~~(____)

008. STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES.
40 CFR Part 264 and all Subparts (excluding 40 CFR 264.1(f), 264.149, 264.150, 264.301(l), 264.1030(d), 264.1050(g), 264.1080(e), 264.1080(f) and 264.1080(g)) are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR Subsection 264.12(a), "Regional Administrator" shall be defined as the U.S. Environmental Protection

Agency Region 10 Regional Administrator. For purposes of 40 CFR *264.71(a)(3) and* 264.1082(c)(4)(ii), "EPA" shall be defined as the U.S. Environmental Protection Agency.
~~*(4-11-06)*~~(____)

009. INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES.
40 CFR Part 265, and all Subparts (excluding Subpart R, 40 CFR 265.1(c)(4), 265.149, 265.150, 265.1030(c), 265.1050(f), 265.1080(e), 265.1080(f), and 265.1080(g)) and except the language contained in 40 CFR 265.340(b)(2) as replaced with, "The following requirements continue to apply even when the owner or operator has demonstrated compliance with the MACT requirements of part 63, subpart EEE of this chapter: 40 CFR 265.351 (closure) and the applicable requirements of Subparts A through H, BB and CC of this part.", are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR Subsection 265.12(a), "Regional Administrator" shall be defined as the U.S. Environmental Protection Agency Region 10 Regional Administrator. For purposes of 40 CFR *265.71(a)(3) and* 265.1083(c)(4)(ii), "EPA" shall be defined as the U.S. Environmental Protection Agency.
~~*(4-11-06)*~~(____)

010. STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE FACILITIES.
40 CFR Part 266 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. ~~*(4-11-06)*~~(____)

011. LAND DISPOSAL RESTRICTIONS.
40 CFR Part 268 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6, except for 40 CFR 268.1(e)(3), 268.5, 268.6, 268.13, 268.42(b), and 268.44(a) through (g). The authority for implementing the provisions of these excluded sections remains with the EPA. However, the requirements of Sections 39-4403(17) and 39-4423, Idaho Code, shall be applied in all cases where these requirements are more stringent than the federal standards. If the Administrator of the EPA grants a case-by-case variance pursuant to 40 CFR 268.5, that variance will simultaneously create the same case-by-case variance to the equivalent requirement of these rules. For purposes of 40 CFR 268.(2)(j) "EPA" shall be defined as the U.S. Environmental Protection Agency. For purposes of 40 CFR 268.40(b), "Administrator" shall be defined as U.S. Environmental Protection Agency Administrator. In 40 CFR 268.7(a)(9)(iii), "D009" is excluded, (from lab packs as noted in 40 CFR Part 268 Appendix IV.) In 40 CFR 268.48(a), the entry for "2,4,6-Tribromophenol" is excluded. ~~*(4-11-06)*~~(____)

012. HAZARDOUS WASTE PERMIT PROGRAM.
40 CFR Part 270 and all Subparts, except 40 CFR 270.12(a) and 40 CFR 270.14(b)(18), are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 270.2, 270.5, 270.10(e)(2), 270.10(e)(3), 270.10(f)(2), 270.10(f)(3), 270.10(g), 270.11(a)(3), 270.32(a), 270.32(b)(2), 270.32(c), 270.51, 270.72(a)(5), and 270.72(b)(5), "EPA" and "Administrator" or "Regional Administrator" shall be defined as the U.S. Environmental Protection Agency and the U.S. Environmental Protection Agency Region 10 Regional Administrator respectively. ~~*(4-11-06)*~~(____)

013. PROCEDURES FOR DECISION-MAKING (STATE PROCEDURES FOR RCRA OR HWMA PERMIT APPLICATIONS).

40 CFR Part 124, Subparts A, B and ~~B~~ G are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6, except that 40 CFR 124.19, the fourth sentence of 40 CFR 124.31(a), the third sentence of 40 CFR 124.32(a), and the second sentence of 40 CFR 124.33(a) are expressly omitted from the incorporation by reference of each of those subsections. For purposes of 40 CFR 124.6(e), 124.10(b), and 124.10(c)(1)(ii) "EPA" and "Administrator" or "Regional Administrator" shall be defined as the U.S. Environmental Protection Agency and the U.S. Environmental Protection Agency Region 10 Regional Administrator, respectively.
~~(4-11-06)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

015. STANDARDS FOR THE MANAGEMENT OF USED OIL.

01. Incorporation by Reference. 40 CFR Part 279 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 279.43(c)(3)(ii) "Director" shall be defined as the Director, U.S.DOT Office of Hazardous Materials Regulation. ~~(4-11-06)~~(____)

02. Used Oil as a Dust Suppressant. 40 CFR Part 279 contains a prohibition on the use of used oil as a dust suppressant at 279.82(a), however, States may petition EPA to allow the use of used oil as a dust suppressant. Members of the public may petition the State to make this application to EPA. This petition to the State must: (2-11-94)

a. Be submitted to the Idaho Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706-1255; and (2-11-94)

b. Demonstrate how the requirements of 40 CFR 279.82(b) will be met. (2-11-94)

016. STANDARDS FOR UNIVERSAL WASTE MANAGEMENT.
40 CFR Part 273 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 200~~5~~6. For purposes of 40 CFR 273.32(a)(3), "EPA" shall be defined as the U.S. Environmental Protection Agency. ~~(4-11-06)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

018. STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE FACILITIES OPERATING UNDER A STANDARDIZED PERMIT.
40 CFR Part 267 and all Subparts are herein incorporated by reference as provided in 40 CFR, revised as of July 1, 2006. (____)

01~~8~~9. -- 354. (RESERVED).

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.08 - IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS

DOCKET NO. 58-0108-0601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291. This rule was adopted as a temporary rule by the Board in November 2005 and is currently effective.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. This action is authorized by Chapter 1, Title 39, Idaho Code, and Chapter 21, Title 37, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, January 4, 2006, Vol. 06-1, pages 305 through 312. The agency received no public comments, and the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at www.deq.idaho.gov or by contacting the undersigned.

IDAHO CODE SECTION 39-107D STATEMENT: Previous federal regulation prohibited use of POU treatment devices for compliance with National Primary Drinking Water Regulations. In 1996, the United States Congress removed this prohibition through language in the Safe Drinking Water Act, 42 U.S.C. Section 300g-1(b)(4)(E)(ii).

The revised arsenic standard of 10 parts per billion for drinking water will become effective on January 23, 2006. See National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6975-7066, incorporated by reference into Idaho Rules for Public Drinking Water Systems, IDAPA 58.01.08. In order to assist communities with complying with the revised arsenic standard, the Board adopted this rule allowing for use of POU treatment devices as allowed per federal law.

Idaho Code Section 39-107D provides that the Department of Environmental Quality (DEQ) must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. This rule incorporates language from the Safe Drinking Water Act (42 U.S.C.§ 300g-1(b)(4)(E)(ii)). The Safe Drinking Water Act states that POU treatment devices "shall be owned, controlled and maintained by the public water system or by a person under contract with the public water system to ensure proper operation and maintenance and compliance with the maximum contaminant level or treatment technique." Id. To that end, this rule includes language DEQ deems necessary in order to ensure that POU treatment devices are operated and maintained pursuant to federal law.

Although the federal Safe Drinking Water Act does not specifically prohibit use of POU treatment

devices for compliance with the nitrate maximum contaminant level (MCL), this rule is more restrictive in that it does not allow POU for the nitrate MCL in community water systems because of the risk of acute illness for infants. POU treatment systems may still be used for compliance with nitrate standards for non-community water systems under certain conditions where the risk of acute illness is low. The nitrate MCL was promulgated in 1975 by the Public Health Service and re-promulgated in 1991 by EPA (56 CFR 3526).

POU treatment devices may be covered under the definition of "material modification" outlined in Idaho Code Section 39-118 and be subject to plan and specification review. However, because the POU treatment devices are ANSI/NSF certified pre-engineered units and are not being constructed individually onsite, DEQ has determined that these devices will not produce a significant impact on the environment or on public health, and therefore waives plan and specification review for certain small public water systems as specified in the rule. The main public health and environmental concern associated with POU treatment devices pertains to the proper operation and maintenance of the units.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact Jerri Henry at jerri.henry@deq.idaho.gov, (208)373-0471.

Dated this 23rd day of February, 2006.

THIS NOTICE WAS PUBLISHED WITH THE TEMPORARY AND PROPOSED RULE

EFFECTIVE DATE: The temporary rule was effective November 17, 2005.

AUTHORITY: In compliance with Sections 67-5221(1) and 67-5226, Idaho Code, notice is hereby given that the Board of Environmental Quality has adopted a temporary rule and the Department of Environmental Quality (DEQ) is commencing proposed rulemaking. This action is authorized by Chapter 1, Title 39, Idaho Code, and Chapter 21, Title 37, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before January 18, 2006. If no such written request is received, a public hearing will not be held.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

DEPARTMENT OF ENVIRONMENTAL QUALITY ***Docket No. 58-0108-0601***
Idaho Rules for Public Drinking Water Systems **PENDING RULE**

DESCRIPTIVE SUMMARY: DEQ has initiated this rulemaking to allow public drinking water systems the flexibility to use point of use (POU) treatment technology for treating some chemical contaminants such as arsenic. The rule will exempt small public drinking water systems from the requirement in Section 39-118, Idaho Code, to submit engineering plans and specifications if they serve less than 200 service connections and submit technical and managerial documentation to the Department. The rule also allows public drinking water systems serving over 200 service connections the option to apply to the state for a waiver of the engineering plan and specification requirements.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality for adoption of a pending rule in February 2006. The pending rule will become final upon the conclusion of the 2007 session of the Idaho Legislature if approved by the Legislature.

TEMPORARY RULE JUSTIFICATION: Pursuant to Sections 67-5226(1)(c), Idaho Code, the Governor has found that temporary adoption of the rule is necessary in order to confer a benefit. The benefit is the increased flexibility for public water systems to use point of use treatment devices for treating some chemical contaminants such as arsenic. Additionally, the rule provides a cost savings by waiving engineering plans and specifications required by Section 39-118, Idaho Code, for systems serving less than 200 service connections. It was necessary to make this rule immediately effective to ensure that the point of use treatment alternative is available prior to the revised federal arsenic standard for drinking water becoming effective on January 23, 2006.

IDAHO CODE SECTION 39-107D STATEMENT: Previous federal regulation prohibited use of POU treatment devices for compliance with National Primary Drinking Water Regulations. In 1996, the United States Congress removed this prohibition through language in the Safe Drinking Water Act, 42 U.S.C. Section 300g-1(b)(4)(E)(ii).

The revised arsenic standard of 10 parts per billion for drinking water will become effective on January 23, 2006. *See* National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, 66 Fed. Reg. 6975-7066, incorporated by reference into Idaho Rules for Public Drinking Water Systems, IDAPA 58.01.08. In order to assist communities with complying with the revised arsenic standard, DEQ proposes this rule allowing for use of POU treatment devices as allowed per federal law.

Idaho Code Section 39-107D provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. This rule incorporates language from the Safe Drinking Water Act (42 U.S.C.Section 300g-1(b)(4)(E)(ii)). The Safe Drinking Water Act states that POU treatment devices "shall be owned, controlled and maintained by the public water system or by a person under contract with the public water system to ensure proper operation and maintenance and compliance with the maximum contaminant level or treatment technique". Id. To that end, this rule includes language DEQ deems necessary in order to ensure that POU treatment devices are operated and maintained pursuant to federal law.

Although the federal Safe Drinking Water Act does not specifically prohibit use of POU treatment devices for compliance with the nitrate maximum contaminant level (MCL), this rule is more restrictive in that it does not allow POU for the nitrate MCL in community water systems because of the risk of acute illness for infants. POU treatment systems may still be used for compliance with nitrate standards for non-community water systems under certain conditions where the risk of acute illness is low. The nitrate MCL was promulgated in 1975 by the Public Health Service and re-promulgated in 1991 by EPA (56 CFR 3526).

POU treatment devices may be covered under the definition of "material modification" outlined in Section 39-118, Idaho Code, and be subject to plan and specification review. However, because the POU treatment devices are ANSI/NSF certified pre-engineered units and are not being constructed individually onsite, DEQ has determined that these devices will not produce a significant impact on the environment or on public health, and therefore waives plan and specification review for certain small public water systems as specified in the rule. The main public health and environmental concern associated with POU treatment devices pertains to the proper operation and maintenance of the units.

IDAHO CODE SECTION 67-5221(1)(c) FISCAL IMPACT STATEMENT: No negative impact occurs from this rulemaking; provision is not applicable.

NEGOTIATED RULEMAKING: This temporary rulemaking schedule did not allow for negotiated rulemaking.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning the temporary and proposed rule, contact Jerri Henry at jerri.henry@deq.idaho.gov, (208)373-0471.

Anyone may submit written comments regarding this proposed rule by mail, fax or e-mail at the address below. DEQ will consider all written comments received by the undersigned on or before February 1, 2006.

DATED this 16th day of November, 2005.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton, Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

003. DEFINITIONS.
The definitions set forth in 40 CFR 141.2, revised as of July 1, 2002, are herein incorporated by reference except for the definition of the terms "action level," "disinfection," "noncommunity water system," and "person". (5-3-03)

There are no changes to Subsections 003.01 through 003.41

42. **Maximum Contaminant Level (MCL)**. The maximum permissible level of a contaminant in water which is delivered to any user of a public water system. (11-17-05)T

4~~2~~3. **Maximum Daily Consumption Rate**. The average rate of consumption for the twenty-four (24) hour period in which total consumption is the largest on record. (12-10-92)

4~~3~~4. **Maximum Hourly Demand**. The greatest volume of water used in any hour during a one (1) year period. (12-10-92)

4~~4~~5. **Maximum Residual Disinfectant Level (MRDL)**. A level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. For chlorine and chloramines, a public water system is in compliance with the MRDL, when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a public water system is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two (2) consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels under Section 1412 of the Safe Drinking Water Act. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs listed in 40 CFR 141.65, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections. (4-5-00)

4~~5~~6. **Maximum Residual Disinfectant Level Goal (MRDLG)**. The maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants. (4-5-00)

4~~6~~7. **Method Detection Limit (MDL)**. The lowest concentration which can be determined to be greater than zero with ninety-nine percent (99%) confidence, for a particular analytical method. (12-10-92)

4~~7~~8. **New System**. Any water system that meets, for the first time, the definition of a public water system provided in Section 1401 of the federal Safe Drinking Water Act (42 U.S.C. Section 300f). This includes systems that are entirely new construction and previously

unregulated systems that are expanding. (4-5-00)

4~~8~~9. Noncommunity Water System. A public water system that is not a community water system. A non-community water system is either a transient noncommunity water system or a non-transient noncommunity water system. (4-5-00)

~~49~~50. Nontransient Noncommunity Water System. A public water system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year. (12-10-92)

5~~0~~1. Nuclear Facility. Factories, processing plants or other installations in which fissionable material is processed, nuclear reactors are operated, or spent (used) fuel material is processed, or stored. (12-10-92)

5~~1~~2. Operating Shift. That period of time during which water system operator decisions that affect public health are necessary for proper operation of the system. (4-5-00)

5~~2~~3. Owner/Purveyor of Water/Supplier of Water. The person, company, corporation, association, or other organizational entity which holds legal title to the public water system, who provides, or intends to provide, drinking water to the customers and/or is ultimately responsible for the public water system operation. (4-6-05)

5~~3~~4. Peak Hourly Flow. The highest hourly flow during any day. (12-10-92)

5~~4~~5. Person. A human being, municipality, or other governmental or political subdivision or other public agency, or public or private corporation, any partnership, firm, association, or other organization, any receiver, trustee, assignee, agent or other legal representative of the foregoing or other legal entity. (12-10-92)

5~~5~~6. Pesticides. Substances which meet the criteria for regulation pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, and any regulations adopted pursuant to FIFRA. For example, pesticides include, but are not limited to insecticides, fungicides, rodenticides, herbicides, and algaecides. (12-10-92)

57. Point of Use (POU) Treatment Device. A treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap. (11-17-05)T

58. Point of Use (POU) Treatment System. A collection of POU treatment devices. (11-17-05)T

5~~6~~9. Public Notice. The notification of public water system consumers of information pertaining to that water system including information regarding water quality or compliance status of the water system. (12-10-92)

~~57~~60. Public Drinking Water System. A system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen (15) service connections, regardless of the number of water sources or configuration of the distribution system, or regularly serves an average of at least

twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district". A public water system is either a "community water system" or a "noncommunity water system". (4-6-05)

~~58~~61. Public Water System/Water System/System. Means "public drinking water system". (4-5-00)

~~59~~62. Repeat Compliance Period. Any subsequent compliance period after the initial compliance period. (12-10-92)

6~~0~~3. Responsible Charge (RC). Responsible Charge means, active, daily on-site and/or on-call responsibility for the performance of operations or active, on-going, on-site and on-call direction of employees and assistants. (4-5-00)

6~~1~~4. Responsible Charge Operator. An operator of a public drinking water system, designated by the system owner, who holds a valid license at a class equal to or greater than the drinking water system classification, who is in responsible charge of the public drinking water system. (4-6-05)

6~~2~~5. Sampling Point. The location in a public water system from which a sample is drawn. (12-10-92)

6~~3~~6. Sanitary Defects. Any faulty structural condition which may allow the water supply to become contaminated. (12-10-92)

6~~4~~7. Sanitary Survey. An onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. The sanitary survey will include, but is not limited to the following elements: (4-5-00)

a. Source; (4-5-00)

b. Treatment; (4-5-00)

c. Distribution system; (4-5-00)

d. Finished water storage; (4-5-00)

e. Pumps, pump facilities, and controls; (4-5-00)

f. Monitoring and reporting and data verification; (4-5-00)

g. System management and operation; and (4-5-00)

h. Operator compliance with state requirements. (4-5-00)

6~~5~~8. SDWIS-State. An acronym that stands for "Safe Drinking Water Information System-State Version". It is a software package developed under contract to the U.S. Environmental Protection Agency and used by a majority of U.S. states to collect, maintain, and report data about regulated public water systems. See also the definition of DWIMS. (5-3-03)

6~~6~~9. Significant Deficiency. As identified during a sanitary survey, any defect in a system's design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department or its agent determines to cause, or have potential to cause, risk to health or safety, or that could affect the reliable delivery of safe drinking water. See also the definition of Health Hazards. (5-3-03)

~~6~~70. Special Irrigation District. An irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential or similar use where the system or the residential or similar users of the system comply with the exclusion provisions in Section 1401(4)(B)(i)(II) or (III) of the Safe Drinking Water Act. (4-6-05)

~~68~~71. Spring. A source of water which flows from a laterally percolating water table's intersection with the surface or from a geological fault that allows the flow of water from an artesian aquifer. (12-10-92)

~~69~~72. Substitute Responsible Charge Operator. An operator of a public drinking water system who holds a valid license at a class equal to or greater than the drinking water system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible. (4-6-05)

7~~0~~3. Surface Water System. A public water system which is supplied by one (1) or more surface water sources or groundwater sources under the direct influence of surface water. Also called subpart H systems in applicable sections of 40 CFR Part 141. (4-5-00)

7~~1~~4. Specific Ultraviolet Absorption (SUVA). SUVA means Specific Ultraviolet Absorption at two hundred fifty-four (254) nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wave length of two hundred fifty-four (254) nm (UV254) (in m^{-1}) by its concentration of dissolved organic carbon (DOC) (in mg/l). (4-5-00)

7~~2~~5. Total Organic Carbon (TOC). Total organic carbon in mg/l measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two (2) significant figures. (4-5-00)

7~~3~~6. Transient Noncommunity Water System. A noncommunity water system which does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year. (10-1-93)

7~~4~~7. Treatment Facility. Any place(s) where a public drinking water system or

nontransient noncommunity water system alters the physical or chemical characteristics of the drinking water. Chlorination may be considered as a function of a distribution system. (4-5-00)

7~~5~~8. Turbidity. A measure of the interference of light passage through water, or visual depth restriction due to the presence of suspended matter such as clay, silt, nonliving organic particulates, plankton and other microscopic organisms. Operationally, turbidity measurements are expressions of certain light scattering and absorbing properties of a water sample. Turbidity is measured by the Nephelometric method. (12-10-92)

7~~6~~9. Uncovered Finished Water Storage Facility. An uncovered tank, reservoir, or other facility that is used to store water that will undergo no further treatment except residual disinfection. (5-3-03)

~~77~~80. Unregulated Contaminant. Any substance that may affect the quality of water but for which a maximum contaminant level or treatment technique has not been established. (12-10-92)

~~7~~81. Variance. A temporary deferment of compliance with a maximum contaminant level or treatment technique requirement which may be granted only when the system demonstrates to the satisfaction of the Department that the raw water characteristics prevent compliance with the MCL or requirement after installation of the best available technology or treatment technique and the determent does not cause an unreasonable risk to public health. (12-10-92)

~~79~~82. Very Small Public Drinking Water System. A Community or Nontransient Noncommunity Public Water System that serves five hundred (500) persons or less and has no treatment other than disinfection or has only treatment which does not require any chemical treatment, process adjustment, backwashing or media regeneration by an operator (e.g. calcium carbonate filters, granular activated carbon filters, cartridge filters, ion exchangers). (4-5-00)

8~~0~~3. Volatile Organic Chemicals (VOCs). VOCs are lightweight organic compounds that vaporize or evaporate easily. (10-1-93)

8~~1~~4. Vulnerability Assessment. A determination of the risk of future contamination of a public drinking water supply. (12-10-92)

8~~2~~5. Waiver. (12-10-92)

a. For the purposes of these rules, except Sections 550 through 552, “waiver” means the Department approval of a temporary reduction in sampling requirements for a particular contaminant. (10-1-93)

b. For purposes of Sections 550 through 552, “waiver” means a dismissal of any requirement of compliance. (12-10-92)

c. For the purposes of Section 010, “waiver” means the deferral of a fee assessment for a public drinking water system. (10-1-93)

8~~3~~6. Water for Human Consumption. Water that is used by humans for drinking, bathing for purposes of personal hygiene (including hand-washing), showering, cooking, dishwashing, and maintaining oral hygiene. In common usage, the terms "culinary water," "drinking water," and "potable water" are frequently used as synonyms. (5-3-03)

8~~4~~7. Water Main. A pipe within a public water system which is under the control of the system operator and conveys water to two (2) or more service connections. The collection of water mains within a given water supply is called the distribution system. (5-3-03)

8~~5~~8. Well House. A structure containing important water system components, such as a well, hydropneumatic tank, booster pump, pump controls, flow meter, distribution line, or a treatment unit. Well houses are often called pump houses in common usage, even though in modern construction these structures may not contain either a well or a pump. These terms are used interchangeably in national standards and trade publications. (4-6-05)

(BREAK IN CONTINUITY OF SECTIONS)

450. USE OF NON-CENTRALIZED TREATMENT DEVICES.

01. Point of Entry Devices. 40 CFR 141.100, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)

02. Point of Use (POU) Treatment Devices. (11-17-05)T

a. A public water system may use point of use (POU) treatment in order to achieve compliance with certain maximum contaminant levels (MCL) or treatment techniques, in accordance with Subsection 450.02.b., when the following conditions are met: (11-17-05)T

i. A program for long-term operation, maintenance, and monitoring of the POU treatment system is approved by the Department, pursuant to Section 450.02.d. (11-17-05)T

ii. The public water system or a vendor of POU treatment devices under contract with the public water system shall own, control, and maintain the POU treatment system to ensure proper operation and maintenance and compliance with the MCL or treatment technique. (11-17-05)T

iii. Each POU treatment device is equipped with a mechanical warning mechanism to ensure that customers are automatically notified of operational problems. (11-17-05)T

iv. The POU treatment device must be certified by an accredited American National Standards Institute (ANSI) certification body to meet applicable ANSI/National Sanitation Foundation (NSF) Standards. (11-17-05)T

b. POU treatment devices shall not be used to achieve compliance with a MCL or treatment technique requirement for a microbial contaminant or an indicator of a microbial

contaminant. Community water systems may not use POU treatment devices to achieve compliance with a nitrate MCL. (11-17-05)T

c. The Department will waive the plan and specification requirements as described in Subsection 551.04 relating to material modifications for the following systems only to that extent that the material modification proposed is limited to the installation and/or use of a POU treatment device(s): (11-17-05)T

i. Community water systems serving two hundred (200) or fewer service connections. (11-17-05)T

ii. Non-transient non-community water systems. (11-17-05)T

iii. Transient non-community water systems. (11-17-05)T

iv. Community water systems serving more than two hundred (200) service connections if approved by the Department through the waiver process outlined in Subsection 005.01.a. (11-17-05)T

d. A public water system must obtain written approval by the Department before installation of a POU treatment device for the purpose of achieving compliance with a MCL or treatment technique. The public water system shall submit the following documentation for approval to the Department: (11-17-05)T

i. Information identifying the public water system name and number, total number of service connections, contaminant(s) to be treated, type of POU treatment device to be installed, manufacturer and model number of the POU treatment device, type and function of the mechanical warning mechanism (performance indicator) on the POU treatment device, certification verification for ANSI/NSF, installer qualifications, and a proposed date for installation of the POU treatment device(s). (11-17-05)T

ii. The manufacturer's specifications for the POU treatment device including demonstration that the POU treatment device is suited for the water chemistry of the public water system and contaminant(s) of concern and is of sufficient design and capacity for the particular application. (11-17-05)T

iii. Information relating to how other drinking water dispensing units, such as instant hot water dispensers and refrigerator water and ice dispensers, whose primary function is to provide drinking water, will be provided with treated water. If water is transported from a POU treatment device to another drinking water dispensing unit, the conducting tube shall be of non-reactive material. (11-17-05)T

iv. For non-transient non-community water systems and transient non-community water systems, demonstration that the drinking water dispensing units are located in areas adequate to protect public health. (11-17-05)T

v. Demonstration that all POU treatment devices are owned, controlled, and maintained by the public water system or by a vendor of POU treatment devices under contract

with the public water system. (11-17-05)T

vi. A sampling plan identifying the location of all service connections and demonstrating how the system will ensure that all POU treatment devices are sampled for compliance with the contaminant(s) being treated during every compliance period or at a frequency designated by the state. (11-17-05)T

vii. Documentation that a customer at each service connection has agreed to installation and use of a POU treatment device and has granted access for installation, maintenance, and sampling. (11-17-05)T

viii. A plan that describes how the public water system will address any non-compliance with Subsection 450.02.d.vii. (11-17-05)T

ix. A maintenance plan that demonstrates how on-going maintenance activities will be performed and on what frequency, including: frequency of treatment media replacements, frequency of POU treatment device replacements, periodic verification that the mechanical warning device is functional, schedule of planned maintenance activities, plan of how the system will address unscheduled maintenance problems, and a plan and method of waste disposal. (11-17-05)T

x. Documentation that the system meets the current requirements for a certified operator pursuant to Section 554. (11-17-05)T

xi. A plan for on-going education and outreach to the customers of the public water system, including rental customers, on POU treatment and health effects of the contaminant(s) of concern. (11-17-05)T

xii. A plan for how the system will ensure real estate disclosures for the POU treatment system. (11-17-05)T

xiii. A statement of recognition that failure to maintain compliance with the MCL, or the failure to operate and maintain compliance with a POU treatment system as approved by the Department, may necessitate installation of centralized treatment. (11-17-05)T

e. Within thirty (30) days of installing the approved POU treatment system, the public water system shall notify the Department in writing that the POU treatment system was installed as approved by the Department. (11-17-05)T

f. Within thirty (30) days of installing the approved POU treatment system, the public water system shall submit samples from each POU treatment device to a certified laboratory for the contaminant(s) being treated by the POU treatment device. The samples shall be used to demonstrate initial compliance with the MCL. (11-17-05)T

g. The water system owner or operator must maintain records for a POU treatment system. Records shall be submitted to the Department at a frequency and in a format specified by the Department. Records to maintain shall include: (11-17-05)T

i. Requirements of Subsection 450.02.d.; (11-17-05)T

ii. All sampling performed on the POU treatment devices; (11-17-05)T

iii. Maintenance logs and schedules; (11-17-05)T

iv. Log of installed units; and (11-17-05)T

v. Contracts, lease agreements, or other legal documents with vendors and consumers. (11-17-05)T

0~~2~~3. Use of Bottled Water. 40 CFR 141.101, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.08 - IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS

DOCKET NO. 58-0108-0602

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Sections 67-5224 and 67-5291, Idaho Code.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Chapter 1, Title 39, Idaho Code, and Chapter 21, Title 37, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, August 2, 2006, Vol. 06-8, pages 140 through 234. After consideration of public comments, the proposed rule has been revised at Sections 003, 005, 008, 010, 501-504, 510, 513, 541, 544, and 552. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/drinking_water/58_0108_0602_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. There is no federal law or regulation that is comparable to plan and specification review and facility standard provisions set forth in these rules. Therefore, the changes to the rules are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." The engineering standards for design, construction, and operation of public drinking water systems regulate activities that are not regulated by the federal government. These rules address the review and approval of plans and specifications for public drinking water systems and the standard by which the agency does the review and approval. This is not an activity regulated by the federal government. Therefore, Section 39-107D, Idaho Code, applies.

Section 39-107D(3), Idaho Code, provides that any rule subject to 39-107D that proposes a standard necessary to protect human health and the environment must also include in the rulemaking record and in the notice of rulemaking additional information. This additional information includes any estimates of risk accomplished, identification of populations or

receptors addressed by any estimates, and other information related to an estimation of risk. These rules include facility and design standards which are intended to protect human health and the environment. The standards, however, are for the design and construction of public drinking water facilities. The rules are not based upon any express estimate or analysis of risk to public health or the environment. Instead, the facility and design standards are based upon guidelines set forth in documents, such as the "Recommended Standards for Water Works" and the "American Water Works Association Standards," that are generally accepted and used throughout the United States by engineers and state regulators.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact Tom John, thomas.john@deq.idaho.gov, (208)373-0191.

Dated this 16th day of November, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. This action is authorized by Chapter 1, Title 39, Idaho Code, and Chapter 21, Title 37, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before August 16, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: The purpose of this rulemaking is to initiate phase two of the effort to comply with Section 2 of Senate Bill 1220 (2005), which directed the Department of Environmental Quality (DEQ) to develop facility and design standards for both drinking water and wastewater systems. This is the drinking water portion. DEQ proposes to revise Sections 549 through 551 to add provisions for drinking water pumping facilities, treatment works, chemical application, source development, and management of treatment waste residuals. This rulemaking also revises the rules as necessary for consistency with changes made during the negotiated rulemaking process and includes housekeeping changes based on feedback from the regulated community and DEQ staff who routinely use the rules.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. Drinking water system owners and operators, developers, consultants, engineers, cities, counties, industry, drinking water professional organizations, and the public at large may be interested in participating in this rulemaking.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in November 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. There is no federal law or regulation that is comparable to plan and specification review and facility standard provisions set forth in these rules. Therefore, the changes to the rules are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." The engineering standards for design, construction, and operation of public drinking water systems regulate activities that are not regulated by the federal government. These rules address the review and approval of plans and specifications for public drinking water systems and the standard by which the agency does the review and approval. This is not an activity regulated by the federal government. Therefore, Section 39-107D, Idaho Code, applies.

Section 39-107D(3), Idaho Code, provides that any rule subject to 39-107D that proposes a standard necessary to protect human health and the environment must also include in the rulemaking record and in the notice of rulemaking additional information. This additional information includes any estimates of risk accomplished, identification of populations or receptors addressed by any estimates, and other information related to an estimation of risk. These rules include facility and design standards which are intended to protect human health and the environment. The standards, however, are for the design and construction of public drinking water facilities. The rules are not based upon any express estimate or analysis of risk to public health or the environment. Instead, the facility and design standards are based upon guidelines set forth in documents, such as the "Recommended Standards for Water Works" and the "American Water Works Association Standards," that are generally accepted and used throughout the United States by engineers and state regulators.

NEGOTIATED RULEMAKING: The text of the proposed rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, January 4, 2006, Vol. 06-1, page 133.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN

DEPARTMENT OF ENVIRONMENTAL QUALITY **Docket No. 58-0108-0602**
Idaho Rules for Public Drinking Water Systems **PENDING RULE**

COMMENTS: For assistance on questions concerning this rulemaking, contact Tom John, thomas.john@deq.idaho.gov, (208)373-0191.

Anyone may submit written comments on the proposed rule by mail, fax or e-mail at the address below. DEQ will consider all written comments received by the undersigned on or before August 30, 2006.

Dated this 30th day of June, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
Paula.Wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

002. INCORPORATION BY REFERENCE AND AVAILABILITY OF REFERENCED MATERIALS.

01. Incorporation by Reference. The following documents are incorporated by reference into these rules. (4-11-06)

a. 40 CFR Parts 141 and 143. Any reference in these rules to requirements, procedures, or specific forms contained in any section or subsection of 40 CFR Parts 141 and 143 shall constitute the full adoption by reference of that section or subsection, including any notes and appendices therein, unless expressly provided otherwise in these rules. (4-11-06)

~~***b.*** *Recommended Standards for Water Works: a report of the Water Supply Committee of the Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2003 Edition, except Parts One (1) and Eight (8).* *(4-11-06)*~~

~~**c**~~**b.** American Water Works Association (AWWA) Standards, ~~*Edition*~~ effective July 200~~5~~6, available from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, Telephone (800) 926-7337. ~~*(4-11-06)*~~(____)

02. Availability of Specific Referenced Material. Copies of specific documents referenced within these rules are available at the following locations: (4-11-06)

a. All federal regulations: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Telephone (202)783-3238; U.S. Government Bookstore, Room 194, Federal Bldg., 915 Second Ave., Seattle, WA 98174, (206) 553-4270; or http://

www.gpoaccess.gov/index.html. (4-11-06)

b. All documents incorporated by reference: Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, (208) 373-0502. (4-11-06)

c. Recommended Standards for Water Works: a report of the Water Supply Committee of the Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, published by Health Education Services, P.O. Box 7126, Albany, New York 12224, 2003, Telephone (518) 439-7286. (4-6-05)

d. Manual of Individual and Non-Public Water Supply Systems (EPA 570/9-91-004), published by the U.S. Environmental Protection Agency, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.20402, Telephone (202) 782-3238. (5-3-03)

e. U.S. Department of Commerce, National Bureau of Standards Handbook, No. 69, "Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure" as amended in 1963, NCRP Publications, P.O. Box 20175, Washington, D.C. 20014. (12-10-92)

f. Rules of the Idaho Water Resources Board~~, *IDAPA 37.03.09, "Well Construction Standards Rules," July 1993,*~~ available at www.adm.idaho.gov/adminrules/rules/idapa37/37index.htm, or the Idaho Department of Water Resources, Idaho Water Center, 322 E. Front St., P.O. Box 83720, Boise, Idaho 83720-0098, Telephone (208) 287-4800. ~~*(4-6-05)*~~(____)

g. ANSI/NSF Standard 44-2002e -- 2004, Residential Cation Exchange Water Softeners, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

h. ANSI/NSF Standard 53-2002e -- 2003, Drinking Water Treatment Units -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

i. ANSI/NSF Standard 55-2002 -- 2002, Ultraviolet Microbiological Water Treatment Systems, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

j. ANSI/NSF Standard 58-2003 -- 2004, Reverse Osmosis Drinking Water Treatment Systems, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

~~***k.*** *American Water Works Association (AWWA) Standards, available from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, Telephone (800) 926-7337.* *(4-11-06)*~~

~~***l***~~**k.** ANSI/NSF Standard 60-2000a -- 2000, Drinking Water Treatment Chemicals -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

~~m~~**l.** ANSI/NSF Standard 61-2000a -- 2000, Drinking Water System Components -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

m. American Water Works Association (AWWA) Standards, available from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, (800) 926-7337, www.awwa.org. (____)

n. ~~"~~Cross Connection Control Manual,~~"~~ ~~*December 1995 Edition,*~~ available from Pacific Northwest Section of the American Water Works Association, P.O. Box 19581, Portland, OR, 97280-0581, Telephone (503) 246-5845. ~~*(5-3-03)*~~(____)

o. Manual of Cross-Connection Control, Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, KAP-200 University Park MC-2531, Los Angeles, CA 90089-2531, (866)545-6340, www.usc.edu/dept/fccchr/. (____)

p. Manual on Slow Sand Filtration (1991), published by AWWA Research Foundation 6666 West Quincy Avenue, Denver, CO 80235, (800)926-7337, www.awwa.org. (____)

q. Slow Sand Filtration (1991), published by the American Society of Civil Engineers American Society of Civil Engineers,1801Alexander Bell Drive, Reston, VA 20191, (800)548-2723, www.asce.org. (____)

r. Slow Sand Filtration and Diatomaceous Earth Filtration for Small Water Systems, DOH Pub #331-204 (4/03), Washington State Department of Health, Division of Environmental Health, Office of Drinking Water, PO Box 47828, Olympia WA 98504-7828, (360)236-3100 or (800)521-0323, http://www.doh.wa.gov/ehp/dw/Programs/water_sys_design.htm. (____)

s. Water System Design Manual, DOH Pub #331-123 (Rev. 8/01), Washington State Department of Health, Division of Environmental Health, Office of Drinking Water, PO Box 47828, Olympia WA 98504-7828, (360)236-3100 or (800)521-0323, http://www.doh.wa.gov/ehp/dw/Programs/water_sys_design.htm. (____)

t. Submersible Motors: Application, Installation, Maintenance (Franklin Electric AIM manual), Franklin Electric, Bluffton, Indiana 46714, (800)348-2420, http://www.franklin-electric.com/Manual/pdf/fullAIM.pdf. (____)

u. Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources (March 1991 Edition), U.S. Environmental Protection Agency, http://www.epa.gov/safewater/mdbp/implement.html. (____)

v. Standard Methods for the Examination of Water and Wastewater, a joint publication of the American Public Health Association, the Water Environment Federation, and the American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235, 800-926-7337, www.standardmethods.org. (____)

~~*o*~~**w.** ~~*"Idaho Guidance for Public Drinking Water Systems," 2005 Edition, and*~~

~~subsequent revisions, Idaho Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706, www.deq.idaho.gov.~~ F480-02 Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension ratios (SDR), SCH 40 and SCH 80, American Society for Testing and Materials (ASTM Standard F480-02). ~~(4-11-06)~~( )

~~p~~x. "Idaho Standards for Public Works Construction," 2005 Edition, and subsequent revisions, Local Highway Technical Assistance Council, 3330 Grace Street, Boise, ID 83605, (208)344-0565. (4-11-06)

~~q~~y. Memorandum of Understanding between the Idaho Department of Environmental Quality and the Idaho Division of Building Safety Plumbing Bureau, ~~April 2003,~~ Idaho Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706, www.deq.idaho.gov. ~~(4-11-06)~~( )

z. Idaho General Safety and Health Standards (IGSHS), available from the Idaho Division of Building Safety, 1090 E. Watertower St., Meridian, Idaho 83642, (208)334-3950, http://dbs.idaho.gov/safety_code/000.html. ( )

03. Precedence. In the event of conflict or inconsistency between the language in these rules and that found in any document incorporated by reference, these rules shall prevail. (4-11-06)

003. DEFINITIONS.
The definitions set forth in 40 CFR 141.2, revised as of July 1, 2002, are herein incorporated by reference except for the definition of the terms "action level," "disinfection," "noncommunity water system," and "person". (5-3-03)

01. Action Level. The concentration of lead or copper in water that determines, in some cases, whether a water system must install corrosion control treatment, monitor source water, replace lead service lines, or undertake a public education program. (12-10-92)

02. Administrator. The Administrator of the United States Environmental Protection Agency. (4-5-00)

03. Annual Samples. Samples that are required once per calendar year. (12-10-92)

04. Annular Opening. As used in well construction, this term refers to the nominal inside diameter of the borehole minus the outside diameter of the casing divided by two (2). ( )

0~~4~~5. Aquifer. A geological formation of permeable saturated material, such as rock, sand, gravel, etc., capable of yielding an economic quantity of water to wells and springs. (5-3-03)

0~~5~~6. Available. Based on system size, complexity, and source water quality, a properly licensed operator must be on site or able to be contacted as needed to initiate the appropriate action in a timely manner. (4-6-05)

0~~6~~7. Average ~~Daily~~ Day Demand. The volume of water used by a system on an average day based on a one (1) year period. ~~(12-10-92)~~(____)

0~~7~~8. Backflow. The reverse from normal flow direction in a plumbing system or water system caused by back pressure or back siphonage. (12-10-92)

0~~8~~9. Board. The Idaho Board of Environmental Quality. (5-3-03)

~~09~~10. Capacity. The capabilities required of a public drinking water system in order to achieve and maintain compliance with these rules and the requirements of the federal Safe Drinking Water Act. It is divided into three (3) main elements: (4-5-00)

a. Technical capacity means the system has the physical infrastructure to consistently meet drinking water quality standards and treatment requirements and is able to meet the requirements of routine and emergency operations. It further means the ability of system personnel to adequately operate and maintain the system and to otherwise implement technical knowledge. Training of operator(s) is required, as appropriate, for the system size and complexity. (4-6-05)

b. Financial capacity means the financial resources of the water system, including an appropriate budget, rate structure, cash reserves sufficient for future needs and emergency situations, and adequate fiscal controls. (4-5-00)

c. Managerial capacity means that the management structure of the water system embodies the aspects of water treatment operations, including, but not limited to; (4-5-00)

i. Short and long range planning; (4-5-00)

ii. Personnel management; (4-5-00)

iii. Fiduciary responsibility; (4-5-00)

iv. Emergency response; (4-5-00)

v. Customer responsiveness; (4-5-00)

vi. Source water protection; (4-5-00)

vii. Administrative functions such as billing and consumer awareness; and (4-5-00)

viii. Ability to meet the intent of the federal Safe Drinking Water Act. (4-5-00)

1~~0~~1. Community Water System. A public water system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents. (12-10-92)

12. Components of Finished Water Storage. (____)

a. Dead Storage. Storage that is either not available for use in the system or can provide only substandard flows and pressures. ( )

b. Effective Storage. Effective storage is all storage other than dead storage and is made up of the additive components described in paragraphs 003.12.c. through 003.12.f. ( )

c. Operational Storage. Operational storage supplies water when, under normal conditions, the sources are off. This component is the larger of; ( )

i. The volume required to prevent excess pump cycling and ensure that the following volume components are full and ready for use when needed; or ( )

ii. The volume needed to compensate for the sensitivity of the water level sensors. ( )

d. Equalization Storage. Storage of finished water in sufficient quantity to compensate for the difference between a water system's maximum pumping capacity and peak *hour demand*. ( )

e. Fire Suppression Storage. The water needed to support fire flow in those systems that provide it. ( )

f. Standby Storage. Standby storage provides a measure of reliability or safety factor should sources fail or when unusual conditions impose higher than anticipated demands. ( )

1~~1~~3. Composite Correction Program (CCP). A systematic approach to identifying opportunities for improving the performance of water treatment and implementing changes that will capitalize on these opportunities. The CCP consists of two (2) elements: (4-5-00)

a. Comprehensive Performance Evaluation (CPE). A thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation, and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. The CPE must consist of at least the following components: assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report. (4-5-00)

b. Comprehensive Technical Assistance (CTA). The implementation phase that is carried out if the CPE results indicate improved performance potential. During the CTA phase, the system must identify and systematically address plant-specific factors. The CTA consists of follow-up to the CPE results, implementation of process control priority setting techniques, and maintaining long term involvement to systematically train staff and administrators. (4-5-00)

1~~2~~4. Compositing of Samples. The mixing of up to five (5) samples by the laboratory. (4-5-00)

1~~3~~5. Confining Layer. A nearly impermeable subsurface stratum which is located

adjacent to one (1) or more aquifers and does not yield a significant quantity of water to a well. (5-3-03)

1~~4~~6. Confirmation Sample. A sample of water taken from the same point in the system as the original sample and at a time as soon as possible after the original sample was taken. (12-10-92)

1~~5~~7. Connection. Each structure, facility, or single family residence which is connected to a water system, and which is or could be used for domestic purposes, is considered a single connection. Multi-family dwellings and apartment, condominium, and office complexes are considered single connections unless individual units are billed separately for water by the water system, in which case each such unit shall be considered a single connection. (10-1-93)

1~~6~~8. Consumer. Any person served by a public water system. (12-10-92)

1~~7~~9. Consumer Confidence Report (CCR). An annual report that community water systems must deliver to their customers. The reports must contain information on the quality of the water delivered by the systems and characterize the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner. (4-5-00)

~~18~~20. Contaminant. Any physical, chemical, biological, or radiological substance or matter in water. (12-10-92)

~~19~~21. Cross Connection. Any actual or potential connection or piping arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable water system used water, water from any source other than an approved public water system, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. Cross connections include bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices which, or because of which "backflow" can or may occur. (10-1-93)

2~~0~~2. Department. The Idaho Department of Environmental Quality. (12-10-92)

***22. Dead End Main**. A distribution main of any diameter and length that does not loop back into the distribution system.* ( )

2~~0~~3. Department. The Idaho Department of Environmental Quality. (12-10-92)

2~~1~~4. Director. The Director of the Department of Environmental Quality or his designee.(12-10-92)

2~~2~~5. Disinfection. Introduction of chlorine or other agent or process approved by the Department, in sufficient concentration or dosage, and for the time required to kill or inactivate pathogenic and indicator organisms.

~~(5-3-03)~~( )

2~~3~~6. Disinfection Profile. A summary of daily Giardia lamblia inactivation through the

drinking water treatment plant. The procedure for developing a disinfection profile is contained in 40 CFR 141.172 and 40 CFR 141.530-141.536. (5-3-03)

2~~4~~7. Distribution System. Any combination of pipes, tanks, pumps, and other equipment which delivers water from the source(s) and/or treatment facility(ies) to the consumer. Chlorination may be considered as a function of a distribution system. (3-16-04)

2~~8~~8. Drinking Water. Means "water for human consumption". (____)

2~~5~~9. Drinking Water System. All mains, pipes, and structures through which water is obtained and distributed, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing water for drinking or general domestic use. (12-10-92)

~~26~~30. DWIMS. Idaho Department of Environmental Quality Drinking Water Information Management System. Replaced by SDWISS April 2001. (3-15-02)

~~27~~31. Enhanced Coagulation. The addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment. Conventional filtration treatment is defined in 40 CFR 141.2. (5-3-03)

~~28~~32. Enhanced Softening. The improved removal of disinfection byproduct precursors by precipitative softening. (4-5-00)

~~**29. Equalization Storage**. *Storage of finished water in sufficient quantity to compensate for the difference between a water system's maximum pumping capacity and peak daily usage.* (4-6-05)~~

3~~0~~3. Exemption. A temporary deferment of compliance with a maximum contaminant level or treatment technique requirement which may be granted only if the system demonstrates to the satisfaction of the Department that the system cannot comply due to compelling factors and the deferment does not cause an unreasonable risk to public health. (12-10-92)

3~~4~~4. Facility Plan. The facility plan for a public drinking water system describes the overall system, including sources of water, treatment processes and facilities, pumping stations and distribution piping, finished water storage, and waste disposal. It is a comprehensive planning document for infrastructure and includes a plan for the future of the system/facility, including upgrades and additions. It is usually updated on a regular basis due to anticipated or unanticipated growth patterns, regulatory requirements, or other infrastructure needs. A facility plan is sometimes referred to as a master plan or facilities planning study. In general, a facility plan is an overall system-wide plan as opposed to a project specific plan. (____)

3~~1~~5. Facility Standards and Design Standards. Facility standards and design standards are described in Sections 5~~49~~00 through 552 of these rules. Facility and design standards found in Sections 5~~49~~00 through 552 of these rules must be followed in the planning, design, construction, and review of public drinking water facilities.

~~(4-11-06)~~(____)

3~~2~~6. Fee Assessment. A charge assessed on public drinking water systems based on a rate structure calculated by system size. (10-1-93)

3~~3~~7. Filter Profile. A graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed. (4-5-00)

3~~8~~8. Finished Water. Water that has completed all treatment processes and is ready for delivery to consumers. (____)

***39. Fire Flow Capacity**. The water system capacity, in addition to maximum day demand, that is available for fire fighting purposes within the water system or distribution system pressure zone. Adequacy of the water system fire flow capacity is determined by the local fire authority.* (____)

~~3~~40. GAC10. Granular activated carbon filter beds with an empty bed contact time of ten (10) minutes based on average daily flow and a carbon reactivation frequency of every one hundred eighty (180) days. (4-5-00)

~~35~~41. Groundwater System. A public water system which is supplied exclusively by a groundwater source or sources. (12-10-92)

~~36~~42. Groundwater Under the Direct Influence of Surface Water. Any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as Giardia lamblia or Cryptosporidium, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation. (5-3-03)

~~37~~43. Haloacetic Acids (Five) (HAA5). The sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid) rounded to two (2) significant figures after addition. (4-5-00)

~~38~~44. Health Hazards. Any condition which creates, or may create, a danger to the consumer's health. Health hazards may consist of, but are not limited to, design, construction, operational, structural, collection, storage, distribution, monitoring, treatment or water quality elements of a public water system. See also the definition of Significant Deficiency, which refers to a health hazard identified during a sanitary survey. (5-3-03)

~~39~~45. Inorganic. Generally refers to compounds that do not contain carbon and hydrogen.(12-10-92)

4~~0~~6. Laboratory Certification Reciprocity. Acceptance of a laboratory certification made by another state. Laboratory reciprocity may be granted to laboratories outside of Idaho after application, proof of home state certification, and EPA performance evaluation results are submitted and reviewed. Reciprocity must be renewed after a time specified by the Idaho Laboratory Certification Officer to remain valid. (4-5-00)

4~~1~~7. License. A physical document issued by the Idaho Bureau of Occupational Licenses certifying that an individual has met the appropriate qualifications and has been granted the authority to practice in Idaho under the provisions of Chapter 24, Title 54, Idaho Code. (4-6-05)

4~~2~~8. Log. Logarithm to the base ten (10). (12-10-92)

4~~3~~9. Material Deviation. A change from the design plans that significantly alters the type or location of facilities, requires engineering judgment to design, or impacts the public safety or welfare. (4-11-06)

~~44~~50. Material Modification. For the purpose of plan and specification review requirements as specified in Subsection ~~551.04~~ 504.03, those modifications of an existing public water system that are intended to increase system capacity or alter the methods or processes employed. ~~(4-11-06)~~(____)

~~45~~1. Maximum Contaminant Level (MCL). The maximum permissible level of a contaminant in water which is delivered to any user of a public water system. (11-17-05)T

~~46~~52. Maximum ~~Daily Consumption~~ Day Demand Rate. The average rate of consumption for the twenty-four (24) hour period in which total consumption is the largest ~~on record~~ for the design year.

~~(12-10-92)~~(____)

~~**47. Maximum Hourly Demand**. The greatest volume of water used in any hour during a one (1) year period. (12-10-92)~~

~~48~~53. Maximum Residual Disinfectant Level (MRDL). A level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. For chlorine and chloramines, a public water system is in compliance with the MRDL, when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a public water system is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two (2) consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels under Section 1412 of the Safe Drinking Water Act. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs listed in 40 CFR 141.65, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections. (4-5-00)

~~49~~54. **Maximum Residual Disinfectant Level Goal (MRDLG)**. The maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants. (4-5-00)

5~~0~~5. **Method Detection Limit (MDL)**. The lowest concentration which can be determined to be greater than zero with ninety-nine percent (99%) confidence, for a particular analytical method. (12-10-92)

5~~1~~6. **New System**. Any water system that meets, for the first time, the definition of a public water system provided in Section 1401 of the federal Safe Drinking Water Act (42 U.S.C. Section 300f). This includes systems that are entirely new construction and previously unregulated systems that are expanding. (4-5-00)

5~~2~~7. **Noncommunity Water System**. A public water system that is not a community water system. A non-community water system is either a transient noncommunity water system or a non-transient noncommunity water system. (4-5-00)

5~~3~~8. **Non-Potable Mains**. The pipelines that collect and convey non-potable discharges from or to multiple service connections. (4-11-06)

5~~4~~9. **Non-Potable Services**. The pipelines that convey non-potable discharges from individual facilities to a connection with the non-potable main. This term also refers to pipelines that convey non-potable water from a pressurized irrigation system, reclaimed wastewater system, and other non-potable systems to individual consumers. (4-11-06)

~~55~~60. **Nontransient Noncommunity Water System**. A public water system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year. (12-10-92)

~~5~~61. **Nuclear Facility**. Factories, processing plants or other installations in which fissionable material is processed, nuclear reactors are operated, or spent (used) fuel material is processed, or stored. (12-10-92)

~~57~~62. **Operating Shift**. That period of time during which water system operator decisions that affect public health are necessary for proper operation of the system. (4-5-00)

~~58~~63. **Owner/Purveyor of Water/Supplier of Water**. The person, company, corporation, association, or other organizational entity which holds legal title to the public water system, who provides, or intends to provide, drinking water to the customers and/or is ultimately responsible for the public water system operation. (4-6-05)

~~59~~64. **Peak Hour~~ly Flow~~ Demand**. The highest hourly flow. ~~during any day~~ *excluding fire flow, that* a water system or distribution system pressure zone is likely to experience in the

design year. ~~(12-10-92)~~( )

6~~0~~5. Person. A human being, municipality, or other governmental or political subdivision or other public agency, or public or private corporation, any partnership, firm, association, or other organization, any receiver, trustee, assignee, agent or other legal representative of the foregoing or other legal entity. (12-10-92)

6~~1~~6. Pesticides. Substances which meet the criteria for regulation pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, and any regulations adopted pursuant to FIFRA. For example, pesticides include, but are not limited to insecticides, fungicides, rodenticides, herbicides, and algaecides. (12-10-92)

67. Plant. A physical facility where drinking water or wastewater is treated or processed.( )

6~~2~~8. Point of Use (POU) Treatment Device. A treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap. (11-17-05)T

6~~3~~9. Point of Use (POU) Treatment System. A collection of POU treatment devices. (11-17-05)T

~~64~~70. Potable ~~Water~~ Mains. Pipelines that deliver potable water to multiple service connections.

~~(4-11-06)~~( )

~~65~~71. Potable ~~Water~~ Services. Pipelines that convey potable water from a connection to the potable water main to individual consumers. ~~(4-11-06)~~( )

72. Preliminary Engineering Report. The preliminary engineering report for a public drinking water system facility is a report that addresses specific portions of the system or facility for which modifications are being designed. Modifications may include, but are not limited to, significant changes to existing processes or facilities, system expansion, addition of treatment, or installation of other processes and facilities. This report addresses specific purpose and scope, design requirements, alternative solutions, costs, operation and maintenance requirements, and other requirements as described in Section 503. Preliminary engineering reports are generally project specific as opposed to an overall system-wide plan, such as a facility plan. However, the preliminary engineering report shall describe modifications to the facility plan that may be required as a result of the proposed project. ( )

~~66~~73. Public Notice. The notification of public water system consumers of information pertaining to that water system including information regarding water quality or compliance status of the water system. (12-10-92)

~~67~~74. Public Drinking Water System. A system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen (15) service connections, regardless of the number of water sources or configuration of the distribution system, or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes: any

collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district." A public water system is either a "community water system" or a "noncommunity water system".

(4-6-05)

~~68~~75. **Public Water System/Water System/System**. Means "public drinking water system".(4-5-00)

76. **Pump House**. An above-grade structure containing important water system components, such as a well, hydropneumatic tank, booster pump, pump controls, flow meter, well discharge line, or a treatment unit. Pump houses are often called well houses in common usage, even though in modern construction these structures may not contain either a well or a pump. These terms are used interchangeably in national standards and trade publications.

( )

~~69~~77. **Quasi-Municipal Corporation**. A public entity, other than community government, created or authorized by the legislature to aid the state in, or to take charge of, some public or state work for the general welfare. For the purpose of these rules, this term refers to drinking water districts. (4-11-06)

78. **Regulated Public Utility**. For the purpose of these rules, any public water system that falls under the jurisdiction of the Idaho Public Utilities Commission and is subject to the rules thereof. ( )

7~~0~~9. **Repeat Compliance Period**. Any subsequent compliance period after the initial compliance period. (12-10-92)

~~71~~80. **Responsible Charge (RC)**. Responsible Charge means, active, daily on-site and/or on-call responsibility for the performance of operations or active, on-going, on-site and on-call direction of employees and assistants. (4-5-00)

~~72~~81. **Responsible Charge Operator**. An operator of a public drinking water system, designated by the system owner, who holds a valid license at a class equal to or greater than the drinking water system classification, who is in responsible charge of the public drinking water system. (4-6-05)

~~73~~82. **Reviewing Authority**. For those projects requiring preconstruction approval by the Department, the Department is the reviewing authority. For those projects allowing for preconstruction approval by others, pursuant to Subsection ~~551.04.a.~~ 504.03.b. of these rules, the qualified Idaho licensed professional engineer is also the reviewing authority. ~~(4-11-06)~~( )

~~74~~83. **Sampling Point**. The location in a public water system from which a sample is drawn. (12-10-92)

~~75~~84. **Sanitary Defects**. Any faulty structural condition which may allow the water supply to become contaminated. (12-10-92)

~~76~~85. **Sanitary Survey**. An onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. The sanitary survey will include, but is not limited to the following elements: (4-5-00)

a. Source; (4-5-00)

b. Treatment; (4-5-00)

c. Distribution system; (4-5-00)

d. Finished water storage; (4-5-00)

e. Pumps, pump facilities, and controls; (4-5-00)

f. Monitoring and reporting and data verification; (4-5-00)

g. System management and operation; and (4-5-00)

h. Operator compliance with state requirements. (4-5-00)

~~77~~86. **SDWIS-State**. An acronym that stands for "Safe Drinking Water Information System-State Version". It is a software package developed under contract to the U.S. Environmental Protection Agency and used by a majority of U.S. states to collect, maintain, and report data about regulated public water systems. See also the definition of DWIMS. (5-3-03)

87. **Sewage**. The water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present.

( )

~~7~~88. **Significant Deficiency**. As identified during a sanitary survey, any defect in a system's design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department or its agent determines to cause, or have potential to cause, risk to health or safety, or that could affect the reliable delivery of safe drinking water. See also the definition of Health Hazards. (5-3-03)

~~79~~89. **Special Irrigation District**. An irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential or similar use where the system or the residential or similar users of the system comply with the exclusion provisions in Section 1401(4)(B)(i)(II) or (III) of the Safe Drinking Water Act. (4-6-05)

~~80~~90. **Spring**. A source of water which flows from a laterally percolating water table's intersection with the surface or from a geological fault that allows the flow of water from an artesian aquifer. (12-10-92)

~~81~~91. **Substitute Responsible Charge Operator**. An operator of a public drinking water system who holds a valid license at a class equal to or greater than the drinking water system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible. (4-6-05)

~~82~~92. **Surface Water System**. A public water system which is supplied by one (1) or more surface water sources or groundwater sources under the direct influence of surface water. Also called subpart H systems in applicable sections of 40 CFR Part 141. (4-5-00)

~~83~~93. **SUVA (Specific Ultraviolet Absorption)** ~~(SUVA)~~. SUVA means Specific Ultraviolet Absorption at two hundred fifty-four (254) nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wave length of two hundred fifty-four (254) nm (UV254) (in m=1) by its concentration of dissolved organic carbon (DOC) (in mg/l). ~~(4-5-00)~~(____)

~~84~~94. **Total Organic Carbon (TOC)**. Total organic carbon in mg/l measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two (2) significant figures. (4-5-00)

~~85~~95. **Transient Noncommunity Public Water System**. A noncommunity water system which does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year. ~~(10-1-93)~~(____)

~~86~~96. **Treatment Facility**. Any place(s) where a public drinking water system or nontransient noncommunity water system alters the physical or chemical characteristics of the drinking water. Chlorination may be considered as a function of a distribution system. (4-5-00)

~~87~~97. **Turbidity**. A measure of the interference of light passage through water, or visual depth restriction due to the presence of suspended matter such as clay, silt, nonliving organic particulates, plankton and other microscopic organisms. Operationally, turbidity measurements are expressions of certain light scattering and absorbing properties of a water sample. Turbidity is measured by the Nephelometric method. (12-10-92)

~~88~~98. **Uncovered Finished Water Storage Facility**. An uncovered tank, reservoir, or other facility that is used to store water that will undergo no further treatment except residual disinfection. (5-3-03)

~~89~~99. **Unregulated Contaminant**. Any substance that may affect the quality of water but for which a maximum contaminant level or treatment technique has not been established. (12-10-92)

~~90~~100. **Variance**. A temporary deferment of compliance with a maximum contaminant level or treatment technique requirement which may be granted only when the system demonstrates to the satisfaction of the Department that the raw water characteristics prevent compliance with the MCL or requirement after installation of the best available technology or treatment technique and the determent does not cause an unreasonable risk to public health. (12-

10-92)

~~91~~101. **Very Small Public Drinking Water System**. A Community or Nontransient Noncommunity Public Water System that serves five hundred (500) persons or less and has no treatment other than disinfection or has only treatment which does not require any chemical treatment, process adjustment, backwashing or media regeneration by an operator (e.g. calcium carbonate filters, granular activated carbon filters, cartridge filters, ion exchangers). (4-5-00)

~~92~~102. **Volatile Organic Chemicals (VOCs)**. VOCs are lightweight organic compounds that vaporize or evaporate easily. (10-1-93)

~~93~~103. **Vulnerability Assessment**. A determination of the risk of future contamination of a public drinking water supply. (12-10-92)

~~94~~104. **Waiver**. (12-10-92)

a. For the purposes of these rules, except Sections 5~~5~~00 through 552, "waiver" means the Department approval of a temporary reduction in sampling requirements for a particular contaminant. ~~(10-1-93)~~(____)

b. For purposes of Sections 5~~5~~00 through 552, "waiver" means a dismissal of any requirement of compliance. ~~(12-10-92)~~(____)

c. For the purposes of Section 010, "waiver" means the deferral of a fee assessment for a public drinking water system. (10-1-93)

105. **Wastewater**. Unless otherwise specified, sewage, industrial waste, agricultural waste, and associated solids or combinations of these, whether treated or untreated, together with such water as is present.
(____)

~~95~~106. **Water for Human Consumption**. Water that is used by humans for drinking, bathing for purposes of personal hygiene (including hand-washing), showering, cooking, dishwashing, and maintaining oral hygiene. In common usage, the terms "culinary water", "drinking water," and "potable water" are frequently used as synonyms.
(5-3-03)

~~96~~107. **Water Main**. A pipe within a public water system which is under the control of the system operator and conveys water to two (2) or more service connections. The collection of water mains within a given water supply is called the distribution system. (5-3-03)

~~97~~108. **Water Main Extension**. As used in Subsection ~~551.04~~ 504.03, an extension of the distribution system of an existing public water system that does not require a booster pumping station and is intended to increase the service area of the water system. ~~(4-11-06)~~(____)

109. **Watershed**. The land area from which water flows into a stream or other body of water which drains the area. (____)

~~**98.** ***Well House***. *A structure containing important water system components, such as a well, hydropneumatic tank, booster pump, pump controls, flow meter, distribution line, or a treatment unit. Well houses are often called pump houses in common usage, even though in modern construction these structures may not contain either a well or a pump. These terms are used interchangeably in national standards and trade publications.* (4-6-05)~~

(BREAK IN CONTINUITY OF SECTIONS)

005. GENERAL PROVISIONS FOR WAIVERS, VARIANCES, AND EXEMPTIONS.
40 CFR 141.4, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)

01. Waivers. (12-10-92)

a. The Department may waive any requirement of Sections 5~~5~~00 through 552 that is not explicitly imposed by Idaho Statute, if it can be shown to the satisfaction of the Department that the requirement is not necessary for the protection of public health, protection from contamination, and satisfactory operation and maintenance of a public water system. ~~(5-3-03)~~(_____)

b. The Department may at its discretion waive the requirements outlined in Section 010. (10-1-93)

c. Waiver of monitoring requirements is addressed in Subsection 100.07. (5-3-03)

02. Variances. (5-3-03)

a. General Variances. A variance may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1415(a) (The Safe Drinking Water Act) are met. These include but are not limited to: (5-3-03)

i. The system has installed the best available technology, treatment techniques, or other means to comply with the maximum contaminant level; and (5-3-03)

ii. Alternative sources of water are not reasonably available to the system. (5-3-03)

iii. For provisions of a national primary drinking water regulation which requires the use of a specific treatment technique with respect to a contaminant, the system must demonstrate that the technique is not necessary to protect the health of the system's customers. (5-3-03)

b. Small System Variances. A small system variance for a maximum contaminant level or treatment technique may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1415(e) are met. These include, but are not limited to: (5-3-03)

i. The system serves three thousand three hundred (3,300) or fewer persons; (5-3-03)

ii. If the system serves more than three thousand three hundred (3,300) persons but fewer than ten thousand (10,000) persons, the application shall be approved by the U.S. Environmental Protection Agency; (5-3-03)

iii. The U.S. Environmental Protection Agency has identified a variance technology that is applicable to the size and source water quality conditions of the public water system; (5-3-03)

iv. The system installs, operates and maintains such treatment technology, treatment technique, or other means; and (5-3-03)

v. The system cannot afford to comply with a national primary drinking water regulation in accordance with affordability criteria established by the state, including compliance through treatment, alternative source of water supply, restructuring or consolidation. (5-3-03)

03. Exemptions. An exemption may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1416(a) are met. These include but are not limited to: (5-3-03)

a. The system is unable to comply with a maximum contaminant level or treatment technique due to compelling factors, which may include economic factors; (5-3-03)

b. The system was in operation by the effective date of such contaminant level or treatment technique and no reasonable source of water is available to the system; or (5-3-03)

c. If the system was not in operation by the effective date of such contaminant level or treatment technique, then no reasonable alternative source of water is available to the system; and (5-3-03)

d. The granting of an exemption will not result in an unreasonable risk to health; (5-3-03)

e. Management or restructuring changes cannot reasonably be made to comply with the contaminant level or treatment technique to improve the quality of the drinking water; (5-3-03)

f. The system cannot meet the standard without capital improvements which cannot be completed prior to the date established pursuant to 42 USC Section 1412b(10); (5-3-03)

g. If the system needs financial assistance, the system has entered into an agreement to obtain such financial assistance; or (5-3-03)

h. The system has entered into an enforceable agreement to become a part of a regional public water system and is taking all practical steps to meet the standard. (5-3-03)

04. Conditions. A waiver, exemption or variance may be granted upon any conditions that the Department, in its discretion, determines are appropriate. Failure by the public water system to comply with any condition voids the waiver, variance or exemption. (12-10-92)

05. Public Hearing. The Department shall provide public notice and an opportunity for public hearing in the area served by the public water system before any exemption or variance under Section 005 is granted by the Department. At the conclusion of the hearing, the Department shall record the findings and issue a decision approving, denying, modifying, or conditioning the application. (5-3-03)

06. Exceptions. Any person aggrieved by the Department's decision on a request for a waiver, variance or exemption may file a petition for a contested case with the Board. Such petitions shall be filed with the Board, as prescribed in, IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality". (3-15-02)

07. Surface Water Variances. Variances from the requirements of Sections 300 through 303 are not allowed. (4-5-00)

08. Surface Water Exemptions. Exemptions from 40 CFR 141.72(a)(3) and 40 CFR 141.72(b)(2), incorporated by reference herein, are not allowed. (10-1-93)

(BREAK IN CONTINUITY OF SECTIONS)

008. HEALTH HAZARDS.

01. Prohibited. (10-1-93)

a. No public water system, or portion of a public water system, shall constitute a health hazard, as determined by the Department and defined in Section 003 of these rules. (5-3-03)

b. No public water system, or portion of a public water system, shall create a condition which prevents, or may prevent, the detection of a health hazard, as determined by the Department. (5-3-03)

02. Schedule. Health hazards and conditions which prevent, or may prevent, the detection of a health hazard must be mitigated as required by the Department and terminated within a time schedule established by the Department. (5-3-03)

03. Standards. Design and construction revisions necessary to correct a health hazard or conditions which prevent, or may prevent, the detection of a health hazard, must be reviewed and approved by the Department, and comply with Sections ~~*550 and 551*~~ *501 through 552*, unless otherwise specified by the Department. ~~*(10-1-93)*~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

010. FEE SCHEDULE FOR PUBLIC DRINKING WATER SYSTEMS.
All regulated public drinking water systems shall pay an annual drinking water system fee. The fee shall be assessed to regulated public drinking water systems as provided in this section. (10-1-93)

01. Effective Date. Annual fees shall be paid for each fee year beginning October 1, 1993, and continuing for each succeeding year. (10-1-93)

02. Fee Schedule. (10-1-93)

a. Community and Nontransient noncommunity public drinking water systems shall pay an annual fee according to the following fee schedule:

Number of Connections	Fee
1 to 20	$100
21 to 184	$5 per connection, not to exceed a total of $735 per system
185 to 3,663	$4 per connection, not to exceed a total of $10,988 per system
3,664 or more	$3 per connection

(7-1-97)

b. The annual fee for transient public drinking water systems is twenty-five dollars ($25). (10-1-93)

c. New public drinking water systems formed after October 1 will not pay a fee until the following October. (10-1-93)

03. Fee Assessment. (10-1-93)

a. An annual fee assessment will be generated for each community and nontransient noncommunity public drinking water system listed in the Department's Safe Drinking Water Information System (SDWISS). (3-15-02)

b. Community and nontransient noncommunity public drinking water systems will be notified each year of the official number of connections listed in SDWISS. Systems will have at least one (1) month to notify the Department if the number of connections listed in SDWISS is not in agreement with the system's records. (3-15-02)

c. The official number of connections listed in SDWISS following each yearly update, as required in Subsection 010.03.b., will be used to calculate the annual fee for community and nontransient noncommunity public drinking water systems for the next fee year

of October 1 through September 30. (3-15-02)

04. Billing. An annual fee shall be assessed and a statement will be mailed to all community, nontransient noncommunity, and transient public drinking water systems listed in SDWISS by the Department on or before September 1 of each year. (3-15-02)

05. Payment. (10-1-93)

a. Payment of the annual fee shall be due on October 1, unless it is a Saturday, a Sunday, or a legal holiday, in which event the payment shall be due on the successive business day. Fees paid by check or money order shall be made payable to the Idaho Department of Environmental Quality and sent to 1410 North Hilton Street, Boise, ID 83706-1255. (10-1-93)

b. If a public water system consists of two hundred fifty (250) connections or more, the system may request to divide its annual fee payment into equal monthly or quarterly installments by submitting a request to the Department on the proper request form provided with the initial billing statement. (10-1-93)

c. The Department will notify applicable systems, in writing, of approval or denial of a requested monthly or quarterly installment plan within ten (10) business days of the Department receiving such a request. (10-1-93)

d. If a public water system has been approved to pay monthly installments then each installment shall be due by the first day of each month, unless it is a Saturday, a Sunday, or a legal holiday, in which event the installment shall be due on the successive business day. (10-1-93)

e. If a public water system has been approved to pay quarterly installments then each installment shall be due by the first day of the month of each quarter (October 1, January 1, April 1, and July 1), unless it is a Saturday, a Sunday, or a legal holiday, in which event the installment shall be due on the first successive business day. (10-1-93)

06. Delinquent Unpaid Fees. A public water system will be delinquent in payment if its annual fee assessment has not been received by the Department by November 1; or if having first opted to pay monthly or quarterly installments, its monthly or quarterly installment has not been received by the Department by the last day of the month in which the monthly or quarterly payment is due. (10-1-93)

07. Suspension of Services and Disapproval Designation. (7-1-97)

a. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of ninety (90) days, technical services provided by the Department may be suspended except for the following: (7-1-97)

i. Issuance of monitoring waivers; (7-1-97)

ii. Review and processing of engineering reports; and (7-1-97)

iii. Review of plans and specifications for design and construction as set forth in

Sections ~~550 and 551~~ 501 through 552. ~~(7-1-97)~~(____)

b. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of one hundred and eighty (180) days, the Department may suspend all technical services provided by the Department including any of the following: (7-1-97)

i. Review and processing of engineering reports; (7-1-97)

ii. Review of plans and specifications for design and construction as set forth in Sections ~~550 and 551~~ 501 through 552; ~~(7-1-97)~~(____)

iii. Renewal of monitoring waivers; or (7-1-97)

iv. Granting of new monitoring waivers. (7-1-97)

c. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of one hundred and eighty (180) days, the Department may disapprove the public water system pursuant to Subsection 007.06. (7-1-97)

08. Reinstatement of Suspended Services and Approval Status. The suspension of technical services and/or the disapproval of a public water system pursuant to Subsection 010.07 may be reinstated upon payment of delinquent annual fee assessments. (7-1-97)

09. Enforcement Action. Nothing in Section 010 waives the Department's right to undertake an enforcement action at any time, including seeking penalties, as provided in Section 39-108, Idaho Code. (7-1-97)

10. Responsibility to Comply. Subsection 010.07 shall in no way relieve any system from its obligation to comply with all applicable state and federal drinking water statutes, rules, regulations, or orders. (7-1-97)

(BREAK IN CONTINUITY OF SECTIONS)

013. USE OF GUIDANCE.
Guidance documents referenced in these rules are to be used to assist both designers and reviewers in determining a reasonable way to achieve compliance with the rules. Nothing in these rules makes the use of a particular guidance or guidance document mandatory. If the plans and specifications comply with applicable facility ~~standards~~ and design standards as set out in these rules, Section 39-118, Idaho Code, requires that the reviewing authority not substitute his or her judgment for that of the design engineer concerning the manner of compliance. If the design engineer needs assistance as to how to comply with a particular rule, the design engineer may use the referenced guidance documents for that assistance. However, the design engineer may also use other guidance or provide documentation to substantiate his or her own professional judgment. ~~(4-11-06)~~(____)

(BREAK IN CONTINUITY OF SECTIONS)

~~500~~*451. *Treatment Techniques.

01. General Requirements. 40 CFR 141.110 is herein incorporated by reference. (10-1-93)

02. Acrylamide, Epichlorohydrin. 40 CFR 141.111 is herein incorporated by reference. (12-10-92)

45~~1~~2. -- 499. (RESERVED).

~~501. -- 548. (RESERVED).~~

5~~49~~00. FACILITY AND DESIGN STANDARDS -- DEMONSTRATION OF TECHNICAL, FINANCIAL, AND MANAGERIAL CAPACITY OF PUBLIC DRINKING WATER SYSTEMS.
No person shall proceed, or cause to proceed, with construction of a new community or nontransient, noncommunity drinking water system until it has been demonstrated to the Department that the water system will have adequate technical, financial, and managerial capacity, as defined in Section 003 of these rules. Demonstration of capacity shall be submitted to the Department prior to or concurrent with the submittal of plans and specifications, as required in Section 39-118, Idaho Code, and Subsection ~~*551.04*~~ 504.03 of these rules. The Department shall issue its approval of the new system capacity demonstration in writing. ~~*(4-11-06)*~~(____)

01. Technical Capacity. In order to meet this requirement, the public water system shall submit documentation to demonstrate the following: (4-5-00)

a. The system meets the relevant design, construction, and operating requirements of Sections ~~*550, 551, and*~~ 501 through 552 of these rules; ~~*(4-5-00)*~~(____)

b. The system has an adequate and consistent source of water; (4-5-00)

c. A plan is in place to protect the water source and deal with emergencies; (4-5-00)

d. A plan exists for replacement or improvement of infrastructure as necessary; and (4-5-00)

e. The system has trained personnel with an understanding of the technical and operational characteristics of the system. (5-3-03)

02. Financial Capacity. A demonstration of financial capacity must include but is not limited to the following information: (4-5-00)

a. Documentation that organizational and financial arrangements are adequate to

construct and operate the public water system in accordance with these rules (see Sections ~~550, 551, and~~ 501 through 552). This information can be provided by submitting estimated construction, operation, and maintenance costs, letters of credit, or other access to financial capital through public or private sources and, if available, a certified financial statement; ~~(4-5-00)~~(____)

b. Demonstration of revenue sufficiency, that includes but is not limited to billing and collection procedures, a proposed rate structure which is affordable and ensures availability of operating funds, revenues for depreciation and reserves, and the ability to accrue a capital replacement fund. A preliminary operating budget shall be provided; and (4-5-00)

c. Adequate fiscal controls must be demonstrated. (4-5-00)

03. Managerial Capacity. In order to demonstrate adequate managerial capacity, the owner and/or operator of a new drinking water system shall submit at least the following information to the Department: (4-5-00)

a. Clear documentation of legal ownership and any plans that may exist for transfer of that ownership on completion of construction or after a period of operation; (4-5-00)

b. The name, address, and telephone number of the person who will be accountable for ensuring that the water system is in compliance with these rules; (4-5-00)

c. The name, address, and telephone number of the system operator; (4-5-00)

d. A description of the manner in which the water system will be managed. By-laws, restrictive covenants, articles of incorporation, or procedures and policy manuals which describe the management organization structure are a means of providing this information; (4-5-00)

e. A description of staffing should be provided, including training, experience, certification or licensing, and continuing education completed by the water system staff; (4-5-00)

f. An explanation of how the water system will establish and maintain effective communications and relationships between the water system management, its customers, professional service providers, and any applicable regulatory agencies; and (4-5-00)

g. Evidence of planning for future growth, equipment repair and maintenance, and long term replacement of system components. (4-5-00)

04. Submittal Form. The Department shall provide a standard form to be used in preparing a new system capacity demonstration. (4-5-00)

05. Expanding Systems. A public water system which comes into existence as a result of growth in population or number of service connections within a previously unregulated system will be considered a new system under these rules and is subject to all design, construction and operating requirements herein. (4-5-00)

06. Consolidation. In demonstrating new system capacity, the owner of the proposed

new system must investigate the feasibility of obtaining water service from an established public water system. If such service is available, but the owner elects to proceed with an independent system, the owner must explain why this choice is in the public interest in terms of environmental protection, affordability to water users, and protection of public health. (4-5-00)

07. Exclusion. New public water systems which are public utilities as defined in Sections 61-104 (Corporation), 61-124 (Water System), 61-125 (Water Corporation), and 61-129 (Public Utility), Idaho Code, must meet the regulatory requirements of the Idaho Public Utilities Commission (IPUC) in Chapter 1, Title 61, Idaho Code, Public Utilities Law, and IDAPA 31.01.01, "Rules of Procedure of the Idaho Public Utilities Commission". Such water systems will not be required to meet any requirements of this Section which are in conflict with the provisions and requirements of the IPUC. (4-5-00)

5~~5~~01. FACILITY AND DESIGN STANDARDS -- GENERAL DESIGN ~~*STANDARDS*~~ REQUIREMENTS FOR PUBLIC DRINKING WATER SYSTEMS.

~~***01. System Design.***~~ Unless otherwise specified by the Department, the design of new drinking water systems, or modifications to existing, public drinking water systems, shall be in conformance with the facility and design standards set forth in Sections 006 and 500 through 552 of these rules~~ *and "Recommended Standards for Water Works, A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers," except Parts One (1) and Eight (8)*~~. The following general design requirements shall apply as applicable for the type of water system and the treatment or other processes employed. ~~*(4-11-06)*~~(____)

0~~2~~1. Materials Used in Construction. Unless otherwise authorized by the Department on a site-specific basis, materials that are used to construct public drinking water systems and have water contact surfaces ~~*must comply with*~~ shall conform to applicable AWWA standards and/or be certified by an accredited ANSI certification body to meet ANSI/NSF Standard 53~~*, 58, or*~~ and 61, referenced in Subsection 002.02. Corrosion control shall be taken into account during all aspects of public water system design. ~~*(4-6-05)*~~(____)

02. Additives Used in Operation. No chemical or other substance shall be added to drinking water, nor shall any process be utilized to treat drinking water, unless specifically approved by the Department. All chemicals shall conform to applicable AWWA standards and be certified by an accredited ANSI certification body to meet ANSI/NSF Standard 60, referenced in Subsection 002.02. (____)

03. Design Basis. The system, including the water source and treatment facilities, shall be designed to provide either peak hour demand of the system or peak daily pumping demand plus equalization storage at the design year. (____)

04. Design of Treatment Facilities. Design of treatment facilities shall address: (____)

a. Functional aspects of facility layout and provisions for future facility expansion; (____)

b. Provision for expansion of waste treatment and disposal facilities; ( )

c. Roads constructed to provide year-round access by vehicles and equipment needed for repair and maintenance; ( )

d. Site grading and drainage; and ( )

e. Chemical delivery. ( )

05. Design of Buildings. The design of buildings that are a part of public drinking water systems shall provide for: ( )

a. Adequate ventilation, lighting, heating, and air conditioning; ( )

b. Adequate drainage; ( )

c. Dehumidification equipment, if necessary; ( )

d. Accessibility of equipment for operation, servicing, and removal; ( )

e. Flexibility and convenience of operation and safety of operators; and ( )

f. Separate room(s) for chemical storage and feed equipment to reduce hazards and dust problems. ( )

06. Electrical. Main switch gear electrical controls shall be located above grade, in areas not subject to flooding. All electrical work shall conform to the requirements of the National Electrical Code or to relevant state and/or local codes. The National Electrical Code is available from the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169-7471, (617)770-3000, http://www.nfpa.org. ( )

07. Reliability and Emergency Operation. New community water systems constructed after April 15, 2007 are required to have sufficient dedicated on-site standby power, with automatic switch-over capability, and/or storage so that water may be treated and supplied to pressurize the entire distribution system during power outages. During a power outage, the water system shall be able to meet the operating pressure requirements of Subsection 552.01.b. for a minimum of eight (8) hours at average *day* demand plus fire flow where provided. Standby power provided in a public drinking water system shall be coordinated with the standby power that is provided in the wastewater collection and treatment system. ( )

a. The Department may require the installation of standby power or storage facilities in existing systems if the frequency and duration of power outages a system experiences constitute a health hazard. ( )

b. Existing community public water systems that are substantially modified after April 15, 2007 shall meet the requirements of Subsection 501.07. in those portions of the system affected by the modifications. ( )

i. For the purposes of Subsection 501.07., the Department shall consider a system to be substantially modified when there is a combined increase of twenty-five percent (25%) or more above the system's existing configuration in the following factors: ( )

(1) Population served or number of service connections. ( )

(2) Total length of transmission and distribution water mains. ( )

(3) Peak or average water demand per connection. ( )

ii. New sources and booster pumps intended to increase system capacity shall be provided with standby power or equivalent. ( )

c. For both new and existing public water systems, the Department may reduce the requirements of Subsection 501.07 if the system can demonstrate the capacity to adequately protect public health during a power outage. Any decision by the Department will be based on, but not limited to, the following considerations: ( )

i. An adequate emergency response and operation plan and the capacity to implement that plan. ( )

ii. The adequacy of the system's cross connection control program and the capacity to protect public health in the event of a system wide depressurization. ( )

iii. Demonstration of historical and projected reliability of the electrical power supplied to the water system. ( )

iv. A strategy for providing information to the public during power outages, including instructions to stop irrigation, boil water, etc., until notified otherwise. ( )

v. The level of reliability acceptable to consumers. This can be accomplished with either a vote of the majority of consumers for privately owned and operated systems or a decision by the governing body for publicly governed systems. ( )

vi. Other considerations that may be pertinent, including connections to other public water systems, agreements to provide water in emergency situations, and the availability of dedicated portable auxiliary power. ( )

08. On-Site Analysis and Testing Capabilities. Each public water system shall have equipment and facilities for routine testing necessary to ensure proper operation. Equipment selection shall be based on the characteristics of the raw water source and the complexity of the treatment process involved. ( )

09. Sample Taps. Sample taps shall be provided so that water samples can be obtained from each water source and from appropriate locations in each unit operation of treatment, and from the finished water. Taps shall be consistent with sampling needs and shall not be of the petcock type. Taps owned by the water system and used for obtaining samples for bacteriological

analysis shall be of the smooth-nosed type without interior or exterior threads, shall not be of the mixing type, and shall not have a screen, aerator, or other such appurtenance. ( )

10. **Facility Potable Water Supply**. The facility water supply service line and the plant finished water sample tap shall be supplied from a source of finished water at a point where all chemicals have been thoroughly mixed, and the required disinfectant contact time, if applicable, has been achieved. There shall be no cross connections between the facility water supply service line and any piping, troughs, tanks, or other treatment units containing wastewater, treatment chemicals, raw or partially treated water. ( )

11. **Meters**. All water supplies shall have an acceptable means of measuring the flow from each source, the wash water, the recycled water, any blended water of different quality, and the finished water. ( )

12. **Operation and Maintenance Manual**. An operation and maintenance manual or manuals shall be provided for all public water systems. The manual shall include, but is not limited to, the following contents: daily operating instructions, operator safety procedures, location of valves and other key system features, parts list and parts order form, and information for contacting the water system operator. An operational trouble-shooting section shall be supplied to the water works as part of any proprietary unit installed in system facilities. ( )

13. **Start-Up Training**. Provisions shall be made for operator instruction at the start-up of a new plant or pumping station. ( )

14. **Safety**. Consideration shall be given to the protection of maintenance personnel and visitors from typical and foreseeable hazards in accordance with the engineering standards of care. The design shall comply with all applicable safety codes and regulations that may include the Uniform Building Code, Uniform Fire Code, National Fire Protection Association Standards, and state and federal OSHA standards. Items to be considered include, but are not limited to, noise arresters, noise protection, confined space entry, protective equipment and clothing, gas masks, safety showers and eye washes, handrails and guards, warning signs, smoke detectors, toxic gas detectors and fire extinguishers. ( )

15. **Security**. Appropriate design measures to help ensure the security of water system facilities shall be incorporated. Such measures, at a minimum, shall include means to lock all exterior doorways, windows, gates and other entrances to source, treatment, pumping stations, and water storage facilities. ( )

16. **Other Regulations**. Consideration must be given to the design requirements of other federal, state, and local regulatory agencies for items such as safety requirements, special designs for the handicapped, plumbing and electrical codes, and construction in the flood plain. ( )

17. ***Redundant Fire Flow Capacity***. *( )*

a. *Public water systems that provide fire flow shall be designed to provide maximum day demand plus fire flow instead of peak hour demand plus fire flow. This allowance is made because distribution pressures can be expected to fall during a fire event and overall demand*

would be less than peak hour. Pumping systems supporting fire flow capacity must be designed so that fire flow may be provided with the largest pump out of service. ( )

b. *The requirement for redundant pumping capacity specified in Subsection 501.17.a. may be reduced to the extent that storage is provided in sufficient quantity to meet some or all of fire flow demands. Where storage is not provided, the requirement for fire flow pumping redundancy may be reduced or eliminated if the following conditions are met:* ( )

i. *The local fire authority states in writing that the fire flow capacity of the system is acceptable and is compatible with the water demand of existing and planned fire fighting equipment and fire fighting practices in the area served by the system.* ( )

ii. *In a manner appropriate to the system type and situation, positive notification is provided to customers that describes the design of the system's fire fighting capability and explains how it differs from the requirements of Subsection 501.17.a. The notice shall indicate that the local fire authority has provided written acceptance of the system's fire flow capacity.* ( )

502. FACILITY AND DESIGN STANDARDS - FACILITY PLANS.
See the definition of Facility Plan in Section 003. ( )

01. Facility Plans Required. All new public drinking water systems, and existing public drinking water systems undergoing material modificaton or expansion, are required to have a current facility plan that shall address all applicable issues specifically required in Sections 500 through 552 of these rules including, but not limited to, hydraulic capacity, treatment capacity, project financing, and operation and maintenance considerations sufficiently to determine the effects of the project on the overall infrastructure. Material modification or expansion that requires a facility plan includes upgraded, or rehabilitated public drinking water system facilities. Facility plans must address the entire potential service area of the project. Facility plans are not required for minor or routine distribution system projects. Determination of projects that are considered to be minor or routine shall be made by the Department based on a review of the owner's recommendations and accompanying rationale. ( )

02. Submittal to the Department. Facility plans shall be submitted to the Department for review and approval prior to the submission of plans and specifications for a project related to the facility plan. In the case of water main extensions reviewed by a qualified Idaho licensed professional engineer pursuant to Subsection 504.03.b., an updated facility plan shall be submitted to the Department for review and approval unless the reviewing authority already has a Department approved facility plan in his possession. ( )

03. Facility Plan Contents. The facility plan must include sufficient detail to demonstrate that the proposed project meets applicable criteria. The facility plan generally addresses the overall system-wide plan. The facility plan shall identify and evaluate problems related to the drinking water system; assemble basic information; present criteria and assumptions; examine alternative solutions with preliminary layouts and cost estimates; describe financing methods; set forth anticipated charges for users; review organizational and staffing requirements; offer a conclusion with a proposed project for client consideration; and outline official actions and procedures to implement the project. If the project is funded by the state

revolving fund or a grant, other requirements may also apply. See IDAPA 58.01.20, "Rules for Administration of Drinking Water Loan Program," and IDAPA 58.01.22, "Rules for Administration of Planning Grants for Public Drinking Water Facilities." A checklist, which can be used as guidance, can be found at http://www.deq.idaho.gov/water/permits_forms/forms/drinking_water/form_i_report_checklist.pdf. The guidance document is for Department grant and loan projects, but may be used in part or in whole as a guide to assist in the development of a facility plan for any proposed project. ( )

04. Engineer's Seal Required. Facility plans submitted *to the Department shall* bear the imprint of *an Idaho licensed professional* engineer's seal that is both signed and dated by the engineer. ( )

503. FACILITY AND DESIGN STANDARDS - PRELIMINARY ENGINEERING REPORTS.

See the definition of Preliminary Engineering Report in Section 003. For all new water systems or material modifications to existing water systems, a preliminary engineering report shall be submitted to the Department for review and approval, or other reviewing authority in the case of water main extensions, prior to the submittal of plans and specifications as required in Subsection 504.03. Preliminary engineering reports are not required for minor or routine distribution system projects designed under a facility plan. This report shall provide the following: ( )

01. Engineer's Seal. Preliminary engineering reports submitted *to the department shall* bear the imprint of *an Idaho licensed professional* engineer's seal that is both signed and dated by the engineer. ( )

02. Location. A general description and location of the project. ( )

03. Population. The estimated design population of the project. ( )

04. Water Quantity. Design data for domestic, irrigation, fire fighting, commercial and industrial water uses, including peak hourly, peak daily, and average *day* demands. ( )

05. Storage. Storage requirements. ( )

06. Operating Pressure. Pressure ranges for normal and peak flow conditions. ( )

07. Hydraulic Analysis. A computer analysis of the hydraulics of the distribution system if requested by the Department; any analysis of an existing distribution system shall be properly calibrated. The type and/or sophistication of analysis shall be dependent on the type of system. ( )

08. Sources of Water. Adequacy, quality and availability of sources of water. A water system that is to be served by a separate non-potable irrigation system must provide documentation of legal water rights and demonstrate the actual availability of water in sufficient quantity to ensure that the irrigation system will not compete with or in any way diminish the source of water for the potable water system. ( )

09. Sewage. Describe the sewage collection system and sewage treatment works, with

special reference to their relationship to existing or proposed water works structures which may affect the operation of the water supply system, or which may affect the quality of the supply. ( )

10. **Treatment Wastes**. Characterize the various wastes from the water treatment processes and, if applicable, their volumes, constituents, and proposed treatment and disposal. If discharging to a sanitary sewage system, verify that the system is capable of handling the flow to the treatment works and that the treatment works is capable and willing to accept the additional loading. ( )

11. **Monitoring Results - Community Systems**. Results of analysis for total coliform, inorganic chemical contaminants, organic chemicals, and radionuclide contaminants set forth in Subsections 050.01, 050.02, 050.05, 100.01, 100.03, 100.04, 100.05, and 100.06, unless analysis is waived pursuant to Subsection 100.07. ( )

12. **Monitoring Results - Nontransient Noncommunity Systems**. Results of analysis for total coliform and inorganic and organic chemical contaminants listed in Subsections 050.01, 050.02, 100.01, 100.03, 100.04, unless analysis is waived pursuant to Subsection 100.07. ( )

13. **Monitoring Results - Transient Noncommunity Systems**. Results of a total coliform, nitrite, and nitrate analysis listed in Subsections 050.01, 100.01 and 100.03. ( )

14. **Turbidity**. For any system supplied by surface water or groundwater under the direct influence of surface water, results of turbidity analysis listed in Subsection 100.02. ( )

15. **Evaluation of Surface Water Influence**. For all new ground water sources, including but not limited to wells, springs, and infiltration galleries, systems shall supply information as required by the Department to determine if these sources are under the direct influence of surface water. This requirement shall also apply to any existing ground water source that is found to be at risk of surface water influence during a field survey conducted by the Department. ( )

16. **Potential Contamination**. Identify sources of contamination near proposed sources of water and describe how the sources will be protected. ( )

17. **Flooding**. Mechanisms for protection of the system from flooding. ( )

18. **Additional Information - Surface Water**. In addition to the items listed in Subsections 503.01 through 503.17, the following information must be provided for proposed surface water sources and ground water sources under the direct influence of surface water: ( )

a. Hydrological and historical stream flow data. ( )

b. A copy of the water right(s) from the Idaho Department of Water Resources. ( )

c. Anticipated turbidity ranges, high and low. ( )

d. Treatment selection process and alternative evaluations. ( )

e. Assessment of the degree of control the water system will be able to exercise over the watershed. ( )

f. Projected future uses of impoundments or reservoirs within the watershed. ( )

g. Assess degree of hazard to the supply by agricultural, industrial, recreational, and residential activities in the watershed, and by accidental spillage of materials that may be toxic, harmful or detrimental to treatment processes. ( )

h. Assess all waste discharges and activities that could impact the water supply. The location of each waste discharge shall be shown on a scale map. ( )

i. Obtain source water samples over a sufficient period of time to assess the microbiological, physical, chemical and radiological characteristics of the water. ( )

j. Consideration of currents, wind and ice conditions, and the effect of confluent streams. ( )

19. Additional Information - Ground Water. ( )

a. In addition to the items listed in Subsections 503.01 through 503.17, the following information must be provided for a proposed ground water source: ( )

i. A site evaluation report as required in Section 510 for wells and Section 514 for springs. ( )

ii. Dimensions of the well lot and location of source. Include geographical coordinates of the source location. ( )

iii. Underground geological data and existing well logs. ( )

b. If the water is to be treated, summarize the adequacy of proposed processes and unit parameters for the treatment of the specific water. Bench scale testing, pilot studies, or demonstrations of treatment adequacy may be required. ( )

c. A copy of the water right(s) from the Idaho Department of Water Resources. ( )

20. Soils and Ground Water Levels. Generally discuss soil, ground water conditions, and potential building foundation problems, including a description of: ( )

a. The character of the soil through which water mains are to be laid. ( )

b. Characteristics of the soil, water table, and geological substrate that may affect the

design and construction of the foundations of proposed structures. ( )

c. The approximate elevation of ground water in relation to subsurface structures. ( )

504. FACILITY AND DESIGN STANDARDS - REVIEW OF PLANS AND SPECIFICATIONS.
The facility and design standards set forth in these rules shall be applied in the review of plans and specifications for public water system facilities. If design issues are not addressed by the facility and design standards set out in these rules, then guidance documents, some of which are listed in Subsection 002.02., shall be used as guidance in the design and review of plans and specifications for public drinking water facilities. See also Section 013. ( )

01. Ownership. Documentation of the ownership and responsibility for operating the proposed system shall be made available to the Department prior to or concurrent with the submittal of plans and specifications as required in Subsection 504.03. The documentation must show organization and financial arrangements adequate to assure construction, operation and maintenance of the system according to these rules. Documentation shall also include the name of the water system, the name, address, and phone number of the supplier of water, the system size, and the name, address, and phone number of the system operator. ( )

02. Connection to an Existing System. If the proposed project is to be connected to an existing public water system, a letter from the purveyor must be submitted to the Department stating that the purveyor will be able to provide services to the proposed project. The Department may require documentation supporting the ability of the purveyor to provide service to the new system without diminishing quality of service to existing customers. This letter must be submitted prior to or concurrent with the submittal of plans and specifications as required in Subsection 504.03. ( )

03. Plans and Specifications Required. ( )

a. Prior to construction of new public drinking water systems, new drinking water systems designed to serve ten (10) or more service connections, or material modifications of existing public water systems, plans and specifications must be submitted to the Department for review and approval. If construction does not commence within twelve (12) months of the Department's final approval, the Department may require re-submittal of all or part of the plans and specifications. ( )

b. Plans and specifications for water main extensions shall not require pre-construction approval by the Department when such extensions will be owned and operated by a city, county, quasi-municipal corporation or regulated public utilitity, provided that such plans and specifications are reviewed and approved by a qualified Idaho licensed professional engineer who was not involved in the preparation of the plans and specifications being reviewed to verify compliance with the requirements of these rules prior to initiation of construction. Any plans approved pursuant to Subsection 504.03.b. shall be transmitted to the Department at the time construction is authorized along with a statement that the plans comply with the requirements of these rules and that construction has been authorized by the city, county, quasi-municipal corporation or regulated public utility that will own and operate the system. ( )

c. At the discretion of the city, county, quasi-municipal corporation or regulated public utility, the plans addressed by Subsection 504.03.b. may be referred to the Department for review and approval prior to initiation of construction. ( )

d. New or updated operation and maintenance manual or manuals, as required in Subsection 501.12, shall be submitted to the Department for review and approval prior to start-up of the new or modified public water system. ( )

04. Criteria for Review. The Department shall review plans and specifications to determine compliance with these rules and engineering standards of care. If the plans and specifications comply with these rules and engineering standards of care, the Department shall not substitute its judgment for that of the owner's design engineer concerning the manner of compliance with the rule. ( )

05. Schedule for Review. The Department shall review plans and specifications and endeavor to resolve design issues within forty-two (42) calendar days of submittal such that approval can be granted. If the Department and applicant have not resolved design issues within forty-two (42) calendar days or at any time thereafter, the applicant may file a written demand to the Department for a decision. Upon receipt of such written demand, the Department shall deliver a written decision to the applicant within no more than seven (7) calendar days explaining any reasons for disapproval. The Department shall maintain records of all written demands for decision made pursuant to Subsection 504.05 with such records including the final decision rendered and the timeliness thereof. ( )

06. Engineer's Seal Required. Plans and specifications submitted *to the department shall* bear the imprint of *an Idaho licensed professional* engineer's seal; except that the Department will accept the seal of an Idaho licensed professional geologist on the following: ( )

a. Well source, spring source, or infiltration gallery site evaluation reports, as specified in Subsections 510 and 514. ( )

b. Plans and specifications for well construction and results of field inspection and testing, as specified in Section 510. ( )

07. Contents of Plans and Specifications. Plans and specifications shall, where pertinent, provide the following: ( )

a. General layout, including: ( )

i. Suitable title. ( )

ii. Name of municipality or other entity or person responsible for the water supply. ( )

iii. Area or institution to be served. ( )

iv. Scale of drawings. ( )

v. North arrow. ( )

vi. Datum used. ( )

vii. General boundaries of municipality or area to be served. ( )

viii. Date, name, and address of the designing engineer. ( )

ix. Legible prints suitable for reproduction. ( )

x. Location and size of existing water mains, if applicable. ( )

xi. For systems undergoing material modification, location and nature of existing water works structures and appurtenances affecting the proposed improvements. ( )

b. Detailed plans, including: ( )

i. Stream crossings, providing profiles with elevations of the stream bed and the estimated normal and extreme high and, where appropriate, low water levels. ( )

ii. Location and size of the property to be used for the development with respect to known references such as roads, streams, section lines, or streets. ( )

iii. Topography and arrangement of present or planned wells or structures. ( )

iv. Elevations of the one hundred (100) year flood level in relation to the floor of structures, upper termination of protective casings, and grade surrounding facilities. ( )

v. Details of well construction, including diameter and depth of drill holes, casing and liner diameters and depths, grouting depths, elevations, and designation of geological formations, water levels and other data as specified in Section 510. ( )

vi. Location of all known existing and potential sources of pollution within five hundred (500) feet of water sources or underground treated storage facilities. ( )

vii. Size, length, and materials of proposed water mains. ( )

viii. Location of existing or proposed streets; water sources, ponds, lakes, and drains; storm sanitary, combined and house sewers; septic tanks, disposal fields and cesspools. ( )

ix. Schematic flow diagrams and hydraulic profiles showing the flow through various plant units. ( )

x. Piping in sufficient detail to show flow through the plant including waste lines. ( )

xi. Locations of all chemical storage areas, chemical feeding equipment, and points of chemical application. ( )

xii. All appurtenances, specific structures, equipment, water treatment plant waste disposal units and points of discharge having any relationship to the plans for water mains or water works structures. ( )

xiii. Locations of sanitary or other facilities, such as lavatories, showers, toilets, and lockers, when applicable or required by the Department. ( )

xiv. Locations, dimensions, and elevations of all proposed plant facilities. ( )

xv. Locations of all sampling taps owned by the water system. ( )

xvi. Adequate description of any significant features not otherwise covered by the specifications that may impact public safety or welfare. ( )

c. Complete, detailed technical specifications shall be supplied for the proposed project, including: ( )

i. A program for keeping existing water works facilities in operation during construction of additional facilities so as to minimize interruption of service. ( )

ii. Laboratory facilities and equipment. ( )

iii. Description of chemical feeding equipment. ( )

iv. Procedures for flushing, disinfection and testing, as needed, prior to placing the project in service. All wells, pipes, tanks, and equipment which can convey or store potable water shall be disinfected in accordance with AWWA Standards, incorporated into these rules at Subsection 002.01. Plans or specifications shall outline the procedure and include the disinfectant dosage, contact time, and method of testing the results of this procedure. ( )

v. Materials or proprietary equipment for sanitary or other facilities, including any necessary backflow or back-siphonage protection. ( )

d. Complete design criteria, as set forth in these rules. ( )

e. The Department may require additional information which is not part of the construction drawings, including, but not limited to, head loss calculations, proprietary technical data, and copies of contracts. ( )

08. Notification of Material Deviations. As set forth in Subsection 504.03, during construction or modification, the reviewing authority must be notified of any material deviation from the approved plans. The reviewing authority's prior written approval is required before any

material deviation is allowed. ( )

09. Record Plans and Specifications Required. Within thirty (30) calendar days of the completion of construction of facilities for which plans are required to be reviewed pursuant to Subsection 504.03, record plans and specifications based on information provided by the construction contractor and field observations made by the engineer or the engineer's designee depicting the actual construction of facilities performed, must be submitted to the Department by the engineer representing the city, county, quasi-municipal coporation or regulated public utility that owns the project, or by the design engineer or owner-designated substitute engineer if the facilities will not be owned and operated by a city, county, quasi-municipal corporation or regulated public utility. Such submittal by the professional engineer must confirm material compliance with the approved plans and specifications or disclose any material deviations therefrom. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that effect prepared by an Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings. ( )

10. Exception. The Department may waive the plan and specification approval required of any particular facility or category of facilities when doing so will have no significant impact on public health or the environment. ( )

11. Requirement to Have Approved Plans and Specifications and Approval Letter On-Site During Construction. It is the responsibility of the owner to maintain one (1) copy of the approved plans and specifications and the approval letter from the reviewing authority on-site during construction at all times. ( )

12. Construction. Except as provided in Subsection 504.03.b., no construction shall commence until all of the necessary approvals have been received from the Department. The owner shall provide for the inspection of the construction of a public drinking water system facility by an Idaho licensed professional engineer to the extent required to confirm material compliance with the approved plans and to produce accurate record documents as required by Subsection 504.09. ( )

505. -- 509. (RESERVED).

510. FACILITY AND DESIGN STANDARDS - SITING AND CONSTRUCTION OF WELLS.

~~*03. wells.*~~ Written approval by the Department is required before water from any new or reconstructed well may be served to the public. Any supplier of water for a public water system served by one (1) or more wells shall ensure that the following requirements are met:
~~*(12-10-92)*~~( )

~~*a*~~**01. Site Approval**. Prior to drilling, the site of a ~~*PWS*~~ public water system well must be approved in writing by the Department. The Department shall require the supplier of water to submit a well site evaluation report that takes into account the proposed size, depth, and location of the well. The evaluation may include, but is not limited to the following types of information:
~~*(5-3-03)*~~( )

~~*i*~~**a.** An evaluation of the potability and quality of anticipated groundwater. (5-3-03)

~~*ii*~~**b.** Identification of the known aquifers and the extent of each aquifer, based on the stratigraphy, sedimentation, and geologic structure beneath the proposed well site. (5-3-03)

~~*iii*~~**c.** An estimate of hydrologic and geologic properties of each aquifer and confining layers. (5-3-03)

~~*iv*~~**d.** Prediction of the sources of water to be extracted by the well and the drawdown of existing wells, springs, and surface water bodies that may be caused by pumping the proposed well. This prediction may be based on analytical or numerical models as determined by the Idaho Department of Water Resources permitting process. ~~*(5-3-03)*~~( )

~~*v*~~**e.** Demonstration of the extent of the capture zone of the well, based on the well's design discharge and on aquifer geology, using estimates of hydraulic conductivity and storativity. (5-3-03)

~~*vi*~~**f.** Description of potential sources of contamination within five hundred (500) feet of the well site. (5-3-03)

~~*b*~~**02. Location**. Each well shall be staked by the design engineer *or licensed professional geologist* prior to drilling, be located a minimum of fifty (50) feet from ~~*any potential source of contamination*~~ the nearest property line, and be no closer to specified sources of contamination than set forth in Subsection 900.01~~;~~. In vulnerable settings, the Department may require engineering or hydrologic analysis to determine if the required setback distance is adequate to prevent contamination~~;~~. ~~*(5-3-03)*~~( )

~~*c*~~**03. Construction Standards**. ~~*Each well shall comply with the minimum Well Construction Standards and with the permitting requirements of the Idaho Water Resources Board, as set forth in Subsection 002.02.f.; except that no public water system well shall have less than fifty-eight (58) feet of annular seal of not less than two (2) inches thickness, unless:*~~ In addition to meeting the requirements of these rules, all wells shall be constructed in accordance with IDAPA 37.03.09, "Well Construction Standards Rules," and related rules and laws administered by the Idaho Department of Water Resources. All wells shall comply with the drilling permit requirements of Section 42-235, Idaho Code. (5-3-03)

a. Casing that meets the requirements set forth in Subsection 900.03 (Table 3). The use of plastic well casing for public water system wells may be considered on a case-by-case basis. Plastic casing shall meet or exceed ASTM Standard F480-02 and ANSI/NSF Standard 61. ( )

b. Public water system wells shall have no less than fifty-eight (58) feet of annular seal of not less than one and one-half (1 ½) inches thickness as measured from land surface to the bottom of the seal unless: ( )

i. It can be demonstrated to the Department's satisfaction that there is a confining layer at lesser depth that is capable of preventing unwanted water from reaching the intake zone

of the well; or (5-3-03)

ii. The best and most practical aquifer at a particular site is less than fifty-eight (58) feet deep; or; (5-3-03)

iii. The Department specifies a different annular seal depth based on local hydrologic conditions. (5-3-03)

iv. More stringent standards are required by applicable Rules of the Idaho Water Resources Board, referenced in Subsection 002.02. ( )

c. Specifications shall include allowable tolerances for plumbness and alignment in accordance with AWWA Standards, incorporated by reference into these rules at Subsection 002.01, or as otherwise approved by the Department. If the well fails to meet these requirements, it may be accepted by the Department if it does not interfere with the installation or operation of the pump or uniform placement of grout. ( )

d. Geological data shall be collected at each pronounced change in formation and shall be recorded in the driller's log. Supplemental data includes, but is not limited to, accurate geographical location such as latitude and longitude or GIS coordinates, and other information on accurate records of drillhole diameters and depths, assembled order of size and length of casing, screens and liners, grouting depths, formations penetrated, and water levels. ( )

e. The owner of each well shall retain all records pertaining to each well until the well has been properly abandoned. ( )

f. Wells with intake screens shall: ( )

i. Be constructed of materials resistant to damage by chemical action of ground water or cleaning operations. ( )

ii. Have openings based on sieve analysis of formation and/or gravel pack materials. ( )

iii. Have sufficient length and diameter to provide adequate specific capacity and aperture entrance velocity not to exceed point three (0.3) feet per second, or as otherwise approved by the Department. ( )

iv. Be installed so that the pumping water level remains above the screen under all operating conditions, or otherwise approved by the Department. Where a bottom plate or sump is utilized, it shall be of the same material as the screen, or as otherwise approved by the Department. Where a washdown assembly, tailpipe or sump is used below the screen, it may be made of a different material than the screen. ( )

g. Permanent well casing shall be surrounded by a minimum of one and one-half (1 ½) inches of grout to the depth required by Subsection 510.03.a. of these rules, or by the Rules of the Idaho Water Resources Board referenced in Subsection 002.02, whichever is more stringent. All casing identified in plans and specifications as temporary casing shall be removed prior to

well completion. ( )

i. Neat cement grout consisting of cement that conforms to AWWA Standard A-100, and water, with not more than six (6) gallons of water per ninety-four (94) pounds of cement, shall be used for one and one-half (1 ½) inch openings. Additives may be used to enhance effectiveness and are subject to approval by the reviewing authority and the Idaho Department of Water Resources on a case-by-case basis. ( )

ii. Bentonite grout shall have a solids content not less than twenty-five (25) percent by weight when mixed with water and be specifically manufactured for use in sealing of well casing. Bentonite grout shall not contain weighting agents to increase solids content. Bentonite grout shall not be used above the water table. All bentonite grout shall be installed by positive displacement from the bottom up through a tremmie or float shoe. ( )

iii. Where a dry annular space is to be sealed, a minimum of two (2) inches on all sides of the casing shall be required to place bentonite to depths not greater than one hundred (100) feet, using #8 mesh granular bentonite. All dry pour granular bentonite shall be tagged at appropriate intervals to verify placement. If a bridge occurs, a tremmie pipe shall be washed or jetted through the bridge to allow for pumping of grout. Bentonite chips shall be of sufficient size to accommodate proper placement for the existing subsurface conditions. ( )

iv. Dry granular bentonite used in wells where a dry annular space is to be sealed with depths greater than one hundred (100) feet shall require an annulus of at least three (3) inches on all sides of the casing, or as approved by the reviewing authority and the Idaho Department of Water Resources. If a bridge occurs, a tremmie pipe shall be washed or jetted through the bridge to allow for pumping of grout. Bentonite chips shall be of sufficient size to accommodate proper placement for the existing subsurface conditions. ( )

v. All chip bentonite seals installed through water shall only be used in annular spaces of at least four (4) inches on all sides of the casing. If a bridge occurs, a tremmie pipe shall be washed or jetted through the bridge to allow for pumping of grout. Bentonite chips shall be of sufficient size to accommodate proper placement for the existing subsurface conditions. Chip bentonite seals installed through water shall be: ( )

(1) Installed in accordance with manufacturer's specifications; or ( )

(2) Installed by pouring chips over a one-quarter (1/4) inch mesh screen for three-eighths (3/8) inch chips to remove fines to prevent bridging at the water table; or ( )

(3) Installed using coated pellets to retard hydration if approved by the reviewing authority and the Idaho Department of Water Resources. ( )

vi. Concrete may be approved on a case-by-case basis by the reviewing authority and the Idaho Department of Water Resources. Upon such approval, the approved method shall use a six (6) sack minus one-half (1/2) inch Portland cement concrete and shall be installed by positive displacement from the bottom up through a tremmie pipe. ( )

~~#~~**04.** **Disinfection**. All tools, bits, pipe, and other materials to be inserted in the borehole

~~*must*~~ shall be cleaned and disinfected in accordance with the Well Construction Standards and permitting requirements of the Idaho Water Resources Board, ~~*as set forth*~~ referenced in Subsection 002.02~~*.f.*~~ This applies to new well construction and repair of existing wells. ~~*(5-3-03)*~~(____)

~~*e*~~**05.** **Information Required**. Upon completion of a groundwater source, and prior to its use as drinking water, the following information and data must be submitted by the water system to the Department: ~~*(5-3-03)*~~(____)

~~*i*~~**a.** A copy of all well logs; (12-10-92)

~~*ii*~~**b.** Results of test pumping, as specified in S~~*ubs*~~ection ~~*550.03.f.*~~ 510; ~~*(5-3-03)*~~(____)

~~*iii*~~**c.** As constructed plans showing at least the following: (12-10-92)

~~*(1)*~~i. Annular seal, including depth and sealant material used and method of application; (5-3-03)

~~*(2) Casing that meets the requirements set forth in Section 3.2.5.4 of Recommended Standards for Water Works, including weights and thicknesses specified in Table 1 of that publication;* (5-3-03)~~

~~*(3)*~~ii. Casing perforations, results of sieve analysis used in designing screens installed in sand or gravel aquifers, gravel packs; and (5-3-03)

~~*(4)*~~iii. Pump location; and (12-10-92)

~~*(5)*~~iv. For community water systems, a permanent means for measuring water level. All equipment required for conducting water level measurements shall be purchased and made available to the water system operator at the time well construction is completed. Where pneumatic or electronic water level measuring equipment is used, it shall be made using corrosion resistant materials attached firmly to the drop pipe or pump column and in such a manner as to prevent entrance of foreign materials. ~~*(5-3-03)*~~(____)

~~*iv*~~**d.** Other information as may be specified by the Department. (12-10-92)

~~*v*~~**e.** Sampling results for iron, manganese, corrosiv~~*ely*~~ity, and other secondary contaminants specified by the Department. Other monitoring requirements are specified in S~~*ubs*~~ection ~~*551.01*~~ 503. ~~*(5-3-03)*~~(____)

~~*f*~~**06.** **Test Pumping**. Upon completion of a ground water source, test pumping shall be conducted in accordance with the following procedures to meet the specified requirements: (12-10-92)

~~*i*~~**a.** The well shall be test pumped at the desired yield (design capacity) of the well for at least twenty-four (24) consecutive hours after the drawdown trend has stabilized, as determined by the supervising engineer or geologist. Alternatively, the well may be pumped at a rate of one hundred fifty percent (150%) of the desired yield for at least six (6) continuous hours after the

drawdown trend has stabilized, as determined by the supervising engineer or geologist. ~~*In either case, if the drawdown does not stabilize, the pumping must continue for at least seventy-two (72) consecutive hours.*~~ The field pumping equipment must be capable of maintaining a constant rate of discharge during the test. Discharge water must be piped an adequate distance to prevent recharge of the well during the test. If the well fails the test protocol, ~~*the well*~~ design of the water system shall be re-evaluated and submitted to the Department for approval. ~~*(5-3-03)*~~(____)

~~*ii*~~**b.** Upon completion of well development, the well shall be tested for sand production. Fifteen (15) minutes after the start of the test pumping (at or above the design production rate), the sand content of a new well shall not be more than five (5) parts per million. Sand production shall be measured by a centrifugal sand sampler or other means acceptable to the Department. If sand production exceeds five (5) ppm, the well shall be screened gravel packed, ~~*and*~~ or re-developed. ~~*(5-3-03)*~~(____)

~~*iii*~~**c.** The following data shall be provided: (5-3-03)

~~*(1)*~~i. Static water level in the well prior to test pumping; (5-3-03)

~~*(2)*~~ii. Well yield in gpm and duration of the pump test, including a discussion of any discrepancy between the desired yield and the yield observed during the test; (5-3-03)

~~*(3)*~~iii. Water level in the well recorded at regular intervals during pumping; (5-3-03)

~~*(4)*~~iv. Profile of water level recovery from the pumping level projected to the original static water level. (5-3-03)

~~*(5)*~~v. Depth at which the test pump was positioned in the well; (5-3-03)

~~*(6)*~~vi. Test pump capacity and head characteristics; (5-3-03)

~~*(7)*~~vii. Sand production data. (5-3-03)

~~*(8)*~~viii. Any available results of analysis based on the drawdown and recovery test pertaining to aquifer properties, sustained yield, and boundary conditions affecting drawdown. (5-3-03)

~~*iv*~~**d.** The Department may allow the use of other pump test protocols that are generally accepted by engineering firms with specialized experience in well construction, by the well drilling industry, or as described in national standards (such as ANSI/AWWA A100-97), as long as the minimum data specified in Subsection ~~*550.03.f.iii*~~ 510.06.c. are provided. The Department welcomes more extensive data about the well, such as step-drawdown evaluations used in determining well capacity for test pumping purposes, zone of influence calculations, and any other information that may be of use in source protection activities or in routine water system operations. ~~*(5-3-03)*~~(____)

~~*v*~~**e.** Where aquifer yield, sustainability, or water quality are questionable, the Department, at its discretion, may require additional site specific investigations that could include test well construction, long-term pumping tests, or other means to demonstrate that the aquifer is

sufficient to meet the long-term water requirements of the project. (4-11-06)

07. Conversion of Irrigation Wells for Public Water System Use. An irrigation well may be considered for use as a public water system source on a case-by-case basis. The owner of such a well must demonstrate to the Department's satisfaction that the well is constructed in a manner that is protective of public health and that both the quantity and quality of water produced by the well meet public water system standards set forth in these rules. ( )

08. Observation Wells. If observation wells are used and are intended to remain in service after completion of the water supply well, the observation wells shall be constructed in accordance with the requirements for permanent wells and be protected at the upper terminal to preclude entrance of foreign materials. See Rules of the Idaho Water Resources Board referenced in Subsection 002.02. ( )

09. Well Abandonment. Any water supply well that will no longer be used must be abandoned by sealing the borehole carefully to prevent pollution of the ground water, eliminate any physical hazard, conserve aquifer yield, maintain confined head conditions in artesian wells, and prevent mixing of waters from different aquifers. The objective of proper well abandonment procedures is to restore, as far as possible, the original hydrogeologic conditions. The services of a licensed well driller are required. Instructions for abandoning various types of wells may be obtained from the Idaho Department of Water Resources. See Rules of the Idaho Water Resources Board referenced in Subsection 002.02. ( )

511. FACILITY AND DESIGN STANDARDS - WELL PUMPS, DISCHARGE PIPING, AND APPURTENANCES.

~~g~~01. Sample Tap Required. A smooth-nosed sample tap shall be provided on the discharge piping from every well at a point where pressure is maintained but prior to any treatment. ~~*Any threaded taps installed in the wellhouse must be equipped with an appropriate backflow prevention device.*~~ ~~*(5-3-03)*~~( )

~~h~~02. Discharge Piping. The discharge line shall be equipped with the necessary valves and appurtenances to allow a well to be pumped to waste at the design capacity of the well via an approved air gap at a location prior to the first service connection, and shall meet the following requirements~~;~~: ~~*(4-6-05)*~~( )

a. Be designed to minimize friction loss. ( )

b. Have control valves and appurtenances located above the pump house floor when an above-ground discharge is provided. ( )

c. Be protected against contamination. ( )

d. Vertical turbine pumps shall be equipped with an air release-vacuum relief valve, or equivalent, located upstream from the check valve, with exhaust/relief piping terminating in a down-turned position at least eighteen (18) inches above the floor and covered with a twenty-four (24) mesh corrosion resistant screen. ( )

e. Have all exposed piping, valves and appurtenances protected against physical damage and freezing. ( )

f. Be properly anchored to prevent movement, and protected against surge or water hammer. ( )

~~i~~**03. Pressure Gauge Required**. A pressure gauge shall be provided at all installations~~;~~. ~~(12-10-92)~~( )

~~j~~**04. Flow Meter and Check Valve**. Unless otherwise approved by the Department, ~~A~~ an instantaneous and totalizing flow meter equipped with nonvolatile memory shall be installed on the discharge line of each well. An accessible check valve shall be installed ~~above ground~~ in the discharge line of each well~~;~~. ~~(5-3-03)~~( )

~~k~~**05. Well Vent**. All wells ~~except flowing artesian wells~~ shall be vented, unless it can be demonstrated that the drawdown under maximum pumping conditions will not exceed ten (10) feet, with the open end of the vent screened and terminated downward at least eighteen (18) inches above the final ground surface. ~~(4-6-05)~~( )

~~l~~**06. Casings and Sanitary Well Caps**. The following requirements apply to well casings and ~~seals~~ sanitary caps: ~~(12-10-92)~~( )

~~i~~**a.** Casings shall extend a minimum of eighteen (18) inches above the final ground surface and, if the well is located within a ~~well~~ pump house, twelve (12) inches above the ~~well~~ pump house floor. If local hydrological conditions require that a well be located in an area subject to flooding, the Department may require extension of the casing to extend above the one hundred (100) year or highest known flood level. ~~(4-6-05)~~( )

~~ii~~**b.** Wells shall be cased and ~~sealed~~ provided with a sanitary cap in such a manner that surface water cannot enter the well. ~~(12-10-92)~~( )

~~iii. A watertight seal shall be provided at the top of the well casing, and shall not allow water to enter the well. (12-10-92)~~

~~iv. Wells completed in unconsolidated water bearing formations shall be constructed to prevent caving of the walls of the well and sand pumping. Screens and/or gravel packs shall be provided where fine grained materials such as sands are being developed as the source of water. (12-10-92)~~

~~m~~07. ~~The following requirements apply to well houses as defined in Section 003, unless it can be shown that some or all of these requirements are not needed to protect the combination of system components in a given structure:~~ **Well Houses**. For regulatory purposes, a well house is considered a pump house as defined in Section 003. Well houses must meet the requirements for pump houses as set forth in Section 541. ~~(4-6-05)~~( )

~~i. Well houses shall be protected from flooding and be adequately drained. The floor surface shall be at least six (6) inches above the final ground surface. An electrically powered ventilation fan or automated air flow system shall be provided to remove excess heat and moisture~~

~~*during peak summer temperatures. If the well operates year round, a thermostatically regulated heater shall also be installed to prevent moisture buildup during cold weather. In all cases, measures must be taken to minimize corrosion of metallic and electrical components.* (4-6-05)~~

~~*ii. Well houses shall be provided with a locking door or access to prohibit unauthorized entrance. Plans and specifications for well houses must provide enough detail to enable the reviewing engineer to determine that the facility is secure, safe, accessible, and that it conforms to electrical and plumbing codes.* (5-3-03)~~

~~*iii. Well houses shall be kept clean and in good repair and shall not be used to store toxic or hazardous materials.* (12-10-92)~~

~~*iv. Floor drains shall not be connected to sewers, storm drains, chlorination room drains, or any other source of contamination.* (12-10-92)~~

~~*v. Sumps for well house floor drains shall not be closer than thirty (30) feet from the well.* (12-10-92)~~

~~*vi*~~**08. Pitless Adapters and Units**. Pitless adapters or pitless units: ~~(12-10-92)~~(____)

~~(1)~~**a.** Shall be of the type marked approved by the National Sanitation Foundation or Pitless Adapter Division of the Water Systems Council. (12-10-92)

~~(2)~~**b.** Shall be designed, constructed and installed to be watertight including the cap, cover, casing extension and other attachments. (12-10-92)

~~(3)~~**c.** Shall be field tested for leaks before being put into service. The procedure outlined in "Manual of Individual and Non-Public Water Supply Systems," ~~*as set forth*~~ referenced in Subsection 002.02~~*.d.*~~, or other procedure approved by the Department shall be followed. ~~(5-3-03)~~(____)

d. Pitless adapters with a two (2) inch or smaller discharge line shall be provided with a swing joint outside the pitless adapter unit to reduce strain, deformation, and possible leakage of the pitless seal caused by settling soils in the trench. The orientation of swing joints shall be such that any settling that occurs will tighten the threads. The hole in the casing shall be cut with a saw rather than a torch with an opening large enough to allow seating of gaskets. (____)

e. Shall be provided with a contamination-proof entrance connection for electrical cable. (____)

f. In the case of pitless adapters: (____)

i. Threaded adapters shall be installed by drilling a hole not more than one quarter (1/4) inch larger than the outer diameter of the pitless shank. No torch-cut holes shall be accepted. The orientation of swing joints shall be such that any settling that occurs will tighten the threads. (____)

ii. The only field welding permitted will be that needed to connect a pitless adapter to

the casing. ( )

g. In the case of pitless units: ( )

i. Shall be shop-fabricated from the point of connection with the well casing to the unit cap or cover. ( )

ii. Shall be constructed of materials and weight at least equivalent to and compatible with the well casing. ( )

iii. Shall be threaded or welded to the well casing. Threaded units shall be installed by drilling a hole not more than one quarter (¼) inch larger than the outer diameter of the pitless shank. No torch-cut holes shall be accepted. If the connection to the casing is by field weld, the shop-assembled unit must be designed specifically for field welding to the casing. ( )

iv. Shall terminate at least eighteen (18) inches above final ground elevation or three (3) feet above the 100-year flood level or the highest known flood elevation, whichever is higher, or as otherwise approved by the Department. ( )

v. Shall be provided with access to disinfect the well. ( )

vi. Shall have field connection to the lateral discharge from the pitless unit of threaded, flanged, or mechanical joint connection. ( )

~~r~~09. Wells Not Allowed in Pits. Wells shall not be located in pits. Exceptions to ~~*Subsection 550.03.l.*~~ this requirement will be granted by the Department if the well was constructed prior to November 5, 1964, and the installation is constructed or reconstructed in accordance with the requirements of the Department to provide watertight construction of pit walls and floors, floor drains and acceptable pit covers. ~~*(12-10-92)*~~( )

10. Discharge Pumps. Discharge pumps shall be subject to the following requirements: ( )

a. Line shaft pumps shall. ( )

i. Have the casing firmly connected to the pump structure or have the casing inserted into a recess extending at least one-half (1/2) inch into the pump base. ( )

ii. Have the pump foundation and base designed to prevent water from coming into contact with the joint. ( )

iii. Use lubricants that meet ANSI/NSF Standard 61. ( )

b. When a submersible pump is used: ( )

i. The top of the casing shall be effectively sealed against the entrance of water under all conditions of vibration or movement of conductors or cables. ( )

ii. The electrical cable shall be firmly attached to the drop pipe at twenty-one (21) foot intervals or less, or at each coupling or joint. (____)

512. FACILITY AND DESIGN STANDARDS - WELL LOT.

~~*o.*~~ A well lot shall be provided for wells constructed after November 1, 1977. The well lot shall be owned in fee simple by the supplier of water or controlled by lease or easement with a term of not less than the useful life of the well and be large enough to provide a minimum distance of fifty (50) feet between the well and the nearest property line. ~~*(12-10-92)*~~(____)

~~*p. New community water systems served by ground water and constructed after July 1, 1985, or existing community water systems served by ground water that are substantially modified after July, 2002, shall have a minimum of two (2) sources if they are intended to serve more than twenty-five (25) homes or equivalent. With any source out of service, the remaining source or sources shall be capable of providing either the peak hour demand of the system or maximum daily pumping demand plus equalization storage. The Department shall consider a system to be "substantially modified" when there is a combined increase of twenty-five percent (25%) or more above the system's existing configuration in the following factors: (4-6-05)*~~

~~*i. Population served or number of service connections; (5-3-03)*~~

~~*ii. Length of water mains; (5-3-03)*~~

~~*iii. Peak or average water demand per connection. (5-3-03)*~~

~~*q.*~~**01. Use of Chemicals on the Well Lot**. No pesticides, herbicides, or fertilizers shall be applied to a well lot without prior approval from the Department. ~~*(12-10-92)*~~(____)

~~*r.*~~**02. Storage of Hazardous Materials on the Well Lot**. No pesticides, herbicides, fertilizers, portable containers of petroleum products, or other materials known to be toxic or hazardous ~~*materials*~~ shall be stored on a well lot, except that: ~~*(5-3-03)*~~(____)

~~*i.*~~**a.** An internal combustion engine to drive either a generator for emergency standby power or a pump to provide fire flows, and an associated fuel tank, may be placed on the well lot. (5-3-03)

~~*ii.*~~**b.** A propane or natural gas powered generator is preferable to reduce risk of fuel spillage. (5-3-03)

~~*iii.*~~**c.** If a diesel or gasoline-fueled engine is used, the fuel tank and connecting piping must be approved by the Underwriter's Laboratory, Inc., double-walled, meet the requirements of the local fire jurisdiction, and include both spill prevention and overfill protection features. The tank must be above ground and may be contained within the structural base of the generator unit. A licensed water system operator shall be present during filling of the tank following a period of usage, or during periodic extraction and replacement of outdated fuel. (4-6-05)

~~*iv.*~~**d.** Should the internal combustion engine be located within the ~~*well*~~ pump house, the floor of the ~~*well*~~ pump house shall be constructed so as to contain all petroleum drips and spills so that they will not be able to reach the floor drain(s). Engine exhaust shall be directly discharged

outside the ~~well~~ pump house. ~~(5-3-03)~~( )

~~v~~**e.** A spill containment structure shall surround all fuel tanks and be sized to contain at least one hundred ten percent (110%) of the fuel tank volume. The Department may require additional containment capacity in settings where accumulation of snow, ice, or rain water could be expected to diminish the usable capacity of the structure. (4-6-05)

03. Location of Hydrants. Hydrants of the frost free type shall be placed in the buried piping system at a minimum of five (5) feet away from the well casing to prevent drain water from accumulating and/or compromising the grout seal surrounding the well casing. ( )

513. FACILITY AND DESIGN STANDARDS - NUMBER OF GROUND WATER SOURCES REQUIRED.

New community water systems served by ground water and constructed after July 1, 1985, or existing community water systems served by ground water that are substantially modified after July, 2002, shall have a minimum of two (2) sources if they are intended to serve more than twenty-five (25) homes or equivalent. Under normal operating conditions, with any source out of service, the remaining source or sources shall be capable of providing either the peak hour demand of the system or *maximum day* demand plus equalization storage. *See Subsection 501.17 for general design requirements concerning fire flow capacity.* For the purpose of Section 513 only, the Department shall consider a system to be "substantially modified" when there is a combined increase of twenty-five percent (25%) or more above the system's existing configuration in the following factors: ( )

01. Population Served or Number of Service Connections.

02. Length of Water Mains.

03. Peak or Average Water Demand Per Connection.

514. FACILITY AND DESIGN STANDARDS - SPRING SOURCES.

~~*04. Springs*~~. Written approval by the Department is required before water from any new or reconstructed spring source may be served to the public. For new spring sources, the Department may require a site evaluation report as set forth for wells in S~~*ubs*~~ection ~~*550.03.a*~~ 510. Any supplier of water for a public water system served by one (1) or more springs shall ensure that the following requirements are met: ~~(5-3-03)~~( )

~~*a*~~**01. Protection of the Spring**. Springs shall be housed in a permanent structure and protected from contamination including the entry of surface water, animals, and dust~~;~~. The spring box shall be equipped with a screened overflow. The inlet shall be screened and located above the floor of the collection chamber. ~~(12-10-92)~~( )

02. Access to Spring Box. A watertight and locking access port shall be provided. The access port shall be elevated at least twenty-four (24) inches above the top of the box or covering sod, whichever is higher. ( )

~~*b*~~**03. Sample Tap Required**. A sample tap shall be provided~~;~~. ~~(12-10-92)~~( )

~~c~~**04.** **Flow Measurement**. A flow meter or other flow measuring device shall be provided~~; and~~. ~~(12-10-92)~~(____)

~~d~~**05.** **Protected Area**. The entire area within a one hundred (100) foot radius of the spring box shall be owned by the supplier of water or controlled by a long term lease, fenced to prevent trespass of livestock and void of buildings, dwellings and sources of contamination. Surface water ~~and drainage ditches~~ shall be diverted from this area. ~~(5-3-03)~~(____)

515. FACILITY AND DESIGN STANDARDS - SURFACE SOURCES AND GROUND WATER SOURCES UNDER THE DIRECT INFLUENCE OF SURFACE WATER.

~~*05. Surface Sources and Groundwater Sources Under the Direct Influence of Surface Water.*~~ Written approval by the Department is required before water from any new surface source or ground water source that is under the direct influence of surface water may be served to the public. Infiltration collection lines or galleries are considered ground water under the direct influence of surface water unless demonstrated otherwise. Infiltration galleries that are not directly influenced by surface water shall meet the requirements of Section 514. The area around infiltration lines shall be under the control of the water purveyor for a distance acceptable to the Department. ~~(10-1-93)~~(____)

01. **Intake Structures**. Design of intake structures shall provide for: (____)

a. Withdrawal of water from more than one (1) level if quality varies with depth. (____)

b. Separate facilities for release of less desirable water held in storage. (____)

c. Where frazil ice may be a problem, holding the velocity of flow into the intake structure to a minimum, generally not to exceed point five (0.5) feet per second. Frazil ice is made up of randomly distributed ice crystals that are formed in flowing water that has cooled below thirty-two (32) degrees Fahrenheit and is prevented from forming into ice sheets by the movement of the water. (____)

d. Inspection manholes every one thousand (1000) feet for pipe sizes large enough to permit visual inspection. (____)

e. Cleaning the intake line as needed. (____)

f. Adequate protection against rupture by dragging anchors, ice, or other hazards. (____)

g. Ports located above the bottom of the stream, lake or impoundment, but at sufficient depth to be kept submerged at low water levels. (____)

h. Where shore wells are not provided, a diversion device capable of keeping large quantities of fish or debris from entering an intake structure. (____)

i. If necessary, provisions shall be made in the intake structure to control the influx of nuisance aquatic organisms. Specific control methods must be approved by the reviewing authority. ( )

j. When buried surface water collectors are used, sufficient intake opening area must be provided to minimize inlet headloss. Particular attention shall be given to the selection of backfill material in relation to the collector pipe slot size and gradation of the native material over the collector system. ( )

02. Raw Water Pumps. Raw water pumping wells shall: ( )

a. Have motors and electrical controls located above grade (except for submersible pumps), and protected from flooding as required by the reviewing authority. ( )

b. Be accessible and designed to prevent flotation. ( )

c. Be equipped with removable or traveling screens before the pump suction well. ( )

d. Provide for introduction of chlorine or other chemicals in the raw water transmission main if necessary for quality control. ( )

e. Where practical, have intake valves and provisions for back flushing or cleaning by a mechanical device and testing for leaks. ( )

f. Have provisions for withstanding surges where necessary. ( )

03. Offstream Raw Water Storage. An off-stream raw water storage reservoir is a facility into which water is pumped during periods of good quality and high stream flow for future release to treatment facilities. These off-stream raw water storage reservoirs shall be constructed to assure that: ( )

a. Water quality is protected by controlling runoff into the reservoir. ( )

b. Dikes are structurally sound and protected against wave action and erosion. ( )

c. Intake structures and devices meet requirements of Subsection 515.01. ( )

d. Point of influent flow is separated from the point of withdrawal. ( )

e. Separate pipes are provided for influent to and effluent from the reservoir. ( )

04. Reservoirs. Impoundments and reservoirs shall provide, where applicable: ( )

a. Removal of brush and trees to high water elevation. ( )

b. Protection from floods during construction. ( )

c. Abandonment of all wells which will be inundated, in accordance with requirements of the Idaho Department of Water Resources. See Rules of the Idaho Water Resources Board referenced in Subsection 002.02. (____)

516. -- 517. (RESERVED).

518. FACILITY AND DESIGN STANDARDS - ADDITIONAL DESIGN CRITERIA FOR SURFACE WATER TREATMENT.
Performance criteria for surface water treatment facilities are specified in National Primary Drinking Water Regulations, as set forth in Sections 300, 301, and 310 of these rules. Surface water treatment systems must comply with applicable general design requirements in Section 503. In addition, the following design requirements apply specifically to surface water treatment facilities: (____)

~~a. Design Criteria.~~ ~~(12-1-92)~~

~~i~~**01.** **Engineering Design Requirements**. The system shall ensure that filtration and disinfection facilities for surface water or groundwater directly influenced by surface water sources are designed, constructed and operated in accordance with all applicable engineering practices designated by the Department. The design of the water treatment plant must consider the worst raw water quality conditions that are likely to occur during the life of the facility. ~~(12-10-92)~~(____)

~~ii~~**02.** **Removal of Pathogens**. Filtration facilities (excluding disinfection) shall be designed, constructed and operated to achieve at least two (2) log removal of Giardia lamblia cysts, two (2) log removal of Cryptosporidium oocysts, and one (1) log removal of viruses, except as allowed under Subsection ~~550.05.b.iii.; and~~ 518.09.b. ~~(10-1-93)~~(____)

~~iii~~**03.** **Disinfection**. Disinfection facilities shall be designed, constructed and operated so as to achieve at least ~~one half~~ point five zero (0.50) log inactivation of Giardia lamblia cysts; and ~~(10-1-93)~~(____)

~~(1)~~**a.** Two (2) log inactivation of viruses if using conventional and slow sand filtration technology; or (12-10-92)

~~(2)~~**b.** Three (3) log inactivation of viruses if using direct and diatomaceous earth filtration technology; or (12-10-92)

~~(3)~~**c.** Four (4) log inactivation of viruses if using alternate filtration technology. (12-10-92)

~~(4)~~**d.** Four (4) log inactivation of viruses if filtration treatment is not used. (10-1-93)

~~iv~~**04.** **Enhanced Disinfection**. Higher levels of disinfection than specified under Subsection ~~550.05.a.iii.~~ 516.03 may be required by the Department in order to provide adequate protection against giardia and viruses. ~~(10-1-93)~~(____)

~~v~~**05.** **Filter to Waste**. For plants constructed after December 31, 1992, each filter unit

must be capable of filter to waste. For plants constructed prior to December 31, 1992, each filter unit must be capable of filter to waste unless the system demonstrates through continuous turbidity monitoring or other means acceptable to the Department that water quality is not adversely affected following filter backwashing, cleaning or media replacement.~~(12-10-92)~~(____)

~~vi. For plants constructed prior to December 31, 1992, each filter unit must be capable of filter to waste unless the system demonstrates through continuous turbidity monitoring or other means acceptable to the Department that water quality is not adversely affected following filter backwashing, cleaning or media replacement. (12-10-92)~~

~~vii~~**06. Continuous Turbidity Monitoring**. For conventional, direct, membrane, and diatomaceous earth filtration technology, equipment must be provided to continuously measure the turbidity of each filter ~~bed~~ unit. ~~(5-3-03)~~(____)

~~viii~~**07**. **Continuous Monitoring of Disinfectant**. Equipment must be provided and operated for continuous measurement of disinfectant residual prior to entry to the distribution system, unless the system serves fewer than three thousand three hundred (3,300) people. ~~(12-10-92)~~(____)

~~ix~~**08. Continuous Operation Required**. Diatomaceous earth filtration facilities shall include an alternate power source with automatic startup and alarm, or be designed in a manner to ensure continuous operation. ~~(12-10-92)~~(____)

~~b~~**09.** ~~Filtration technology~~ **Acceptable Technology**. The purveyor shall select a filtration technology acceptable to the Department. ~~(12-10-92)~~(____)

~~i. The purveyor shall select a filtration technology acceptable to the Department. (12-10-92)~~

~~ii~~**a.** Conventional, direct, membrane, slow sand and diatomaceous earth filtration technologies are generally acceptable to the Department on a case-by-case basis. (5-3-03)

~~iii~~**b.** Alternate filtration technologies may be acceptable if the purveyor demonstrates all of the following to the satisfaction of the Department: (12-10-92)

~~(1)~~i. That the filtration technology: (12-10-92)

(~~a~~1) Is certified and listed by the National Sanitation Foundation (NSF) under Standard 53, Drinking Water Treatment Units - Health Effects, as achieving the NSF criteria for cyst reduction; or (12-10-92)

(~~b~~2) Removes at least ninety-nine percent (99%) (two (2) logs) of Cryptosporidium oocysts or surrogate particles and removes or inactivates at least ninety-nine percent (99%) ~~percent~~ (two (2) logs) of Giardia lamblia cysts or Giardia lamblia cyst surrogate particles in a challenge study acceptable to the Department. ~~(12-10-92)~~(____)

~~(2)~~ii. ~~Using~~ Based on field studies or other means acceptable to the Department, it must be demonstrated that the filtration technology has the following capabilities: ~~(12-10-92)~~(____)

(~~a~~1) In combination with disinfection treatment, consistently achieves at least ninety-nine percent (99%) (two (2) logs) removal of Cryptosporidium oocysts or surrogate particles and at least ninety-nine and nine tenths percent (99.9%) (three (3) logs) removal or inactivation of Giardia lamblia cysts and ninety-nine and ninety-nine hundredths percent (99.99%) (four (4) logs) removal or inactivation of viruses; and ~~(5-3-03)~~(____)

(~~b~~2) Meets the turbidity performance requirements of 40 CFR 141.73 (b). (12-10-92)

~~e~~**10.** **Pilot Studies**. The system shall conduct pilot studies in accordance with the following requirements for all proposed filtration facilities and structural modifications to existing filtration facilities, unless the Department modifies the requirements in writing: (12-10-92)

~~i~~**a.** The system shall obtain the Department's approval of the pilot study plan before the pilot filter is constructed and before the pilot study is undertaken. (12-10-92)

~~ii~~**b.** The design and operation of the pilot study shall be overseen by an Idaho licensed professional engineer. ~~(12-10-92)~~(____)

~~iii~~**c.** The system's pilot study plan shall identify at a minimum: (12-10-92)

~~(1)~~i. The objectives of the pilot study; (12-10-92)

~~(2)~~ii. Pilot filter design; (12-10-92)

~~(3)~~iii. Water quality and operational parameters to monitor; (12-10-92)

~~(4)~~iv. Amount of data to collect; and (12-10-92)

~~(5)~~v. Qualifications of the pilot plant operator. (10-1-93)

~~iv~~**d.** The system shall ensure that the pilot study is: (12-10-92)

~~(1)~~i. Conducted to simulate conditions of the proposed full-scale design; (12-10-92)

~~(2)~~ii. Conducted for at least twelve (12) consecutive months or for a shorter period upon approval by the Department; (5-3-03)

~~(3)~~iii. Conducted to evaluate the reliability of the treatment system to achieve applicable water quality treatment criteria specified for filtration systems in 40 CFR 141.72 and 40 CFR 141.73; and (12-10-92)

~~(4)~~iv. Designed and operated in accordance with good engineering practices documented in references acceptable to the Department. (12-10-92)

~~d~~**11.** ~~*New*~~ **Redundant Disinfection**. Surface water systems constructed after July 1, 1985, are required to install redundant disinfection components or maintain a backup unit on site

as required to maintain constant application of disinfectant whenever water is being delivered to the distribution system. ~~(5-3-03)~~(____)

519. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT; DESIGN STANDARDS FOR MICROSCREENING.
A microscreen may be used to reduce nuisance organisms and organic loadings. It shall not be used in place of filtration or coagulation in the preparation of water for filtration. (____)

01. Design Considerations. The following shall be taken into account during design: (____)

a. The nature of the suspended matter to be removed. (____)

b. The corrosiveness of the water. (____)

c. The effect of chlorination, when required as pre-treatment. (____)

d. The duplication of units for continuous operation during equipment maintenance. (____)

e. Automated backflushing operation when used in conjunction with microfiltration treatment. (____)

02. Design Requirements. Design shall provide the following: (____)

a. A durable, corrosion-resistant screen. (____)

b. A by-pass arrangement. (____)

c. Protection against back-siphonage when potable water is used for washing. (____)

d. Proper disposal of water used to wash the microscreen. (____)

520. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT: CLARIFICATION PROCESSES.
Treatment facilities designed to include clarification for processing surface water shall meet the following requirements: (____)

01. Two Units Required. A minimum of two (2) units shall be provided for flocculation and sedimentation. (____)

02. Parallel or Serial Operation. The units shall be capable of being operated either in series or parallel where softening is performed. (____)

03. Independent Units. The units shall be constructed in such a way that each can be taken out of service without disrupting operation, and with drains or pumps sized to allow dewatering in a reasonable period of time. (____)

04. **Manual Start-Up**. The units shall be started manually following shutdown.( )

05. **Pre-Treatment**. Waters exhibiting high turbidity may require pretreatment, usually sedimentation with or without the addition of coagulation chemicals. When presedimentation is provided, the following requirements must be met: ( )

a. Incoming water shall be dispersed across the full width of the line of travel as quickly as possible. Short circuiting must be prevented. ( )

b. Provisions for bypassing pre-sedimentation basins shall be included. ( )

06. **Rapid Mix**. Rapid mix shall mean the rapid dispersion of chemicals throughout the water to be treated, usually by violent agitation. The engineer shall submit the design basis for the velocity gradient (G value) selected, considering the chemicals to be added and water temperature, color and other related water quality parameters. Basins or mixing chambers shall be equipped with devices capable of providing adequate mixing for all treatment flow rates. ( )

07. **Flocculation**. Flocculation shall mean the gathering together of fine particles in water by gentle mixing after the addition of coagulant chemicals to form larger particles. ( )

a. Basin inlet and outlet design shall minimize short-circuiting and destruction of floc. A drain and/or pumps shall be provided to handle dewatering and sludge removal. ( )

b. The flow-through velocity shall not be less than one-half (0.5) nor greater than one and one-half (1.5) feet per minute with a detention time for floc formation of at least thirty (30) minutes unless otherwise approved by the Department. ( )

c. Agitators shall be driven by variable speed drives. ( )

d. Flocculation and sedimentation basins shall be as close together as possible. The velocity of flocculated water through pipes or conduits to settling basins shall be not less than one-half (0.5) nor greater than one and one-half (1.5) feet per second. Allowances must be made to minimize turbulence at bends and changes in direction. ( )

07. **Small Systems May Use Baffling**. Baffling may be used to provide for flocculation in small plants upon approval by the Department. ( )

08. **Sedimentation Units**. The following criteria apply to conventional sedimentation units: ( )

a. A minimum of two (2) hours of settling time shall be provided following flocculation unless adequate settling in less time can be demonstrated. ( )

b. Inlets shall be designed to distribute the water equally and at uniform velocities. ( )

c. Outlet weirs or submerged orifices shall maintain velocities suitable for settling in the basin and minimize short-circuiting. Outlet weirs shall be designed so that the rate of flow

over the outlet weirs or through the submerged orifices shall not exceed twenty-thousand (20,000) gallons per day per foot of the outlet launder. The entrance velocity through the submerged orifices shall not exceed one-half (0.5) feet per second. ( )

d. The velocity through settling basins shall not exceed one-half (0.5) feet per minute. The basins must be designed to minimize short-circuiting. Fixed or adjustable baffles must be provided as necessary to achieve the maximum potential for clarification. ( )

e. When an overflow weir or pipe is provided the overflow shall discharge by gravity with a free fall at a location where the discharge will be noted. ( )

f. Adequate sludge collection equipment that ensures proper basin coverage shall be provided and basins must be provided with a means for dewatering. ( )

g. Flushing lines or hydrants shall be provided and must be equipped with backflow prevention devices acceptable to the Department. ( )

h. Sludge removal design shall provide that sludge pipes are not less than three (3) inches in diameter and arranged so as to facilitate cleaning. Entrance to sludge withdrawal piping shall be designed to prevent clogging. Provision shall be made for the operator to observe and sample sludge being withdrawn from the unit. ( )

i. Sludge shall be disposed of in accordance with applicable regulations, as set forth in Section 540. ( )

09. **Solids Contact Clarifiers**. Solids contact clarifiers are generally acceptable for combined softening and clarification where water characteristics, especially temperature, do not fluctuate rapidly, flow rates are uniform and operation is continuous. A minimum of two (2) units are required for surface water treatment. ( )

a. Chemicals shall be applied at such points and by such means as to ensure satisfactory mixing of the chemicals with the water. ( )

b. Unless otherwise approved by the Department, a rapid mix device or chamber ahead of the solids contact clarifier is required to assure proper mixing of the chemicals applied. Mixing devices employed shall be constructed so as to provide good mixing of the raw water with previously formed sludge particles and prevent deposition of solids in the mixing zone. ( )

c. Flocculation equipment shall be adjustable as to speed and/or pitch and must provide for coagulation in a separate chamber or baffled zone within the unit. ( )

d. Sludge removal design shall provide that sludge pipes are not less than three (3) inches in diameter and arranged so as to facilitate cleaning. Entrance to sludge withdrawal piping shall be designed to prevent clogging. Provision shall be made for the operator to observe and sample sludge being withdrawn from the unit. ( )

e. Blow-off outlets and drains must terminate and discharge at places acceptable to the Department in regard to control of potential cross connections. Cross connection control must

be included for the potable water lines used to backflush sludge lines. ( )

f. The detention time shall be established on the basis of the raw water characteristics and other local conditions that affect the operation of the unit. The Department may request data to support decisions made with respect to detention times. The Department may alter detention time requirements. ( )

g. Controls for sludge withdrawl which minimize water losses shall be provided. ( )

h. Unless otherwise approved by the Department, weirs shall be adjustable and at least equivalent in length to the perimeter of the tank. Weir loading shall not exceed ten (10) gallons per minute per foot of weir length for units used as clarifiers or twenty (20) gallons per minute per foot of weir length for units used for softening. Where orifices are used, the loading rates per foot of launder rates shall be equivalent to weir loadings. Either shall produce uniform rising rates over the entire area of the tank. ( )

i. Upflow rates shall not exceed one (1) gallon per minute per square foot of area at the sludge separation line for units used as clarifiers or one and three-quarters (1.75) gallons per minute per foot of area at the slurry separation line for units used as softeners. The Department may consider higher rates if supporting data is provided. ( )

10. **Settler Units**. Settler units consisting of variously shaped tubes or plates installed in multiple layers and at an angle to the flow may be used for sedimentation following flocculation. ( )

a. Inlets and outlets shall be designed to maintain velocities suitable for settling in the basin and to minimize short-circuiting. Plate units shall be designed to minimize unequal distribution across the units. ( )

b. Drain piping from the settler units must be sized to facilitate a quick flush of the settler units and to prevent flooding other portions of the plant. ( )

c. Although most units will be located within a plant, outdoor installations must provide sufficient freeboard above the top of settlers to prevent freezing in the units. ( )

d. Water shall be applied to tube settlers at a maximum rate of two (2) gallons per minute per square foot of cross-sectional area for tube settlers, unless higher rates are justified through pilot plant or in-plant demonstration studies. ( )

e. Water shall be applied to plate settlers at a maximum plate loading rate of one-half (0.5) gallons per minute per square foot, based on eighty (80) percent of the projected horizontal plate area. ( )

f. Flushing lines shall be provided to facilitate maintenance and must be properly protected against backflow or back siphonage. ( )

11. **High Rate Clarification**. High rate clarification processes may be approved upon

demonstrating satisfactory performance under on-site pilot plant conditions or documentation of full scale plant operation with similar raw water quality conditions. Reductions in detention times and/or increases in weir loading rates shall be justified. Examples of such processes include dissolved air flotation, ballasted flocculation, contact flocculation/clarification, and helical upflow. ( )

521. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT: FILTRATION USING RAPID RATE GRAVITY FILTERS.

01. Pretreatment. The use of rapid rate gravity filters shall require pretreatment in the form of coagulation, floculation, and sedimentation. ( )

02. Rate of Filtration. The filter rate must be proposed and justified by the design engineer to the satisfaction of the Department prior to the preparation of final plans and specifications. ( )

03. Number of Units. At least two (2) units shall be provided. Where only two (2) units are provided, each shall be capable of meeting the plant design capacity (normally the projected maximum daily demand) at the approved filtration rate. Where more than two (2) filter units are provided, the filters shall be capable of meeting the plant design capacity at the approved filtration rate with one (1) filter removed from service. Where declining rate filtration is provided, the variable aspect of filtration rates, and the number of filters must be considered when determining the design capacity for the filters. ( )

04. Structure and Hydraulics. The filter structure shall be designed to provide for: ( )

a. Vertical walls within the filter. There shall be no protrusion of the filter walls into the filter media. ( )

b. Cover by superstructure with sufficient headroom to permit normal inspection and operation. ( )

c. Minimum depth of filter box of eight and one-half (8.5) feet. ( )

d. Minimum water depth over the surface of the filter media of three (3) feet. ( )

e. Trapped effluent to prevent backflow of air to the bottom of the filters. ( )

f. Prevention of floor drainage to the filter with a minimum four (4) inch curb around the filters. ( )

g. Prevention of flooding by providing overflow. ( )

h. Maximum velocity of treated water entering the filters of two (2) feet per second. ( )

i. Cleanouts and straight alignment for influent pipes or conduits where solids

loading is heavy, or following lime-soda softening. ( )

j. Washwater drain capacity to carry maximum flow. ( )

k. Walkways around filters to be not less than twenty-four (24) inches wide and equipped with safety handrails or walls. ( )

l. Construction so as to prevent cross connections and common walls between potable and non-potable water. ( )

05. **Washwater Troughs**. Washwater troughs shall be constructed to have: ( )

a. The bottom elevation above the maximum level of expanded media during washing. ( )

b. A two (2) inch freeboard at the maximum rate of wash. ( )

c. The top edge level and all at the same elevation. ( )

d. Spacing so that each trough serves the same number of square feet of filter area. ( )

e. Maximum horizontal travel of suspended particles to reach the trough not to exceed three (3) feet. ( )

06. **Filter Material**. The media shall be clean silica sand or other natural or synthetic media free from detrimental chemical or bacterial contaminants, approved by the Department, and having the following characteristics: ( )

a. A total depth of not less than twenty-four (24) inches and generally not more than thirty (30) inches. ( )

b. An effective size range of the smallest material no greater than forty-five hundredths (0.45) of a millimeter to fifty-five hundredths (0.55) of a millimeter. ( )

c. A uniformity coefficient of the smallest material not greater than one and sixty-five hundredths (1.65). ( )

d. A minimum of twelve (12) inches of media with an effective size range no greater than forty-five hundredths (0.45) of a millimeter to fifty-five hundredths (0.55) of a millimeter and a specific gravity greater than other filtering materials within the filter. ( )

e. Types of filter media are as follows: ( )

i. Clean, crushed anthracite or a combination of anthracite and other media may be considered on the basis of experimental data specific to the project. The anthracite shall have the following characteristics: ( )

(1) Effective size of forty-five hundredths (0.45) of a millimeter to fifty-five hundredths (0.55) of a millimeter with uniformity coefficient not greater than sixty-five hundredths (1.65) when used alone. ( )

(2) Effective size of eight tenths (0.8) of a millimeter to one and two-tenths (1.2) millimeters with a uniformity coefficient not greater than one and eighty-five hundredths (1.85) when used as a cap. ( )

(3) Effective size for anthracite used as a single media on potable ground water for iron and manganese removal only shall be a maximum of eight tenths (0.8) of a millimeter (effective sizes greater than this may be approved based upon onsite pilot plant studies or other demonstration acceptable to the Department). ( )

ii. Sand media shall have the following characteristics: ( )

(1) Effective size of forty-five hundredths (0.45) of a millimeter to fifty-five hundredths (0.55) of a millimeter. ( )

(2) Uniformity coefficient of not greater than one and sixty-five hundredths (1.65). ( )

(3) Larger size sand media may be allowed by the Department where full-scale tests have demonstrated that treatment goals can be met under all conditions. ( )

iii. Granular activated carbon (GAC) as a single media may be considered for filtration only after pilot or full-scale testing and with prior approval of the Department. The design shall include the following: ( )

(1) The media must meet the basic specifications for filter media as given in Subsections 518.06.a. through d., except that larger size media may be allowed where full scale tests have demonstrated that treatment goals can be met under all conditions. ( )

(2) There must be provisions for a free chlorine residual and adequate contact time in the water following the filters and prior to distribution. ( )

(3) There must be a means for periodic treatment of filter material for control of bacterial and other growth. ( )

(4) Provisions must be made for frequent replacement or regeneration. ( )

iv. Other media will be considered based on experimental data and operating experience. ( )

v. A three (3) inch layer of torpedo sand shall be used as a supporting media for filter sand where supporting gravel is used, and shall have an effective size of eight-tenths (0.8) millimeters to two (2.0) millimeters, and a uniformity coefficient not greater than one and seven-tenths (1.7). ( )

vi. Gravel, when used as the supporting media, shall consist of cleaned and washed, hard, durable, rounded silica particles and shall not include flat or elongated particles. The coarsest gravel shall be two and one-half (2.5) inches in size when the gravel rests directly on a lateral system and must extend above the top of the perforated laterals. Not less than four (4) layers of gravel shall be provided in accordance with the size and depth distribution specified in the table below. Reduction of gravel depths and other size gradations may be considered upon justification to the reviewing authority for slow sand filtration or when proprietary filter bottoms are specified. (____)

Size of Gravel	Depth
2 ½ to 1 ½ inches	5 to 8 inches
1 ½ to ¾ inches	3 to 5 inches
¾ to ½ inches	3 to 5 inches
½ to 3/16 inches	2 to 3 inches
3/16 to 3/32 inches	2 to 3 inches

(____)

07. Filter Bottoms and Strainer Systems. Departure from the standards set out in Subsection 521.07 may be acceptable for high rate filters and for proprietary bottoms. Porous plate bottoms shall not be used where iron or manganese may clog them or with waters softened by lime. The design of manifold-type collection systems shall: (____)

a. Minimize loss of head in the manifold and laterals. (____)

b. Ensure even distribution of wash water and even rate of filtration over the entire area of the filter. (____)

c. Provide the ratio of the area of the final openings of the strainer systems to the area of the filter at about three-thousandths (0.003), (____)

d. Provide the total cross-sectional area of the laterals at about twice the total area of the final openings. (____)

e. Provide the cross-sectional area of the manifold at one and one-half (1.5) to two (2) times the total area of the laterals. (____)

f. Lateral perforations without strainers shall be directed downward. (____)

08. Surface or Subsurface Wash. Surface or subsurface wash facilities are required except for filters used exclusively for iron or manganese removal, and may be accomplished by a system of fixed nozzles or a revolving-type apparatus. All devices shall be designed with: (____)

a. Provision for water pressures of at least forty-five (45) pounds per square inch. (____)

b. A properly installed vacuum breaker or other approved device to prevent back siphonage if connected to the treated water system. ( )

c. Rate of flow of two (2.0) gallons per minute per square foot of filter area with fixed nozzles or one-half (0.5) gallon per minute per square foot with revolving arms. ( )

d. Air wash can be considered based on experimental data and operating experiences . ( )

09. **Air Scouring**. Air scouring can be considered in place of surface wash provided the following conditions are met: ( )

a. Air flow for air scouring the filter must be three (3) to five (5) standard cubic feet per minute square foot of filter area when the air is introduced in the underdrain; a lower air rate must be used when the air scour distribution system is placed above the underdrains. ( )

b. A method for avoiding excessive loss of the filter media during backwashing must be provided. ( )

c. Air scouring must be followed by a fluidization wash sufficient to restratify the media. ( )

d. Air must be free from contamination. ( )

e. Air scour distribution systems shall be placed below the media and supporting bed interface with the following exception: if placed at the interface the air scour nozzles shall be designed to prevent media from clogging the nozzles or entering the air distribution system. ( )

f. Piping for the air distribution system shall not be flexible hose which will collapse when not under air pressure and shall not be a relatively soft material which may erode at the orifice opening with the passage of air at high velocity. ( )

g. Air delivery piping shall not pass down through the filter media nor shall there be any arrangement in the filter design which would allow short circuiting between the applied unfiltered water and the filtered water. ( )

h. The backwash water delivery system must be capable of fifteen (15) gallons per minute per square foot of filter surface area (37 m/hr); however, when air scour is provided the backwash water rate must be variable and should not exceed eight (8) gallons per minute per square foot (20 m/hr) unless operating experience shows that a higher rate is necessary to remove scoured particles from filter media surfaces. ( )

i. The filter underdrains shall be designed to accommodate air scour piping when the piping is installed in the underdrain. ( )

10. **Filter Appurtenances**. The following shall be provided for every filter: ( )

a. Influent and effluent sampling taps. ( )

b. A gauge capable of indicating loss of head. ( )

c. A meter indicating rate-of flow. A modified rate controller which limits the rate of filtration to a maximum rate may be used. However, equipment that simply maintains a constant water level on the filters is not acceptable, unless the rate of flow onto the filter is properly controlled. A pump or a flow meter in each filter effluent line may be used as the limiting device for the rate of filtration only if approved by the Department on a site-specific basis. ( )

11. **Backwash**. Provisions shall be made for washing filters as follows: ( )

a. A minimum backwash rate such that a fifty (50) percent expansion of the filter bed is achieved. ( )

b. Filtered water provided at the required rate by wash water tanks, a wash water pump, from the high service main, or a combination of these. ( )

c. Wash water pumps in duplicate unless an alternate means of obtaining wash water is available. ( )

d. Not less than fifteen (15) minutes wash of one filter at the design rate of wash. ( )

e. A wash water regulator or valve on the main wash water line to obtain the desired rate of filter wash with the wash water valves on the individual filters open wide. ( )

f. A rate-of-flow indicator, preferably with a totalizer, on the main wash water line, located so that it can be easily read by the operator during the washing process. ( )

g. Design to prevent rapid changes in backwash water flow. Backwash shall be operator initiated. Automated systems shall be operator adjustable. ( )

12. **Roof Drainage**. Roof drains shall not discharge into the filters or basins and conduits preceding the filters. ( )

522. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT: FILTRATION USING DIATOMACEOUS EARTH.

The use of these filters may be considered for application to surface waters with low turbidity and low bacterial contamination, and may be used for iron removal for ground waters providing the removal is effective and the water is of satisfactory sanitary quality before treatment. ( )

01. **Conditions of Use**. Diatomaceous earth filters are expressly excluded from consideration for the following conditions: ( )

a. Bacteria removal; ( )

b. Color removal; ( )

c. Turbidity removal where either the gross quantity of turbidity is high or the turbidity exhibits poor filterability characteristics; or ( )

d. Filtration of waters with high algae counts. ( )

02. **Treated Water Storage**. Treated water storage capacity in excess of normal requirements shall be provided to allow operation of the filters at a uniform rate during all conditions of system demand at or below the approved filtration rate, and guarantee continuity of service during adverse raw water conditions without by-passing the system. ( )

03. **Number of Units**. The requirements of Subsection 518.03 shall apply to diatomaceous earth filtration. ( )

05. **Precoat**. A uniform precoat shall be applied hydraulically to each septum by introducing a slurry to the tank influent line and employing a filter-to-waste recirculation system. ( )

06. **Body Feed**. A body feed system to apply additional amounts of diatomaceous earth slurry during the filter run is required to avoid short filter runs or excessive head losses. ( )

a. The rate of body feed is dependent on raw water quality and characteristics and must be determined in the pilot plant study. ( )

b. Continuous mixing of the body feed slurry is required. ( )

07. **Filtration Requirements**. ( )

a. Rate of filtration shall be controlled by a positive means. ( )

b. Head loss shall not exceed thirty (30) psi for pressure diatomaceous earth filters, or a vacuum of fifteen (15) inches of mercury for a vacuum system. ( )

c. A recirculation or holding pump shall be employed to maintain differential pressure across the filter when the unit is not in operation in order to prevent the filter cake from dropping off the filter elements. A minimum recirculation rate of one-tenth (0.1) gallon per minute per square foot of filter area shall be provided. ( )

d. The septum or filter elements shall be structurally capable of withstanding maximum pressure and velocity variations during filtration and backwash cycles, and shall be spaced such that no less than one (1) inch is provided between elements or between any element and a wall. ( )

e. The filter influent shall be designed to prevent scour of the diatomaceous earth from the filter element. ( )

08. **Backwash**. A satisfactory method to thoroughly remove and dispose of spent filter

cake shall be provided. ( )

09. **Appurtenances**. The following shall be provided for every filter: ( )

a. Sampling taps for raw and filtered water. ( )

b. Loss of head or differential pressure gauge. ( )

c. Rate-of-flow indicator. ( )

d. A throttling valve used to reduce rates below normal during adverse raw water conditions. ( )

e. Evaluation of the need for body feed, recirculation, and any other pumps. ( )

f. Provisions for filtering to waste with appropriate measures for backflow prevention. ( )

10. **Monitoring**. A continuous monitoring turbidimeter with recorder is required on each filter effluent for plants treating surface water. ( )

523. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT: SLOW SAND FILTRATION.

The use of these filters shall require prior engineering studies to demonstrate the adequacy and suitability of this method of filtration for the specific water supply. Slow Sand Filtration and Diatomaceous Earth Filtration for Small Water Systems, Manual on Slow Sand Filtration, and Slow Sand Filtration referenced in Subsection 002.02, may be used as guidance in design of slow sand filtration facilities. ( )

01. **Quality of Raw Water**. Slow rate gravity filtration shall be limited to waters having maximum turbidities of ten (10) nephelometric units and maximum color of fifteen (15) units; such turbidity must not be attributable to colloidal clay. Raw water quality data must include examinations for algae. ( )

02. **Number of Units**. At least two (2) units shall be provided. Where only two (2) units are provided, each shall be capable of meeting the plant design capacity (normally the projected maximum daily demand) at the approved filtration rate. Where more than two (2) filter units are provided, the filters shall be capable of meeting the plant design capacity at the approved filtration rate with one filter removed from service. ( )

03. **Structural Details and Hydraulics**. Slow rate gravity filters shall be so designed as to provide a cover, unless otherwise approved by the Department, headroom to permit normal movement by operating personnel for scraping and sand removal operations, adequate access hatches and access ports for handling of sand and for ventilation, filtration to waste, an overflow at the maximum filter water level, and protection from freezing. ( )

04. **Underdrains**. Each filter unit shall be equipped with a main drain and an adequate number of lateral underdrains to collect the filtered water. The underdrains shall be so spaced that

the maximum velocity of the water flow in the underdrain will not exceed three-fourths (0.75) feet per second. The maximum spacing of laterals shall not exceed three (3) feet if pipe laterals are used. ( )

05. **Filter Material**. The following requirements apply: ( )

a. Graded gravel layers beneath filter sand shall have a minimum depth of thirty (30) inches. ( )

b. The effective size shall be between fifteen hundredths (0.15) of a millimeter and thirty-five hundredths (0.35) of a millimeter. Larger sizes may be considered by the Department based on the results of pilot testing. ( )

c. The uniformity coefficient shall not exceed three point zero (3.0). ( )

d. The sand shall be cleaned and washed free from foreign matter. ( )

e. The sand shall be rebedded when scraping has reduced the bed depth to no less than twenty-four (24) inches. Where sand is to be reused in order to provide biological seeding and shortening of the ripening process, rebedding shall utilize a "throw over" technique whereby new sand is placed on the support gravel and existing sand is replaced on top of the new sand. The maximum filtration rate shall not exceed zero point one (0.1) gallon per minute per square foot. ( )

06. **Depth of Water Over Filter Beds**. The design shall provide a depth of at least three (3) to six (6) feet of water over the sand. Influent water shall not scour the sand surface. ( )

07. **Control Appurtenances**. Each filter shall be equipped with a loss of head gauge, an orifice, Venturi meter, or other suitable means of discharge measurement installed on each filter to control the rate of filtration, and an effluent pipe designed to maintain the water level above the top of the filter sand. ( )

08. **Ripening**. Slow sand filters shall be operated to waste after scraping or rebedding during a ripening period until the filter effluent turbidity falls to consistently below the regulated drinking water standard established for the system. ( )

09. **Supernatant Drain Required**. Filter beds shall be equipped with a supernatant drain to allow for quick removal of water standing over sand that has become impermeable because it requires scraping or rebedding. ( )

524. FACILITY AND DESIGN STANDARDS - SURFACE WATER TREATMENT: DIRECT FILTRATION.

Direct filtration, as used herein, refers to the filtration of a surface water following chemical coagulation and possibly flocculation but without prior settling. The nature of the treatment process will depend upon the raw water quality. A full scale direct filtration plant shall not be constructed without prior pilot studies which are acceptable to the reviewing authority. In-plant demonstration studies are required where conventional treatment plants are converted to direct

filtration. Where direct filtration is proposed, an engineering report shall be submitted prior to conducting pilot plant or in-plant demonstration studies. ( )

01. Filtration Requirements. ( )

a. Filters shall be rapid rate gravity filters with dual or mixed media. The final filter design shall be based on the pilot plant or in-plant demonstration studies, and all portions of Section 518 apply. Pressure filters or single media sand filters shall not be used. ( )

b. A continuous recording turbidimeter shall be installed on each filter effluent line and on the composite filter effluent line. ( )

c. Additional continuous monitoring equipment such as particle counting or streaming current metering to assist in control of coagulant dose may be required by the reviewing authority. ( )

02. Siting Requirements. The plant design and land ownership surrounding the plant shall allow for modifications of the plant. ( )

525. -- 529. (RESERVED).

530. FACILITY AND DESIGN STANDARDS - DISINFECTION OF DRINKING WATER.

Disinfection may be accomplished with gas and liquid chlorine, calcium or sodium hypochlorites, chlorine dioxide, ozone, or ultraviolet light. Other disinfecting agents will be considered, providing reliable application equipment is available and testing procedures for a residual are recognized in "Standard Methods for the Examination of Water and Wastewater," referenced in Subsection 002.02, or an equivalent means of measuring effectiveness exists. The required amount of primary disinfection needed shall be specified by the Department. Consideration must be given to the formation of disinfection by-products (DBP) when selecting the disinfectant. See Section 531, Facility Design Standards - Design Standards for Chemical Application. ( )

01. Chlorination. ( )

a. Chlorination equipment shall meet the following requirements: ( )

i. Solution-feed gas chlorinators or hypochlorite feeders of the positive displacement type must be provided. ( )

ii. Standby or backup equipment of sufficient capacity shall be available to replace the largest unit. Spare parts shall be made available to replace parts subject to wear and breakage. ( )

iii. Automatic proportioning chlorinators will be required where the rate of flow or chlorine demand is not reasonably constant. ( )

iv. Each eductor (submerged jet pump) must be selected for the point of application with particular attention given to the quantity of chlorine to be added, the maximum injector

waterflow, the total discharge back pressure, the injector operating pressure, and the size of the chlorine solution line. ( )

v. The chlorine solution injector/diffuser must be compatible with the point of application to provide a rapid and thorough mix with all the water being treated. ( )

b. Contact time and point of application requirements are as follows: ( )

i. Contact time sufficient to achieve the inactivation of target pathogens under the expected range of raw water pH and temperature variation must be demonstrated through tracer studies or other evaluations acceptable to the Department. Appendix E of EPA Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources, referenced in Section 002.02, contains tables that may be used as guidance to develop contact time requirements for specific target organisms and disinfectants. Additional baffling can be added to new or existing basins to minimize short circuiting and increase contact time. ( )

ii. At plants treating surface water, except slow sand filtration systems, provisions shall be made for applying the disinfectant to the raw water, settled water, filtered water, and water entering the distribution system. Disinfectant application equipment shall be controlled by a flow sensing device so that injection of the disinfectant will not continue when the flow of water stops. ( )

iii. At a minimum, at plants treating ground water, provisions shall be made for applying the disinfectant to the detention basin inlet and water entering the distribution system. ( )

c. Chlorine residual test equipment recognized in the "Standard Methods for the Examination of Water and Wastewater," referenced in Subsection 002.02, shall be provided for use by the operator. All surface water treatment plants that serve a population greater that three thousand three hundred (3,300) must have equipment to measure chlorine residuals continuously entering the distribution system. ( )

d. Chlorinator piping requirements: ( )

i. Cross connection protection: The chlorinator water supply piping shall be designed to prevent contamination of the treated water supply by sources of questionable quality. At all facilities treating surface water, pre- and post-chlorination systems must be independent to prevent possible siphoning of partially treated water into the clear well. The water supply to each eductor shall have a separate shut-off valve. No master shut-off valve will be allowed. ( )

ii. The pipes carrying elemental liquid or dry gaseous chlorine under pressure must be Schedule 80 seamless steel tubing or other materials recommended by the Chlorine Institute (never use PVC). Rubber, PVC, polyethylene, or other materials recommended by the Chlorine Institute must be used for chlorine solution piping and fittings. Nylon products are not acceptable for any part of the chlorine solution piping system. ( )

02. Disinfection with Ozone. Systems that are required to maintain a disinfectant

residual in the distribution system shall supplement ozone disinfection with a chemical disinfectant. ( )

a. The following are requirements for feed gas preparation: ( )

i. Feed gas can be air, oxygen enriched air, or high purity oxygen. Sources of high purity oxygen include purchased liquid oxygen conforming with AWWA Standard B-304; on site generation using cryogenic air separation; or temperature, pressure or vacuum swing (adsorptive separation) technology. In all cases, the design engineer must ensure that the maximum dew point of -76°F (-60°C) will not be exceeded at any time. ( )

ii. Air compression: ( )

(1) Air compressors shall be of the liquid-ring or rotary lobe, oil-less, positive displacement type for smaller systems or dry rotary screw compressors for larger systems. ( )

(2) The air compressors shall have the capacity to simultaneously provide for maximum ozone demand, provide the air flow required for purging the desiccant dryers (where required) and allow for standby capacity. ( )

(3) Air feed for the compressor shall be drawn from a point protected from rain, condensation, mist, fog and contaminated air sources to minimize moisture and hydrocarbon content of the air supply. ( )

(4) A compressed air after-cooler and/or entrainment separator with automatic drain shall be provided prior to the dryers to reduce the water vapor. ( )

(5) A back-up air compressor must be provided so that ozone generation is not interrupted in the event of a break-down. ( )

iii. Air drying: ( )

(1) Dry, dust-free and oil-free feed gas must be provided to the ozone generator. Dry gas is essential to prevent formation of nitric acid, to increase the efficiency of ozone generation and to prevent damage to the generator dielectrics. Sufficient drying to a maximum dew point of -76°F (-60°C) must be provided at the end of the drying cycle. ( )

(2) Drying for high pressure systems may be accomplished using heatless desiccant dryers only. For low pressure systems, a refrigeration air dryer in series with heat-reactivated desiccant dryers shall be used. ( )

(3) A refrigeration dryer capable of reducing inlet air temperature to 40°F (4°C) shall be provided for low pressure air preparation systems. The dryer can be of the compressed refrigerant type or chilled water type. ( )

(4) For heat-reactivated desiccant dryers, the unit shall contain two (2) desiccant filled towers complete with pressure relief valves, two (2) four-way valves and a heater. In addition, external type dryers shall have a cooler unit and blowers. The size of the unit shall be such that the

specified dew point will be achieved during a minimum adsorption cycle time of sixteen (16) hours while operating at the maximum expected moisture loading conditions. ( )

(5) Multiple air dryers shall be provided so that the ozone generation is not interrupted in the event of dryer breakdown. ( )

(6) Each dryer shall be capable of venting "dry" gas to the atmosphere, prior to the ozone generator, to allow start-up when other dryers are "on-line". ( )

iv. Air filters: ( )

(1) Air filters shall be provided on the suction side of the air compressors, between the air compressors and the dryers and between the dryers and the ozone generators. ( )

(2) The filter before the desiccant dryers shall be of the coalescing type and be capable of removing aerosol and particulates larger than 0.3 microns in diameter. The filter after the desiccant dryer shall be of the particulate type and be capable of removing all particulates greater than 0.1 microns in diameter, or smaller if specified by the generator manufacturer. ( )

v. Piping in the air preparation system can be common grade steel, seamless copper, stainless steel or galvanized steel. The piping must be designed to withstand the maximum pressures in the air preparation system. ( )

b. The following requirements apply to the ozone generator: ( )

i. Capacity. ( )

(1) The production rating of the ozone generators shall be stated in pounds per day and kWhr per pound at a maximum cooling water temperature and maximum ozone concentration. ( )

(2) The design shall ensure that the minimum concentration of ozone in the generator exit gas will not be less than one (1) percent (by weight). ( )

(3) Generators shall be sized to have sufficient reserve capacity so that the system does not operate at peak capacity for extended periods of time resulting in premature breakdown of the dielectrics. ( )

(4) The production rate of ozone generators will decrease as the temperature of the coolant increases. If there is to be a variation in the supply temperature of the coolant throughout the year, then pertinent data shall be used to determine production changes due to the temperature change of the supplied coolant. The design shall ensure that the generators can produce the required ozone at maximum coolant temperature. ( )

(5) Appropriate ozone generator backup equipment must be provided. ( )

ii. Electrical. The generators can be low, medium or high frequency type. Specifications shall require that the transformers, electronic circuitry and other electrical

hardware be proven, high quality components designed for ozone service. ( )

iii. Cooling. Adequate cooling shall be provided. The cooling water must be properly treated to minimize corrosion, scaling and microbiological fouling of the water side of the tubes. Where cooling water is treated, cross connection control shall be provided to prevent contamination of the potable water supply. ( )

iv. Materials. To prevent corrosion, the ozone generator shell and tubes shall be constructed of Type 316L stainless steel. ( )

c. The following requirements apply to ozone contactors: ( )

i. Bubble diffusers. ( )

(1) Where disinfection is the primary application, a minimum of two (2) contact chambers each equipped with baffles to prevent short circuiting and induce countercurrent flow shall be provided. Ozone shall be applied using porous-tube or dome diffusers. ( )

(2) The minimum contact time shall be ten (10) minutes. A shorter contact time (CT) may be approved by the Department if justified by appropriate design and "CT" considerations. ( )

(3) Where taste and odor control is of concern, multiple application points and contactors shall be considered. ( )

(4) Contactors shall be separate closed vessels that have no common walls with adjacent rooms. The contactor must be kept under negative pressure and sufficient ozone monitors shall be provided to protect worker safety. ( )

(5) Contact vessels can be made of reinforced concrete, stainless steel, fiberglass or other material which will be stable in the presence of residual ozone and ozone in the gas phase above the water level. If contact vessels are made of reinforced concrete, all reinforcement bars shall be covered with a minimum of one and one-half (1.5) inches of concrete. ( )

(6) Where necessary, a system shall be provided between the contactor and the off-gas destruct unit to remove froth from the air and return the other to the contactor or other location acceptable to the reviewing authority. If foaming is expected to be excessive, then a potable water spray system shall be placed in the contactor head space. ( )

(7) All openings into the contactor for pipe connections, hatchways, etc. shall be properly sealed using welds or ozone resistant gaskets such as Teflon or Hypalon. ( )

(8) Multiple sampling ports shall be provided to enable sampling of each compartment's effluent water and to confirm "CT" calculations. ( )

(9) A pressure/vacuum relief valve shall be provided in the contactor and piped to a location where there will be no damage to the destruction unit. ( )

(10) The depth of water in bubble diffuser contactors shall be a minimum of eighteen (18) feet. The contactor shall also have a minimum of three (3) feet of freeboard to allow for foaming. ( )

(11) All contactors shall have provisions for cleaning, maintenance and drainage of the contactor. Each contactor compartment shall also be equipped with an access hatchway. ( )

(12) Aeration diffusers shall be fully serviceable by either cleaning or replacement. ( )

ii. Other contactors, such as the venturi or aspirating turbine mixer contactor, may be approved by the Department provided adequate ozone transfer is achieved and the required contact times and residuals can be met and verified. ( )

d. The following requirements apply to ozone destruction units: ( )

i. A system for treating the final off-gas from each contactor must be provided in order to meet safety and air quality standards. Acceptable systems include thermal destruction and thermal/catalytic destruction units. ( )

ii. The maximum allowable ozone concentration in the discharge is 0.1 ppm (by volume). ( )

iii. At least two (2) units shall be provided which are each capable of handling the entire gas flow. ( )

iv. Exhaust blowers shall be provided in order to draw off-gas from the contactor into the destruct unit. ( )

v. Catalysts must be protected from froth, moisture and other impurities which may harm the catalyst. ( )

vi. The catalyst and heating elements shall be located where they can easily be reached for maintenance. ( )

e. Piping materials: Only low carbon 304L and 316L stainless steels shall be used for ozone service with 316L preferred. ( )

f. The following requirements apply to joints and connections: ( )

i. Connections on piping used for ozone service are to be welded where possible. ( )

ii. Connections with meters, valves or other equipment are to be made with flanged joints with ozone resistant gaskets, such as Teflon or Hypalon. Screwed fittings shall not be used because of their tendency to leak. ( )

iii. A positive closing plug or butterfly valve plus a leak-proof check valve shall be

provided in the piping between the generator and the contactor to prevent moisture reaching the generator. ( )

g. The following requirements apply to instrumentation: ( )

i. Pressure gauges shall be provided at the discharge from the air compressor, at the inlet to the refrigeration dryers, at the inlet and outlet of the desiccant dryers, at the inlet to the ozone generators and contactors, and at the inlet to the ozone destruction unit. ( )

ii. Each generator shall have a trip which shuts down the generator when the wattage exceeds a certain preset level. ( )

iii. Dew point monitors shall be provided for measuring the moisture of the feed gas from the desiccant dryers. Where there is potential for moisture entering the ozone generator from downstream of the unit or where moisture accumulation can occur in the generator during shutdown, post-generator dew point monitors shall be used. ( )

iv. Air flow meters shall be provided for measuring air flow from the desiccant dryers to each of the other ozone generators, air flow to each contactor, and purge air flow to the desiccant dryers. ( )

v. Temperature gauges shall be provided for the inlet and outlet of the ozone cooling water and the inlet and outlet of the ozone generator feed gas and, if necessary, for the inlet and outlet of the ozone power supply cooling water. ( )

vi. Water flow meters shall be installed to monitor the flow of cooling water to the ozone generators and, if necessary, to the ozone power supply. ( )

vii. Ozone monitors shall be installed to measure zone concentration in both the feed-gas and off-gas from the contactor and in the off-gas from the destruct unit. For disinfection systems, monitors shall also be provided for monitoring ozone residuals in the water. The number and location of ozone residual monitors shall be such that the amount of time that the water is in contact with the ozone residual can be determined. ( )

viii. A minimum of one ambient ozone monitor shall be installed in the vicinity of the contactor and a minimum of one shall be installed in the vicinity of the generator. Ozone monitors shall also be installed in any areas where ozone gas may accumulate. ( )

h. Safety requirements are as follows: ( )

i. The maximum allowable ozone concentration in the air to which workers may be exposed must not exceed one-tenth part per million (0.1 ppm) by volume. ( )

ii. Noise levels resulting from the operating equipment of the ozonation system shall be controlled to within acceptable limits by special room construction and equipment isolation. ( )

iii. Emergency exhaust fans must be provided in the rooms containing the ozone

generators to remove ozone gas if leakage occurs. ( )

iv. A sign shall be posted indicating "No smoking, oxygen in use" at all entrances to the treatment plant. In addition, no flammable or combustible materials shall be stored within the oxygen generator areas. ( )

03. Disinfection with Chlorine Dioxide. Chlorine dioxide may be considered as a primary and residual disinfectant, a pre-oxidant to control tastes and odors, to oxidize iron and manganese, and to control hydrogen sulfide and phenolic compounds. When choosing chlorine dioxide, consideration must be given to formation of the regulated by-products, chlorite and chlorate. ( )

a. Chlorine dioxide generation equipment shall be factory assembled pre-engineered units with a minimum efficiency of ninety-five (95) percent. The excess free chlorine shall not exceed three (3) percent of the theoretical stoichiometric concentration required. ( )

b. Other design requirements include: ( )

i. The design shall comply with all applicable portions of Subsections 530.01.a. through 530.01.d. ( )

ii. The maximum residual disinfectant level allowed shall be zero point eight (0.8) milligrams per liter (mg/l), even for short term exposures. ( )

iii. Notification of a change in disinfection practices and the schedule for the changes shall be made known to the public; particularly to hospitals, kidney dialysis facilities and fish breeders, as chlorine dioxide and its by-products may have effects similar to chloramines. ( )

04. Other Disinfecting Agents. Proposals for use of disinfecting agents other than those listed shall be submitted to the Department for approval prior to preparation of final plans and specifications. ( )

531. FACILITY DESIGN STANDARDS - DESIGN STANDARDS FOR CHEMICAL APPLICATION.

01. General Equipment Design. General equipment design shall be such that: ( )

a. Feeders will be able to supply, at all times, the necessary amounts of chemicals at an accurate rate, throughout the range of feed. ( )

b. Chemical-contact materials and surfaces are resistant to the aggressiveness of the chemical solution. ( )

c. Corrosive chemicals are introduced in such a manner as to minimize potential for corrosion. ( )

d. Chemicals that are incompatible are not stored or handled together. At facilities where more than one (1) chemical is stored or handled, tanks and pipelines shall be clearly labeled

to identify the chemical they contain. ( )

e. All chemicals are conducted from the feeder to the point of application in separate conduits. ( )

f. Chemical feeders are as near as practical to the feed point. ( )

g. Chemical feeders and pumps shall operate at no lower than twenty percent (20%) of the feed range unless two fully independent adjustment mechanisms such as pump pulse rate and stroke length are fitted when the pump shall operate at no lower than ten percent (10%) of the rated maximum. ( )

02. Facility Design. ( )

a. Where chemical feed is necessary for the protection of the supply, such as disinfection, coagulation or other essential processes, a minimum of two feeders shall be provided and a separate feeder shall be used for each chemical applied. ( )

b. Chemical application control systems shall meet the following requirements: ( )

i. Feeders may be manually or automatically controlled, with automatic controls being designed so as to allow override by manual controls. ( )

ii. Chemical feeders shall be controlled by a flow sensing device so that injection of the chemicals will not continue when the flow of water stops. ( )

iii. Chemical feed rates shall be proportional to flow. ( )

iv. A means to measure water flow must be provided in order to determine chemical feed rates. ( )

v. Provisions shall be made for measuring the quantities of chemicals used. ( )

vi. Weighing scales shall be provided for weighing cylinders at all plants utilizing chlorine gas, fluoride solution feed. ( )

vii. Shall be capable of providing reasonable precision in relation to average daily dose. ( )

viii. Where conditions warrant, for example with rapidly fluctuating intake turbidity, coagulant and coagulant aid addition may be made according to turbidity, streaming current or other sensed parameter. ( )

c. Dry chemical feeders shall measure chemicals volumetrically or gravimetrically, provide adequate solution water and agitation of the chemical in the solution pot, and completely enclose chemicals to prevent emission of dust to the operating room. ( )

d. Positive displacement type solution feed pumps must be capable of operating at the required maximum head conditions found at the point of injection. ( )

e. Liquid chemical feeders shall be such that chemical solutions cannot be siphoned or overfed into the water supply, by assuring discharge at a point of positive pressure, or providing vacuum relief, or providing a suitable air gap, or providing other suitable means or combinations as necessary. ( )

f. Cross connection control must be provided to assure that the following requirements are satisfied. ( )

i. The service water lines discharging to solution tanks shall be properly protected from backflow as required in Subsection 900.02 (Table 2). ( )

ii. No direct connection exists between any sewer and a drain or overflow from the feeder, solution chamber or tank by providing that all drains terminate at least six (6) inches or two pipe diameters, whichever is greater, above the overflow rim of a receiving sump, conduit or waste receptacle. ( )

g. Chemical feed equipment shall be readily accessible for servicing, repair, and observation of operation. ( )

h. In-plant water supply for chemical mixing shall be: ( )

i. Ample in quantity and adequate in pressure. ( )

ii. Provided with means for measurement when preparing specific solution concentrations by dilution. ( )

iii. Properly treated for hardness, when necessary. ( )

iv. Properly protected against backflow. ( )

v. Obtained from a location sufficiently downstream of any chemical feed point to assure adequate mixing. ( )

i. Chemical storage facilities shall satisfy the following requirements: ( )

i. Storage tanks and pipelines for liquid chemicals shall be specified for use with individual chemicals and not used for different chemicals. Off-loading areas must be clearly labeled to prevent accidental cross-contamination. ( )

ii. Chemicals shall be stored in covered or unopened shipping containers, unless the chemical is transferred into an approved storage unit. ( )

iii. Liquid chemical storage tanks must have a liquid level indicator and have an overflow and a receiving basin capable of receiving accidental spills or overflows without uncontrolled discharge; a common receiving basin may be provided for each group of compatible

chemicals, that provides sufficient containment volume to prevent accidental discharge in the event of failure of the largest tank. ( )

j. Solution tanks shall comply with the following requirements: ( )

i. A means which is consistent with the nature of the chemical solution shall be provided in a solution tank to maintain a uniform strength of solution. Continuous agitation shall be provided to maintain slurries in suspension. ( )

ii. Means shall be provided to measure the liquid level in the tank. ( )

iii. Chemical solutions shall be kept covered. Large tanks with access openings shall have such openings curbed and fitted with overhanging covers. ( )

iv. Subsurface locations for solution tanks shall be free from sources of possible contamination, and assure positive drainage for ground waters, accumulated water, chemical spills and overflows. ( )

v. Acid storage tanks must be vented to the outside atmosphere, but not through vents in common with day tanks. ( )

vi. Each tank shall be provided with a valved drain, protected against backflow in accordance with Subsection 900.02 (Table 2). ( )

vii. Solution tanks shall be located and protective curbings provided so that chemicals from equipment failure, spillage or accidental drainage shall not enter the water in conduits, treatment or storage basins. ( )

k. Provisions shall be made for measuring quantities of chemicals used to prepare feed solutions. ( )

l. Vents from feeders, storage facilities and equipment exhaust shall discharge to the outside atmosphere above grade and remote from air intakes. ( )

03. Chemicals. Chemical shipping containers shall be fully labeled to include chemical name, purity and concentration, supplier name and address, and evidence of ANSI/NSF certification where applicable. ( )

04. Safety Requirements for Chemical Facilities. ( )

a. The following requirements apply to chlorine gas feed and storage rooms: ( )

i. Each storage room shall be enclosed and separated from other operating areas. They shall be constructed in such a manner that all openings between the chlorine room and the remainder of the plant are sealed, and provided with doors equipped with panic hardware, assuring ready means of exit and opening outward only to the building exterior. ( )

ii. Each room shall be provided with a shatter resistant inspection window installed in

an interior wall. ( )

iii. Each room shall have a ventilating fan with a capacity which provides one (1) complete air change per minute when the room is occupied. Where this is not appropriate due to the size of the room, a lesser rate may be allowed by the Department on a site specific basis. ( )

iv. The ventilating fan shall take suction near the floor as far as practical from the door and air inlet, with the point of discharge so located as not to contaminate air inlets to any rooms or structures. Air inlets shall be through louvers near the ceiling. ( )

v. Louvers for chlorine room air intake and exhaust shall facilitate airtight closure. ( )

vi. Separate switches for the fan and lights shall be located outside of the chlorine room and at the inspection window. Outside switches shall be protected from vandalism. A signal light indicating fan operation shall be provided at each entrance when the fan can be controlled from more than one (1) point. ( )

vii. Vents from feeders and storage shall discharge to the outside atmosphere, above grade. ( )

viii. Where provided, floor drains shall discharge to the outside of the building and shall not be connected to other internal or external drainage systems. ( )

ix. Chlorinator rooms shall be heated to sixty degrees farenheit (60°F) and be protected from excessive heat. Cylinders and gas lines shall be protected from temperatures above that of the feed equipment. ( )

x. Pressurized chlorine feed lines shall not carry chlorine gas beyond the chlorinator room. ( )

xi. Critical isolation valves shall be conspicuously marked and access kept unobstructed. ( )

xii. All chlorine rooms, buildings, and areas shall be posted with a prominent danger sign warning of the presence of chlorine. ( )

xiii. Full and empty cylinders of chlorine gas shall be isolated from operating areas and stored in definitely assigned places away from elevators, stairs, or gangways. They shall be restrained in position to prevent being knocked over or damaged by passing or falling objects. In addition, they shall be stored in rooms separate from ammonia storage, out of direct sunlight, and at least twenty (20) feet from highly combustible materials. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards. ( )

b. Where acids and caustics are used, they shall be kept in closed corrosion-resistant shipping containers or storage units. Acids and caustics shall not be handled in open vessels, but shall be pumped in undiluted form from original containers through suitable hose to the point of

treatment or to a covered day tank. ( )

c. Sodium chlorite for chlorine dioxide generation. Proposals for the storage and use of sodium chlorite shall be approved by the Department prior to the preparation of final plans and specifications. Provisions shall be made for proper storage and handling of sodium chlorite to eliminate any danger of fire or explosion associated with its oxidizing nature. ( )

i. Chlorite (sodium chlorite) shall be stored by itself in a separate room. It must be stored away from organic materials. The storage structure shall be constructed of noncombustible materials. If the storage structure must be located in an area where a fire may occur, water must be available to keep the sodium chlorite area cool enough to prevent heat-induced explosive decomposition of the chlorite. ( )

ii. Care shall be taken to prevent spillage. An emergency plan of operation shall be available for the clean up of any spillage. Storage drums shall be thoroughly flushed prior to recycling or disposal. ( )

d. Where ammonium hydroxide is used, an exhaust fan shall be installed to withdraw air from high points in the room and makeup air shall be allowed to enter at a low point. The feed pump, regulators, and lines shall be fitted with pressure relief vents discharging outside the building away from any air intake and with water purge lines leading back to the headspace of the bulk storage tank. ( )

e. Where anhydrous ammonia is used, the storage and feed systems (including heaters where required) shall be enclosed and separated from other work areas and constructed of corrosion resistant materials. ( )

i. Pressurized ammonia feed lines shall be restricted to the ammonia room. ( )

ii. An emergency air exhaust system, as described in Subsection 531.04.a., but with an elevated intake, shall be provided in the ammonia storage room. ( )

iii. Leak detection systems shall be fitted in all areas through which ammonia is piped. ( )

iv. Special vacuum breaker/regulator provisions must be made to avoid potentially violent results of backflow of water into cylinders or storage tanks. ( )

v. Consideration shall be given to the provision of an emergency gas scrubber capable of absorbing the entire contents of the largest ammonia storage unit whenever there is a risk to the public as a result of potential ammonia leaks. ( )

05. **Operator Safety**. The Idaho General Safety and Health Standards, referenced in Subsection 002.02, may be used as guidance in designing facilities to ensure the safety of operators. The following requirements are in addition to the requirements of Subsection 501.12. ( )

a. Respiratory protection equipment, meeting the requirements of the National

Institute for Occupational Safety and Health (NIOSH) shall be available where chlorine gas is handled, and shall be stored at a convenient heated location, but not inside any room where chlorine is used or stored. The units shall use compressed air, have at least a thirty (30) minute capacity, and be compatible with or exactly the same as units used by the fire department responsible for the plant. ( )

b. Chlorine leak detection. A bottle of concentrated ammonium hydroxide (fifty-six (56) per cent ammonia solution) shall be available for chlorine leak detection. Where ton containers are used, a leak repair kit approved by the Chlorine Institute shall be provided. ( )

c. Protective equipment. ( )

i. At least one pair of rubber gloves, a dust respirator of a type certified by NIOSH for toxic dusts, an apron or other protective clothing, and goggles or face mask shall be provided for each operator. ( )

ii. A deluge shower and eyewashing device shall be installed where strong acids and alkalis are used or stored. ( )

iii. A water holding tank that will allow water to come to room temperature shall be installed in the water line feeding the deluge shower and eyewashing device. Other methods of water tempering will be considered on an individual basis. ( )

iv. Other protective equipment shall be provided as necessary. ( )

06. Design Requirements for Specific Applications. ( )

a. Sodium chlorite for chlorine dioxide generation. Positive displacement feeders shall be provided. Tubing for conveying sodium chlorite or chlorine dioxide solutions shall be Type 1 PVC, polyethylene or materials recommended by the manufacturer. Chemical feeders may be installed in chlorine rooms if sufficient space is provided. Otherwise, facilities meeting the requirements of chlorine rooms shall be provided. Feed lines shall be installed in a manner to prevent formation of gas pockets and shall terminate at a point of positive pressure. Check valves shall be provided to prevent the backflow of chlorine into the sodium chlorite line. ( )

b. Sodium hypochlorite facilities shall meet the following requirements: ( )

i. Sodium hypochlorite shall be stored in the original shipping containers or in sodium hypochlorite compatible containers. Storage containers or tanks shall be sited out of the sunlight in a cool and ventilated area. ( )

ii. Stored hypochlorite shall be pumped undiluted to the point of addition. Where dilution is unavoidable, deionized or softened water shall be used. ( )

iii. Storage areas, tanks, and pipe work shall be designed to avoid the possibility of uncontrolled discharges and a sufficient amount of appropriately selected spill absorbent shall be stored on-site. ( )

iv. Sodium hypochlorite feeders shall be positive displacement pumps with compatible materials for wetted surfaces. ( )

v. To avoid air locking in smaller installations, small diameter suction lines shall be used with foot valves and degassing pump heads. In larger installations flooded suction shall be used with pipe work arranged to ease escape of gas bubbles. Calibration tubes or mass flow monitors which allow for direct physical checking of actual feed rates shall be fitted. ( )

vi. Injectors shall be made removable for regular cleaning where hard water is to be treated. ( )

c. When ammonium sulfate is used, the tank and dosing equipment contact surfaces shall be made of corrosion resistant non-metallic materials. Provision shall be made for removal of the agitator after dissolving the solid. The tank shall be fitted with a lid and vented outdoors. Injection of the solution should take place in the center of treated water flow at a location where there is high velocity movement. ( )

d. When aqua ammonia (ammonium hydroxide) is used, the feed pumps and storage shall be enclosed and separated from other operating areas. The aqua ammonia room shall be equipped as required for chlorinator rooms with the following changes: ( )

i. A corrosion resistant, closed, unpressurized tank shall be used for bulk storage, vented through an inert liquid trap to a high point outside and an incompatible connector, or lockout provisions shall be made to prevent accidental addition of other chemicals to the storage tank. ( )

ii. The storage tank shall be fitted either with cooling/refrigeration and/or with provision without opening the system to dilute and mix the contents with water to avoid conditions where temperature increases cause the ammonia vapor pressure over the aqua ammonia to exceed atmospheric pressure. ( )

iii. The aqua ammonia shall be conveyed direct from storage to the treated water stream injector without the use of a carrier water stream unless the carrier stream is softened. ( )

iv. The point of delivery to the main water stream shall be placed in a region of turbulent water flow. ( )

v. Provisions shall be made for easy access for removal of calcium scale deposits from the injector. ( )

532. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR SOFTENING.

The softening process selected must be based upon the mineral qualities of the raw water and the desired finished water quality in conjunction with requirements for disposal of sludge or brine waste, cost of plant, cost of chemicals and plant location. Applicability of the process chosen shall be demonstrated. ( )

01. Lime or Lime-Soda Process. Rapid mix, flocculation, and sedimentation processes shall meet the requirements of Section 520. In addition the following requirements must be met: ( )

a. When split treatment is used, an accurate means of measuring and splitting the flow must be provided. ( )

b. Rapid mix basins must provide not more than thirty (30) seconds detention time with adequate velocity gradients to keep the lime particles dispersed. ( )

c. Equipment for stabilization of water softened by the lime or lime-soda process is required, see Section 537. ( )

d. Mechanical sludge removal equipment shall be provided in the sedimentation basin. ( )

e. Provisions must be included for proper disposal of softening sludges; see Section 540. ( )

f. The plant processes must be manually started following shut-down. ( )

02. Cation Exchange Process. ( )

a. Pre-treatment is required when the content of iron, manganese, or a combination of the two, is one milligram per liter (1 mg/l) or more. ( )

b. The units may be of pressure or gravity type, of either an upflow or downflow design. Automatic regeneration based on volume of water softened shall be used unless manual regeneration is justified and is approved by the Department. A manual override shall be provided on all automatic controls. ( )

c. Rate-of-flow controllers or the equivalent shall be used to control the hydraulic loading of cation exchange units. ( )

d. The bottoms, strainer systems and support for the exchange resin shall conform to the criteria provided for rapid rate gravity filters in Section 521. ( )

e. Cross Connection Control. Backwash, rinse and air relief discharge pipes shall be installed in such a manner as to prevent any possibility of back-siphonage. ( )

f. A bypass must be provided around softening units to produce a blended water of desirable hardness. Totalizing meters must be installed on the bypass line and on each softener unit. The bypass line must have a shutoff valve. ( )

g. When the applied water contains a chlorine residual, the cation exchange resin shall be a type that is not damaged by residual chlorine. ( )

h. Smooth-nose sampling taps must be provided for the collection of representative

samples. The taps shall be located to provide for sampling of the softener influent, effluent, blended water, and on the brine tank discharge piping. The sampling taps for the blended water shall be at least twenty (20) feet downstream from the point of blending. Petcocks are not acceptable as sampling taps. ( )

i. Brine and salt storage tanks shall meet the following requirements: ( )

i. Salt dissolving or brine tanks and wet salt storage tanks must be covered and must be corrosion-resistant. ( )

ii. The make-up water inlet must be protected from back-siphonage. ( )

iii. Wet salt storage basins must be equipped with manholes or hatchways for access and for direct dumping of salt from truck or railcar. Openings must be provided with raised curbs and watertight covers having overlapping edges similar to those required for finished water reservoirs. ( )

iv. Overflows, where provided, must be protected with corrosion resistant screens and must terminate with either a turned downed bend having a proper free fall discharge or a self-closing flap valve. ( )

v. The salt shall be supported on graduated layers of gravel placed over a brine collection system. ( )

vi. Alternative designs which are conducive to frequent cleaning of the wet salt storage tank may be considered. ( )

vii. An eductor may be used to transfer brine from the brine tank to the softeners. If a pump is used, a brine measuring tank or means of metering shall be provided to obtain the proper dilution. ( )

j. Suitable disposal must be provided for brine waste; see Section 540. Where the volume of spent brine must be reduced, consideration may be given to using a part of the spent liquid concentrate for a subsequent regeneration. ( )

k. Pipes and contact materials must be resistant to the aggressiveness of salt. Plastic and red brass are acceptable piping materials. Steel and concrete must be coated with a non-leaching protective coating which is compatible with salt and brine. ( )

l. Bagged salt and dry bulk salt storage shall be enclosed and separated from other operating areas in order to prevent damage to equipment. ( )

533. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR TASTE AND ODOR CONTROL.

Provision shall be made for the control of taste and odor. Chemicals shall be added sufficiently ahead of other treatment processes to assure adequate contact time for an effective and economical use of the chemicals. Where severe taste and odor problems are encountered, in-plant and/or pilot plant studies may be required. ( )

01. **Chlorination**. When using chlorination as a method of taste and odor control adequate contact time must be provided to complete the chemical reactions involved. ( )

02. **Chlorine Dioxide**. Provisions shall be made for proper storing and handling of the sodium chlorite, so as to eliminate any danger of explosion. ( )

03. **Powdered Activated Carbon**. ( )

a. The carbon can be added as a pre-mixed slurry or by means of a dry-feed machine as long as the carbon is properly wetted. ( )

b. Continuous agitation or resuspension equipment is necessary to keep the carbon from depositing in the slurry storage tank. ( )

c. Provision shall be made for adequate dust control. ( )

d. Powdered activated carbon shall be handled as a potentially combustible material. ( )

04. **Granular Activated Carbon**. Replacement of anthracite with GAC may be considered as a control measure for geosmin and methyl isoborneol (MIB) taste and odors from algae blooms in surface water applications. Demonstration studies are required by the Department. ( )

05. **Copper Sulfate and Other Copper Compounds**. Continuous or periodic treatment of surface water with copper compounds to kill algae or other growths shall be controlled to prevent copper in excess of one point zero (1.0) milligrams per liter as copper in the plant effluent or distribution system. Care shall be taken to assure an even distribution of the chemical within the treatment area. ( )

06. **Potassium Permanganate**. Application of potassium permanganate may be considered, providing the treatment shall be designed so that the products of the reaction are not visible in the finished water. ( )

07. **Ozone**. Ozonation may be used as a means of taste and odor control. Adequate contact time must be provided to complete the chemical reactions involved. ( )

08. **Other Methods**. Other methods of taste and odor control shall be made only after pilot plant tests and approval of the Department. ( )

534. FACILITY AND DESIGN STANDARDS - AERATION PROCESSES.
Public water systems that install aeration treatment are subject to the Rules of the Department of Environmental Quality, IDAPA 58.01.01, "Rules for the Control of Air Pollution in Idaho." The system owner or the design engineer shall contact one of the Department's regional offices for information on obtaining a permit or an exemption for the emissions resulting from the aeration process. General information may be found at http://www.deq.idaho.gov/air/prog_issues/toxics/overview.cfm#tap. ( )

01. **Natural Draft Aeration**. Design shall provide: ( )

a. Perforations in the distribution pan three sixteenths to one-half (3/16 – ½) inches in diameter, spaced one to three (1–3) inches on centers to maintain a six (6) inch water depth. ( )

b. For distribution of water uniformly over the top tray. ( )

c. Discharge through a series of three (3) or more trays with separation of trays not less than twelve (12) inches. ( )

d. Loading at a rate of one to five (1-5) gallons per minute for each square foot of total tray area. ( )

e. Trays with slotted, heavy wire (1/2 inch openings) mesh or perforated bottoms. ( )

f. Construction of durable material resistant to aggressiveness of the water and dissolved gases. ( )

g. Protection from insects by twenty-four (24) mesh screen. ( )

02. **Forced or Induced Draft Aeration**. Devices shall be designed to: ( )

a. Include a blower with a weatherproof motor in a tight housing and screened enclosure. ( )

b. Ensure adequate counter current of air through the enclosed aerator column.( )

c. Exhaust air directly to the outside atmosphere. ( )

d. Include a down-turned and twenty-four (24) mesh screened air outlet and inlet . ( )

e. Be such that air introduced in the column shall be as free from obnoxious fumes, dust, and dirt as possible. ( )

f. Be such that sections of the aerator can be easily reached or removed for maintenance of the interior or installed in a separate aerator room. ( )

g. Provide loading at a rate of one to five (1-5) gallons per minute for each square foot of total tray area. ( )

h. Ensure that the water outlet is adequately sealed to prevent unwarranted loss of air . ( )

i. Discharge through a series of five (5) or more trays with separation of trays not less than six (6) inches or as approved by the Department. ( )

j. Provide distribution of water uniformly over the top tray. ( )

k. Be of durable material resistant to the aggressiveness of the water and dissolved gases. ( )

03. **Spray Aeration**. Design shall provide: ( )

a. A hydraulic head of between five (5) and twenty-five (25) feet. ( )

b. Nozzles, with the size, number, and spacing of the nozzles being dependent on the flowrate, space, and the amount of head available. ( )

c. Nozzle diameters in the range of one (1) to one and one-half (1.5) inches to minimize clogging. ( )

d. An enclosed basin to contain the spray. Any openings for ventilation must be protected with a twenty-four (24) mesh screen. ( )

04. **Pressure Aeration**. Pressure aeration may be used for oxidation purposes only if the pilot plant study indicates the method is applicable; it is not acceptable for removal of dissolved gases. Filters following pressure aeration must have adequate exhaust devices for release of air. Pressure aeration devices shall be designed to give thorough mixing of compressed air with water being treated and provide screened and filtered air, free of obnoxious fumes, dust, dirt and other contaminants. ( )

05. **Packed Tower Aeration**. Packed tower aeration may be used for the removal of volatile organic chemicals, trihalomethanes, carbon dioxide, and radon. Final design shall be based on the results of pilot studies and be approved by the Department. ( )

a. Process design criteria. ( )

i. Justification for the design parameters selected (i.e., height and diameter of unit, air to water ratio, packing depth, surface loading rate, etc.) shall be provided to the Department for review. The pilot study shall evaluate a variety of loading rates and air to water ratios at the peak contaminant concentration. Special consideration shall be given to removal efficiencies when multiple contaminations occur. Where there is considerable past performance data on the contaminant to be treated and there is a concentration level similar to previous projects, the Department may approve the process design based on use of appropriate calculations without pilot testing. ( )

ii. The tower shall be designed to reduce contaminants to below the maximum contaminant level and to the lowest practical level. ( )

iii. The type and size of the packing used in the full scale unit shall be the same as that used in the pilot study. ( )

iv. The maximum air to water ratio for which credit will be given is 80:1. (____)

v. The design shall consider potential fouling problems from calcium carbonate and iron precipitation and from bacterial growth. It may be necessary to provide pretreatment. Disinfection capability shall be provided prior to and after packed tower aeration. (____)

vi. The effects of temperature shall be considered. (____)

vii. Redundant packed tower aeration capacity at the design flowrate shall be provided. (____)

b. The tower may be constructed of stainless steel, concrete, aluminum, fiberglass or plastic. Uncoated carbon steel is not allowed. Towers constructed of light-weight materials shall be provided with adequate support to prevent damage from wind. Packing materials shall be resistant to the aggressiveness of the water, dissolved gases and cleaning materials and shall be suitable for contact with potable water. (____)

c. Water flow system. (____)

i. Water shall be distributed uniformly at the top of the tower using spray nozzles or orifice-type distributor trays that prevent short circuiting. (____)

ii. A mist eliminator shall be provided above the water distributor system. (____)

iii. A side wiper redistribution ring shall be provided at least every ten (10) feet in order to prevent water channeling along the tower wall and short circuiting. (____)

iv. Sample taps shall be provided in the influent and effluent piping. (____)

v. The effluent sump, if provided, shall have easy access for cleaning purposes and be equipped with a drain valve. The drain shall not be connected directly to any storm or sanitary sewer. (____)

vi. The design shall prevent freezing of the influent riser and effluent piping when the unit is not operating. (____)

vii. The water flow to each tower shall be metered. (____)

viii. An overflow line shall be provided which discharges twelve (12) to fourteen (14) inches above a splash pad or drainage inlet. Proper drainage shall be provided to prevent flooding of the area. (____)

ix. Means shall be provided to prevent flooding of the air blower. (____)

d. Air flow system. (____)

i. The air inlet to the blower and the tower discharge vent shall be down-turned and

protected with a non-corrodible twenty-four (24) mesh screen to prevent contamination from extraneous matter. ( )

ii. The air inlet shall be in a protected location. ( )

iii. An air flow meter shall be provided on the influent air line or an alternative method to determine the air flow shall be provided. ( )

iv. A positive air flow sensing device and a pressure gauge must be installed on the air influent line. The positive air flow sensing device must be a part of an automatic control system which will turn off the influent water if positive air flow is not detected. The pressure gauge will serve as an indicator of fouling buildup. ( )

v. A backup motor for the air blower must be readily available. ( )

e. Other features that shall be provided: ( )

i. A sufficient number of access ports with a minimum diameter of twenty-four (24) inches to facilitate inspection, media replacement, media cleaning and maintenance of the interior. ( )

ii. A method of cleaning the packing material when iron, manganese, or calcium carbonate fouling may occur. ( )

iii. Tower effluent collection and pumping wells constructed to clearwell standards. ( )

iv. Provisions for extending the tower height without major reconstruction. ( )

v. No bypass shall be provided unless specifically approved by the Department. ( )

vi. Disinfection and adequate contact time after the water has passed through the tower and prior to the distribution system. ( )

vii. Adequate packing support to allow free flow of water and to prevent deformation with deep packing heights. ( )

viii. Operation of the blower and disinfectant feeder equipment during power failures. ( )

ix. Adequate foundation to support the tower and lateral support to prevent overturning due to wind loading. ( )

x. Fencing and locking gate to prevent vandalism. ( )

xi. An access ladder with safety cage for inspection of the aerator including the exhaust port and de-mister. ( )

xii. Electrical interconnection between blower, disinfectant feeder and supply pump. ( )

06. Other Methods of Aeration. Other methods of aeration may be used if applicable to the treatment needs. Such methods include but are not restricted to spraying, diffused air, cascades and mechanical aeration. The treatment processes are subject to the approval of the Department. ( )

07. Protection of Aerators. All aerators except those discharging to lime softening or clarification plants shall be protected from contamination by birds, insects, wind borne debris, rainfall and water draining off the exterior of the aerator. ( )

08. Disinfection. Ground water supplies exposed to the atmosphere by aeration must receive disinfection as the minimum additional treatment. ( )

535. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR IRON AND MANGANESE CONTROL SYSTEMS.

Iron and manganese control, as used herein, refers solely to treatment processes designed specifically for this purpose. The treatment process used will depend upon the character of the raw water. The selection of one (1) or more treatment processes must meet specific local conditions as determined by engineering investigations, including chemical analyses of representative samples of water to be treated, and receive the approval of the Department. The Department may require a pilot plant study in order to gather all information pertinent to the design. ( )

01. Removal by Oxidation, Detention and Filtration. ( )

a. Oxidation may be by aeration or by chemical oxidation with chlorine, potassium permanganate, ozone or chlorine dioxide. ( )

b. Detention time: ( )

i. A minimum detention time of thirty (30) minutes shall be provided following aeration to ensure that the oxidation reactions are as complete as possible. This minimum detention may be omitted only where a pilot plant study indicates no need for detention. The detention basin may be designed as a holding tank without provisions for sludge collection but with sufficient baffling to prevent short circuiting. ( )

ii. Sedimentation basins shall be provided when treating water with high iron and/or manganese content, or where chemical coagulation is used to reduce the load on the filters. Provisions for sludge removal shall be made. ( )

c. Filtration. Rapid rate pressure filters are normally used for iron and manganese removal. Pressure filters shall not be used in the filtration of surface or other polluted waters or following lime-soda softening. ( )

i. The rate of filtration shall not exceed three (3) gallons per minute per square foot

of filter area except where in-plant testing as approved by the Department has demonstrated satisfactory results at higher rates. ( )

ii. The filters shall be designed to provide for: ( )

(1) Loss of head gauges on the inlet and outlet pipes of each battery of filters. ( )

(2) An easily readable meter or flow indicator on each battery of filters. ( )

(3) Filtration and backwashing of each filter individually with an arrangement of piping as simple as possible to accomplish these purposes. ( )

(4) Minimum side wall shell height of five (5) feet. A corresponding reduction in side wall height is acceptable where proprietary bottoms permit reduction of the gravel depth. ( )

(5) The top of the wash water collectors to be at least eighteen (18) inches above the surface of the media, ( )

(6) The underdrain system to efficiently collect the filtered water and to uniformly distribute the backwash water at a rate not less than fifteen (15) gallons per minute per square foot of filter area. ( )

(7) Backwash flow indicators and controls that are easily readable while operating the control valves. ( )

(8) An air release valve on the highest point of each filter. ( )

(9) An accessible manhole to facilitate inspection and repairs for filters thirty-six (36) inches or more in diameter. Sufficient handholds shall be provided for filters less than thirty-six (36) inches in diameter. ( )

(10) A means to observe the wastewater during backwashing and construction to prevent cross connection. ( )

02. Removal by Manganese Coated Media Filtration. This process consists of a continuous or batch feed of potassium permanganate to the influent of a manganese coated media filter. ( )

a. Other oxidizing agents or processes such as chlorination or aeration may be used prior to the permanganate feed to reduce the cost of the chemical. ( )

b. An anthracite media cap of at least six (6) inches or more as required by the Department shall be provided over manganese coated media. ( )

c. Normal filtration rate shall be three (3) gallons per minute per square foot. ( )

d. Normal wash rate shall be eight (8) to ten (10) gallons per minute per square foot with manganese greensand and fifteen (15) to twenty (20) gallons per minute with manganese

coated media. ( )

e. Sample taps shall be provided prior to application of permanganate, immediately ahead of filtration, at points between the anthracite media, and at the filter effluent. ( )

03. **Removal by Ion Exchange**. This process is not acceptable where either the raw water or wash water contains dissolved oxygen or other oxidants. ( )

04. **Biological Removal**. Biofiltration to remove manganese and/or iron requires on-site piloting testing to establish effectiveness. The final filter design shall be based on the on-site pilot plant studies. ( )

05. **Sequestration by Polyphosphates**. This process shall not be used when iron, manganese or a combination thereof exceeds one point zero (1.0) mg/l. The total phosphate applied shall not exceed ten (10) mg/l as PO_4. Where phosphate treatment is used, satisfactory chlorine residuals shall be maintained in the distribution system. Possible adverse affects on corrosion must be addressed when phosphate addition is proposed for iron sequestering. ( )

a. Stock phosphate solution must be kept covered and disinfected by carrying approximately ten (10) mg/l free chlorine residual unless the phosphate is not able to support bacterial growth and the phosphate is being fed from the covered shipping container. Phosphate solutions having a pH of two point zero (2.0) or less may also be exempted from this requirement by the Department. ( )

b. Polyphosphates shall not be applied ahead of iron and manganese removal treatment. The point of application shall be prior to any aeration, oxidation or disinfection if no iron or manganese removal treatment is provided. ( )

06. **Sequestration by Sodium Silicates**. Sodium silicate sequestration of iron and manganese is allowed only for ground water supplies prior to air contact. On-site pilot tests are required to determine the suitability of sodium silicate for the particular water and the minimum feed needed. Rapid oxidation of the metal ions such as by chlorine or chlorine dioxide must accompany or closely precede the sodium silicate addition. ( )

a. Sodium silicate addition is applicable to waters containing up to two (2) mg/l of iron, manganese or combination thereof. ( )

b. Chlorine residuals shall be maintained throughout the distribution system to prevent biological breakdown of the sequestered iron. ( )

c. The amount of silicate added shall be limited to twenty (20) mg/l as SiO_2, but the amount of added and naturally occurring silicate shall not exceed sixty (60) mg/l as SiO_2. ( )

d. Sodium silicate shall not be applied ahead of iron or manganese removal treatment. ( )

07. **Sampling Taps**. Smooth-nosed sampling taps shall be provided for control purposes. Taps shall be located on each raw water source, each treatment unit influent and each

treatment unit effluent. ( )

536. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR FLUORIDATION.

01. Chemical Feed Equipment and Methods. In addition to the requirements in Section 531, fluoride feed equipment shall meet the following requirements: ( )

a. Scales, loss-of-weight recorders or liquid level indicators, as appropriate, accurate to within five (5) percent of the average daily change in reading shall be provided for chemical feeds. ( )

b. The accuracy of chemical feeders used for fluoridation shall be plus or minus five (5) percent of the intended dose. ( )

c. Unsealed storage units for fluorosilicic acid shall be vented to the atmosphere at a point outside any building. ( )

d. Fluoride compound shall not be added before lime-soda softening or ion exchange softening. ( )

e. The point of application of fluorosilicic acid, if into a horizontal pipe, shall be in the lower half of the pipe. ( )

f. A fluoride solution shall be applied by a positive displacement pump having a stroke rate not less than twenty (20) strokes per minute, and at a feed rate not less than twenty (20) percent of the rated capacity of the feed pump. ( )

g. A spring opposed diaphragm type anti-siphon device shall be provided for all fluoride feed lines and dilution water lines. ( )

h. Except for constant flow systems, a device to measure the flow of water to be treated is required. ( )

i. The dilution water pipe shall terminate at least two (2) pipe diameters above the solution tank. ( )

j. Water used for sodium fluoride dissolution shall be softened if hardness exceeds seventy-five (75) mg/l as calcium carbonate. ( )

k. Fluoride solutions shall be injected at a point of continuous positive pressure or a suitable air gap provided. ( )

l. The electrical outlet used for the fluoride feed pump shall be interconnected with the well or service pump. ( )

m. Consideration shall be given to providing a separate room for fluorosilicic acid storage and feed. ( )

02. **Secondary Controls**. Secondary control systems for fluoride chemical feed devices shall be provided as a means of reducing the possibility for overfeed; these may include flow or pressure switches or other devices. ( )

03. **Dust Control**. Provision must be made for the transfer of dry fluoride compounds from shipping containers to storage bins or hoppers in such a way as to minimize the quantity of fluoride dust which may enter the room in which the equipment is installed. The enclosure shall be provided with an exhaust fan and dust filter which places the hopper under a negative pressure. Air exhausted from fluoride handling equipment shall discharge through a dust filter to the outside atmosphere of the building. ( )

537. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR STABILIZATION.

Water that is unstable due either to natural causes or to subsequent treatment shall be stabilized. The expected treated water quality shall be evaluated to determine what, if any, treatment is necessary. ( )

01. **Carbon Dioxide Addition**. ( )

a. Recarbonation basin design shall provide the following: ( )

i. A total detention time of twenty (20) minutes. ( )

ii. A mixing compartment having a detention time of at least three (3) minutes.( )

iii. A reaction compartment. ( )

iv. The mixing and reaction compartments shall have a depth sufficient to provide a diffuser submergence of not less than seven and one half (7.5) feet and no greater than the manufacturer's recommendation. ( )

b. Where liquid carbon dioxide is used, adequate precautions must be taken to prevent carbon dioxide from entering the plant from the recarbonation process. ( )

c. Recarbonation tanks shall be located outside or be sealed and vented to the outside with adequate seals and adequate purge flow of air to ensure workers safety. ( )

d. Provisions shall be made for draining the recarbonation basin and removing sludge. ( )

02. **Phosphates**. The feeding of phosphates may be used for sequestering calcium, for corrosion control, and in conjunction with alkali feed following ion exchange softening. ( )

a. Stock phosphate solution must be kept covered and disinfected by carrying approximately ten (10) mg/l free chlorine residual unless the phosphate is not able to support bacterial growth and the phosphate is being fed from the covered shipping container. Phosphate solutions having a pH of two point zero (2.0) or less are exempted from this requirement. ( )

b. Satisfactory chlorine residuals shall be maintained in the distribution system when phosphates are used. ( )

03. Split Treatment. Raw water may be blended with lime-softened water to partially stabilize the water prior to secondary clarification and filtration. Treatment plants designed to utilize split treatment shall also contain facilities for further stabilization by other methods.( )

04. Water Unstable Due to Biochemical Action in Distribution System. Unstable water resulting from the bacterial decomposition of organic matter in water (especially in dead end mains), the biochemical action within tubercles, and the reduction of sulfates to sulfides shall be prevented by the maintenance of a free and/or combined chlorine residual throughout the distribution system. ( )

538. – 539. (RESERVED).

540. FACILITY AND DESIGN STANDARDS - DESIGN STANDARDS FOR TREATMENT AND DISPOSAL OF WASTE RESIDUALS.
Provisions must be made for proper disposal of water treatment plant waste such as sanitary, laboratory, clarification sludge, softening sludge, iron sludge, filter backwash water, and liquid concentrates. In locating waste disposal facilities, due consideration shall be given to preventing potential contamination of the water supply. ( )

01. Sanitary Waste. The sanitary waste from water treatment plants, pumping stations, and other waterworks installations must receive treatment. Waste from these facilities shall be discharged directly to a sanitary sewer system, when available and feasible, or to an adequate on-site waste treatment facility approved under the provisions of IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules." ( )

02. Liquid Concentrates. ( )

a. Waste from ion exchange plants, demineralization plants, reverse osmosis, or other plants which produce liquid concentrates may be disposed of by the following methods: ( )

i. Liquid concentrates that contain radionuclides must be further treated to remove the radioactive constituents as sludge. See Subsection 540.03.e. for disposal requirements for sludge that contains radionuclides. The residual liquids from which radionuclides have been removed may be disposed of in accordance with Subsections 540.02.a.ii. through 540.02.a.v. ( )

ii. Controlled discharge to a stream or other receiving water body if adequate dilution is available. Such discharge will require a National Pollution Elimination System Permit from the U.S. Environmental Protection Agency, Region 10, 1200 Sixth Avenue, Seattle, WA 98101, Telephone (206) 553-1200. ( )

iii. Liquid concentrates may be discharged to a sanitary sewer, if available and feasible. Acceptance of such waste must be approved by the sewer authority. ( )

iv. Subsurface disposal or land application of liquid concentrates may be permitted, but only if such discharge meets the requirements of the IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules" and/or IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater." ( )

v. Liquid concentrates may be discharged to an injection well if in accordance with Rules of the Idaho Water Resources Board, IDAPA 37.03.03 "Rules and Minimum Standards for the Construction and Use of Injection Wells," referenced in Subsection 002.02. ( )

b. Should the nature of the liquid concentrate cause it to be ineligible for permitted discharge as described in Subsection 540.02.a., further onsite treatment of the liquid concentrate may be required in order to produce sludge and liquid waste that will meet the permit criteria for one (1) or more of the disposal options. ( )

03. Sludge Waste. Sludge is the solid waste resulting from coagulation, precipitation, or passive settling of liquid concentrates. Depending on composition, liquids remaining after sludge removal may be disposed of by methods described in Subsection 540.02, recycled through the treatment plant, or may be pure enough to be unregulated. The following methods of treatment and disposal apply to sludge: ( )

a. Precipitative Softening Sludge. ( )

i. At least two (2) temporary storage lagoons must be provided in order to give flexibility in operation. Provisions must be made for convenient cleaning. An acceptable means of final sludge disposal must be provided. ( )

ii. Liquid or dewatered precipitative softening sludge may be applied to farm land if heavy metals or other contaminants do not exceed the requirements of IDAPA 58.01.02, "Water Quality Standards." ( )

iii. Dewatered precipitative softening sludge may be disposed of in a sanitary landfill in accordance with the requirements of IDAPA 58.01.06, "Solid Waste Management Rules." Acceptance of such waste is at the discretion of the landfill authority. ( )

b. Alum or Ferric Sludge. ( )

i. Temporary storage lagoons must contain at least two (2) compartments to facilitate independent filling and dewatering operations. Mechanical concentration may be considered. If mechanical dewatering is used, it shall be preceded by sludge concentration and chemical pre-treatment. A pilot plant study is required before the design of a mechanical dewatering installation. ( )

ii. Alum or ferric sludge may be discharged to a sanitary sewer if available and feasible. Acceptance of such waste must be approved by the sewer authority. ( )

iii. Dewatered alum or ferric sludge may be disposed of in a sanitary landfill in accordance with the requirements of IDAPA 58.01.06, "Solid Waste Management Rules." Acceptance of such waste is at the discretion of the landfill authority. ( )

iv. Alum or ferric sludge may be disposed of by land application if the permitting requirements of IDAPA 58.01.02, "Water Quality Standards," and IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater," are met. ( )

v. Water removed from alum or ferric sludge may be disposed of in the same manner as liquid concentrates, as described in Subsection 540.02. ( )

c. Red Water. Red water is the waste filter wash water from iron and manganese removal plants. ( )

i. If sand filters are used they shall have the following features: ( )

(1) Total filter area shall be sufficient to adequately dewater applied solids. Unless the filter is small enough to be cleaned and returned to service in one (1) day, two (2) or more cells are required. ( )

(2) The "red water" filter shall have sufficient capacity to contain, above the level of the sand, the entire volume of wash water produced by washing all of the production filters in the plant, unless the production filters are washed on a rotating schedule and the flow through the production filters is regulated by true rate of flow controllers. Then sufficient volume shall be provided to properly dispose of the wash water involved. ( )

(3) Where freezing is a problem, provisions should be made for covering the filters during the winter months. ( )

(4) "Red water" filters shall not have common walls with finished water. ( )

ii. Subsurface infiltration lagoons may be permitted, but only if such discharge meets the requirements of IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules." ( )

iii. "Red water" may be discharged to a sanitary sewer if available and feasible. Acceptance of such waste must be approved by the sewer authority. Design shall prevent cross connections and there shall be no common walls between potable and non-potable water. ( )

d. Filter Backwash Water. ( )

i. Recycling is permitted if the backwash waters are returned to the head of the treatment plant or another entry point if supported by engineering studies. Backwash water shall be held for a sufficient time prior to recycling to allow solids to settle out. ( )

ii. Dewatered sludge from backwash water clarification processes may be disposed of in a sanitary landfill in accordance with the requirements of IDAPA 58.01.06, "Solid Waste Management Rules." Acceptance of such waste must be approved by the landfill authority.( )

e. Radioactive Sludge. Waste residuals containing radioactive substances, including, but not limited to granular activated carbon used for radon removal or ion-exchange regeneration waste from uranium removal, must be disposed of in accordance with IDAPA 58.01.10, "Rules

Regulating the Disposal of Radioactive Materials Not Regulated Under The Atomic Energy Act of 1954, As Amended." ( )

i. The buildup of radioactive materials such as uranium or radon and its decay products shall be considered and adequate shielding and safeguards shall be provided for operators and visitors. ( )

ii. Waste residuals containing naturally occurring radioactive materials that have been concentrated by human activities must be disposed of in an approved hazardous waste landfill (Class D), in accordance with the IDAPA 58.01.10, "Rules Regulating the Disposal of Radioactive Materials not Regulated Under the Atomic Energy Act of 1954, as Amended," and IDAPA 58.01.06, "Solid Waste Management Rules." ( )

iii. Waste residuals containing greater than point zero five (.05) percent by weight of uranium are subject to licensing and disposal under the regulations of the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011, Phone 817-860-8299. ( )

f. Arsenic Sludge. Solid waste residuals containing arsenic at a concentration less than five (5) mg/l may be disposed of at a sanitary landfill if permitted under IDAPA 58.01.06, "Solid Waste Management Rules." Solid waste containing arsenic at a concentration greater than five (5) mg/l must be disposed of at an approved hazardous waste landfill. Liquid wastes generated by arsenic treatment processes are subject to the handling and disposal requirements for liquid concentrates, as discussed under Subsection 540.02. ( )

04. Spent Media. Exhausted ion exchange media, adsorption media, disposable filters, and other components of treatment processes that contain concentrated contaminants shall be disposed of in accordance with IDAPA 58.01.06, "Solid Waste Management Rules," and/or IDAPA 58.01.10, "Rules Regulating the Disposal of Radioactive Materials not Regulated Under the Atomic Energy Act of 1954, as Amended." ( )

541. FACILITY AND DESIGN STANDARDS - PUMPING FACILITIES.
Pumping facilities shall be designed to maintain the sanitary quality of pumped water. ( )

01. Pump Houses. The following requirements apply to pump houses as defined in Section 003 unless it can be shown that some or all of these requirements are not needed to protect the combination of system components in a given structure: ( )

a. Pump houses shall be readily accessible for operation, maintenance, and repair at all times and under all weather conditions unless permitted to be out of service for a period of inaccessibility. ( )

b. Pump houses shall be protected from flooding and shall be adequately drained. The ground surface shall be graded so as to lead surface drainage away from the pump house. The floor surface shall be at least six (6) inches above the final ground surface. ( )

c. Pump houses shall be of durable construction, fire and weather resistant, and with outward-opening doors. All underground structures shall be waterproofed. ( )

d. Provisions shall be made for adequate heating for the comfort of the operator and the safe and efficient operation of the equipment. In pump houses not occupied by personnel, only enough heat need be provided to prevent freezing of equipment or treatment processes. ( )

e. Ventilation shall conform to existing local and/or state codes. Adequate ventilation shall be provided for all pumping stations for operator comfort and dissipation of excess heat and moisture from the equipment. In all cases, measures must be taken to minimize corrosion of metallic and electrical components. ( )

f. Pump houses shall be provided with a locking door or access to prohibit unauthorized entrance and shall be protected to prevent vandalism and entrance by animals. Plans and specifications for pump houses must provide enough detail to enable the reviewing engineer to determine that the facility is secure, safe, accessible, and that it conforms to electrical and plumbing codes. ( )

g. Pump houses shall be kept clean and in good repair and shall not be used to store toxic or hazardous materials other than those materials required for treatment processes. ( )

h. A suitable outlet shall be provided for drainage from pump glands without discharging onto the floor. ( )

i. Floor drains shall not be connected to sewers, storm drains, chlorination room drains, or any other source of contamination.Sumps for pump house floor drains shall not be closer than thirty (30) feet from any well. ( )

j. Adequate space shall be provided for the safe and efficient servicing of all equipment. ( )

k. Suction basins shall be watertight, have floors sloped to permit removal of water and settled solids, be covered or otherwise protected against contamination, and have two (2) pumping compartments or other means to allow the suction basin to be taken out of service for inspection maintenance or repair. ( )

l. Pump houses shall be designed to allow efficient equipment servicing. Crain-ways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors or other heavy equipment shall be provided. Openings in floors, roofs or wherever else shall be provided as needed for removal of heavy or bulky equipment. ( )

m. All remote controlled stations shall be electrically operated and controlled and shall have signaling apparatus of proven performance. Signaling apparatus shall report automatically when the station is out of service. ( )

n. Any threaded hose bib installed in the pump house must be equipped with an appropriate backflow prevention device. ( )

02. **Pumping Units**. At least two (2) pumping units shall be provided for raw water and surface source pumps. Pumps using seals containing mercury shall not be used in public

drinking water system facilities. With any pump out of service, the remaining pump or pumps shall be capable of providing the peak *hour* demand of the system *or maximum day demand plus equalization storage. See Subsection 501.17 for general design requirements concerning fire flow capacity.* The pumping units shall meet the following requirements: ( )

a. The pumps shall have ample capacity to supply the maximum demand against the required pressure without dangerous overloading. ( )

b. The pumps shall be driven by prime movers able to meet the maximum horsepower condition of the pumps. ( )

c. The pumps shall be provided with readily available spare parts and tools. ( )

d. The pumps shall be served by control equipment that has proper heater and overload protection for air temperature encountered. ( )

e. Suction lift shall be avoided if possible. When suction lift is used, it shall be within the limits allowed by the manufacturer of the pumps, and provision shall be made for priming the pumps. ( )

f. Prime water must not be of lesser sanitary quality than that of the water being pumped. Means shall be provided to prevent either backpressure or backsiphonage backflow. When an air-operated ejector is used, the screened intake shall draw clean air from a point at least ten (10) feet above the ground or other source of possible contamination, unless the air is filtered by an apparatus approved by the reviewing authority. Vacuum priming may be used. ( )

03. **Appurtenances**. The following appurtenances shall be provided for all water pumps with the exception of well pumps. The requirements for well pumps are provided in Section 511. ( )

a. Pumps shall be adequately valved to permit satisfactory operation, maintenance and repair of the equipment. If foot valves are necessary, they shall have a net valve area of at least two and one-half (2.5) times the area of the suction pipe and they shall be screened. Each pump shall have a positive-acting check valve on the discharge side between the pump and the shut-off valve. Surge relief measures shall be designed to minimize hydraulic transients. ( )

b. In general, piping shall be designed so that it will have watertight joints, be protected against surge or water hammer, be provided with suitable restraints where necessary, be designed so that friction losses will be minimized, and not be subject to contamination. Each pump shall have an individual suction line or the suction lines shall be manifolded such that they will ensure similar hydraulic and operating conditions. ( )

c. Each pump station shall have a standard pressure gauge on its discharge line and suction line. ( )

d. Water seals shall not be supplied with water of a lesser sanitary quality than that of the water being pumped. Where pumps are sealed with potable water and are pumping water of lesser sanitary quality, the seal shall: ( )

i. Be provided with either an approved reduced pressure principle backflow preventer or a break tank open to atmospheric pressure, ( )

ii. Where a break tank is provided, have an air gap of at least six (6) inches or two (2) pipe diameters, whichever is greater, between the feeder line and the flood rim of the tank. ( )

e. Pumps, their prime movers, and accessories shall be controlled in such a manner that they will operate at rated capacity without dangerous overload. Where two (2) or more pumps are installed, provision shall be made for alternation. Provision shall be made to prevent energizing the motor in the event of a backspin cycle. Equipment shall be provided or other arrangements made to prevent surge pressures from activating controls which switch on pumps or activate other equipment outside the normal design cycle of operation. ( )

04. Booster Pumps. In addition to other applicable requirements in Section 541, booster pumps must comply with the following: ( )

a. In-line booster pumps shall maintain an operating pressure that is consistent with the requirements specified in Subsection 552.01, and shall be supplied with an automatic cutoff when intake pressure is less than or equal to five (5) psi. ( )

b. Booster pumps with a suction line directly connected to any storage reservoirs shall be protected by an automatic cutoff to prevent pump damage and avoid excessive reservoir drawdown. ( )

c. Each booster pumping station shall contain not less than two (2) pumps with capacities such that peak *hour* demand*, or maximum day demand plus equalization storage,* can be satisfied with the largest pump out of service. *See Subsection 501.17 for general design requirements concerning fire flow capacity.* ( )

542. FACILITY AND DESIGN STANDARDS - DISTRIBUTION SYSTEM.

~~***06. Distribution System**. Any supplier of water for a public water system shall ensure that the distribution system complies with all of the following requirements:* (12-10-92)~~

~~a~~01. Protection from Contamination. The distribution system shall be protected from contamination and be designed to prevent contamination by steam condensate or cooling water from engine jackets or other heat exchange devices. ~~(12-10-92)~~( )

02. Installation of Water Mains. Division 400 of "Idaho Standards for Public Works Construction," referenced in Subsection 002.02, may be used as guidance for installation of water mains. In addition, the following provisions shall apply: ( )

a. Installed pipe shall be pressure tested and leakage tested in accordance with the applicable AWWA Standards, incorporated by reference into these rules at Subsection 002.01. ( )

b. New, cleaned, and repaired water mains shall be disinfected in accordance with

AWWA Standard C651, incorporated by reference into these rules at Subsection 002.01. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. (____)

c. In areas where aggressive soil conditions are suspected or known to exist, analyses shall be performed to determine the actual agressiveness of the soil. If soils are found to be aggressive, action shall be taken to protect metallic joint restraints and the water main, such as encasement in polyethylene, provision of cathodic protection, or use of corrosion resistant materials. (____)

d. The Department must approve any interconnection between potable water supplies, taking into account differences in water quality between the two systems. (____)

e. A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six (6) inches below the bottom of the pipe. (____)

f. Water mains shall be covered with sufficient earth or other insulation to prevent freezing. (____)

g. All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. (____)

~~*b*~~**03. Pressure Relief Valves**. All pumps connected directly to the distribution system shall be designed in conjunction with a water pressure relief valve of type, size, and material approved by the Department unless the Department approves another method that will prevent excessive pressure development. ~~*(5-3-03)*~~(____)

~~*c*~~**04. Flow Meter Required**. All source pumps and booster pumps connected directly to the distribution system shall have an instantaneous and totalizing flow meter, installed in accordance with manufacture's specifications, unless deemed unnecessary by the Department in a particular application. The Department may require larger water systems to provide a means of automatically recording the total water pumped. ~~*(4-6-05)*~~(____)

~~*d. Booster pumps must comply with the following:*~~ ~~*(12-10-92)*~~

~~*i. In-line booster pumps shall maintain an operating pressure that is consistent with the requirements specified in Subsection 552.01, and shall be supplied with an automatic cutoff when intake pressure is less than or equal to five (5) psi.*~~ ~~*(5-3-03)*~~

~~*ii. Booster pumps with a suction line directly connected to any storage reservoirs shall be protected by an automatic cutoff to prevent pump damage and avoid excessive reservoir drawdown.*~~ ~~*(4-6-05)*~~

~~*iii. Buildings enclosing booster pump stations shall be provided with an electrically powered ventilation fan or automated air flow system to remove heat and moisture during peak summer temperatures. If the facility is operated year round, a thermostatically regulated heater*~~

~~shall be installed to prevent moisture buildup during cold weather.~~ ~~(5-3-03)~~

~~e~~**05.** **Pipe and Jointing Materials**. Pipe and jointing materials comply with the standards set forth in Subsection ~~550.02~~ 501.01. Pipe shall be manufactured of materials resistant internally and externally to corrosion and not imparting tastes, odors, color, or any contaminant into the system. Where distribution systems are installed in areas of ground water contaminated by organic compounds: ~~(4-11-06)~~(____)

~~i~~**a.** Pipe and joint materials which do not allow permeation of the organic compounds shall be used; and (4-11-06)

~~ii~~**b.** Non-permeable materials shall be used for all portions of the system including pipe, joint materials, hydrant leads, and service connections. (4-11-06)

~~f~~**06.** **Size of Water Mains**. When fire hydrants are provided, they shall not be connected to water mains smaller than six (6) inches in diameter, and fire hydrants shall not be installed unless fireflow volumes are available. If fire flow is not provided, water mains shall be no less than three (3) inches in diameter. Any departure from this minimum standard shall be supported by hydraulic analysis and detailed projections of water use. ~~(5-3-03)~~(____)

~~g~~**07.** **Separation of Potable and Non-Potable Pipelines**. The relation between potable and non-potable water ~~mains~~ pipelines shall be as follows: ~~(4-11-06)~~(____)

~~i~~**a.** Non-potable mains in relation to potable ~~water~~ mains. ~~(4-11-06)~~(____)

~~(1)~~i. Parallel installation requirements: (4-11-06)

(~~a~~1) Greater than ten (10) feet separation: no conditions. (4-11-06)

(~~b~~2) Ten (10) feet to six (6) feet separation: separate trenches, with potable main above non-potable main, and non-potable main to be constructed with potable water class pipe. (4-11-06)

(~~c~~3) Less than six (6) feet separation: design engineer to submit data to the Department for review and approval showing that this installation will protect public health and the environment and non-potable main to be constructed of potable water class pipe. (4-11-06)

(~~d~~4) ~~Potable and non-potable water mains shall never be installed~~ Non-potable mains are prohibited from being located in the same trench as potable mains. ~~(4-11-06)~~(____)

(5) Pressure sewage mains shall be no closer horizontally than ten (10) feet from potable mains. (____)

~~(2)~~ii. Non-potable mains crossing potable water mains requirements: (4-11-06)

(~~a~~1) Eighteen (18) inches or more vertical separation with potable water main above non-potable main. Non–potable main joint to be as far as possible from the potable water main. (4-11-06)

(~~b~~2) Less than eighteen (18) inches vertical separation: Non-potable main constructed with potable water class pipe ~~*and non-potable main joint as far as possible from potable water main*~~ for a minimum of ten (10) feet either side of potable main with a single twenty (20) foot section of potable water class pipe centered on the crossing, or sleeve non-potable ~~*pipe*~~ or potable main with potable water class pipe for ten (10) feet either side of crossing. Use of concrete slurry encasement is not allowed as a substitute for sleeving. If potable main is below non-potable main, the non-potable main must also be supported through the crossing to prevent settling. ~~*(4-11-06)*~~(____)

(3) Pressure sewage mains shall be no closer vertically than eighteen (18) inches from potable mains. (____)

~~*ii*~~**b.** New ~~*Non-*~~potable services in relation to non-potable services and new ~~*non-*~~potable services in relation to ~~*water*~~ non-potable mains. The Department will use the Memorandum of Understanding with the Plumbing Bureau as guidance in determining the relative responsibilities for reviewing service lines. The following conditions shall apply to all potable services constructed or reconstructed after April 15, 2007 and where the Department or the qualified Idaho licensed professional engineer is the reviewing authority. ~~*(4-11-06)*~~(____)

~~*(1)*~~i. Parallel installation requirements: (4-11-06)

(~~*a*~~1) Greater than six (6) feet separation: no conditions. (4-11-06)

(~~*b*~~2) Less than six (6) feet separation: design engineer to submit data that this installation will protect public health and the environment and non-potable service constructed with potable water class pipe. (4-11-06)

(~~*c*~~3) ~~*Never in the same trench.*~~ New potable services are prohibited from being located in the same trench as non-potable mains or non-potable services. ~~*(4-11-06)*~~(____)

~~*(2)*~~ii. Non-potable services crossing potable ~~*water*~~ services or potable ~~*water*~~ mains requirements: ~~*(4-11-06)*~~(____)

(~~*a*~~1) Eighteen (18) inches or more vertical separation with potable ~~*water*~~ service or main above non-potable service; non-potable joint as far as possible from crossing. ~~*(4-11-06)*~~(____)

(~~*b*~~2) Less than eighteen (18) inches vertical separation or potable ~~*water*~~ service or main below non-potable service: non-potable service or main constructed with potable water class pipe and non-potable joint as far as possible from crossing~~;~~, or~~,~~ sleeve non-potable ~~*pipe*~~ service or main with potable water class pipe for ten (10) feet either side of crossing. Use of concrete slurry encasement is not allowed as a substitute for sleeving. ~~*(4-11-06)*~~(____)

c. Existing potable services in relation to new non-potable mains, and existing non-potable services in relation to new potable mains, shall meet the requirements of Subsection 542.07.b., where practical, based on cost, construction factors, and public health significance. If the Department determines that there are significant health concerns with these services, such as

where a large existing service serves an apartment building or a shopping center, then the design shall conform with Subsection 542.07.b. ( )

~~h~~**08. Separation from Subsurface Wastewater Systems and Other Sources of Contamination**. A minimum horizontal distance of twenty-five (25) feet shall be maintained between any potable water ~~distribution~~ pipe and a septic tank ~~and~~ or subsurface ~~sewage~~ wastewater disposal system. Guidance on separation from other potential sources of contamination, such as stormwater facilities, may be found at www.deq.idaho.gov/water/assist_business/engineers/checklists/guidance_separation_distances.pdf. ~~(4-11-06)~~( )

~~i~~**09. Dead End Mains**. All dead end water mains shall be equipped with a means of flushing and shall be flushed at least semiannually at a water velocity of two and one-half (2.5) feet per second. ~~(4-11-06)~~( )

~~i~~**a.** Dead ends shall be minimized by making appropriate tie-ins whenever practical in order to provide increased reliability of service and reduce head loss. (4-11-06)

~~ii~~**b.** No water main flushing device shall be directly connected to any sewer. (4-11-06)

~~j~~**10. Repair of Leaks**. Leaking water mains shall be repaired or replaced upon discovery and disinfected in accordance with American Water Works Association (AWWA) Standards ~~as set forth in~~, incorporated by reference into these rules at Subsection ~~002.02.k~~ 002.01. ~~(4-6-05)~~( )

~~k~~**11. Separation from Structures**. Water mains shall be separated by at least five (5) feet from buildings, industrial facilities, and other permanent structures. ~~(5-3-03)~~( )

~~l~~**12. Meter Vault Required**. All new public water systems shall include a meter vault at each service connection. A lockable shut-off valve shall be installed in the meter vault. This requirement shall also apply to extensions of the distribution system of existing public water systems. ~~(5-3-03)~~( )

~~m~~**13. Minimum Pressure at Building Sites**. All new public water systems that are constructed where topographical relief may affect water pressure at the customers' premises shall provide the Department with an analysis which demonstrates that the pressure at each designated building site will be at least forty (40) psi, based on dynamic pressure in the main, as set forth in Subsections 552.01.b.i. and ii., plus a static compensation from the elevation of the main to the elevation of each building site. ~~(5-3-03)~~( )

~~i~~**a.** If forty (40) psi cannot be provided at each designated building site, the Department may require that reasonable effort be made to provide notification to existing and potential customers of the expected pressure. (5-3-03)

~~ii~~**b.** The Department will not authorize a service connection at any designated building site where analysis indicates that pressure will be less than twenty (20) psi static pressure (or twenty-six point five (26.5) psi for two (2) story buildings). (5-3-03)

~~n~~**14. Isolation Valves**. A sufficient number of valves shall be provided on water mains

to minimize inconvenience and sanitary hazards during repairs. ~~(4-11-06)~~(____)

~~o~~**15.** **Backflow Protection**. Automatic air relief valves shall be equipped with a means of backflow protection. ~~(4-11-06)~~(____)

~~p~~**16.** **Surface Water Crossings**. Surface water crossings, whether over or under water, shall be constructed as follows: ~~(4-11-06)~~(____)

~~i~~**a.** Above water crossings: the pipe shall be adequately supported and anchored, protected from damage and freezing, and shall be accessible for repair or replacement. (4-11-06)

~~ii~~**b.** Under water crossings: A minimum cover of two (2) feet shall be provided over the pipe. When crossing a water course that is greater than fifteen (15) feet in width, the following shall be provided: (4-11-06)

~~(1)~~i. The pipe shall be of special construction, having flexible, restrained, or welded water-tight joints; and (4-11-06)

~~(2)~~ii. Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible and not subject to flooding; and (4-11-06)

~~(3)~~iii. Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples shall be made on each side of the valve closest to the supply source. (4-11-06)

543. FACILITY AND DESIGN STANDARDS - CROSS CONNECTION CONTROL.

~~*07. Cross Connection.*~~ There shall be no connection between the distribution system and any pipes, pumps, hydrants, water loading stations, or tanks whereby unsafe water or other contaminating materials may be discharged or drawn into a public water system. ~~(4-11-06)~~(____)

~~*a. All suppliers of water for community water systems shall implement a cross connection control program to prevent the entrance of toxic or hazardous substances to the system. Reference should be made to the AWWA "Cross Connection Control Manual," as specified in Subsection 002.02.n. of these rules. The program will include:* (4-6-05)~~

~~*i. An inspection once a year of all facilities listed in Subsection 900.02 (Table 2) to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service.* (5-3-03)~~

~~*ii. Required installation and operation of adequate backflow prevention assemblies. A selection chart for various facilities, fixtures, equipment, and uses of water is provided in Subsection 900.02 (Table 2).* (4-6-05)~~

~~*iii. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department.* (4-6-05)~~

~~iv. Discontinuance of service to any facility where suitable backflow protection has not been provided for a cross connection. (12-10-92)~~

~~v~~**01.** **Double Check Valve**. If double check valve~~s~~ backflow prevention assemblies and/or reduced pressure principle backflow prevention assemblies ~~and/or pressure vacuum breakers~~ are used, they must pass a performance test conducted by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. ~~and~~ In addition, they shall meet ~~the~~ American Water Works Association (AWWA) Standards C-510 or C-511 ~~standard~~, incorporated by reference into these rules at Subsection 002.01, or an equivalent standard approved by the Department. ~~(4-6-05)~~(____)

~~vi~~**02.** **Atmospheric Vacuum Breakers**. If atmospheric vacuum breakers and/or pressure vacuum breakers are used, they shall be marked approved by the International Association of Plumbing and Mechanical Officials (IAPMO) or by the American Society of Sanitation Engineers (ASSE). Pressure vacuum breakers must pass a performance test conducted by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research. ~~(10-1-93)~~(____)

~~vii~~**03.** **Resilient Seated Shutoff Valves**. Resilient seated shutoff valves shall be used ~~after the effective date of these rules~~ when double check valve~~s~~ backflow prevention assemblies, reduced pressure principle backflow prevention assemblies, and pressure vacuum breakers are installed. ~~(5-3-03)~~(____)

04. **Reference Selection Chart**. Reference may be made to a selection chart for various facilities, fixtures, equipment, and uses of water provided in Subsection 900.02 (Table 2). (____)

~~**b.** All suppliers of water for non-community water systems shall ensure that cross-connections do not exist or are isolated from the potable water system by an approved backflow prevention assembly. Backflow prevention assemblies shall be inspected for functionality on a regular basis by a licensed tester, as specified in Subsection 550.07.a.iii. (4-6-05)~~

~~**08.** **Water Storage**. Storage reservoirs shall be constructed and maintained so that the following requirements are met: (12-10-92)~~

~~**a.** All storage reservoirs shall be protected from flooding; (12-10-92)~~

~~**b.** Stored water shall be protected from contamination; (12-10-92)~~

~~i. No public water supply storage tank shall be located within five hundred (500) feet of any municipal or industrial wastewater treatment plant or any land which is spray irrigated with wastewater or used for sludge disposal. (5-3-03)~~

~~ii. No storage tank or clear well located below ground level is allowed within fifty (50) feet of a sanitary sewer or septic tank. However, if the sanitary sewer is constructed to water main standards, the minimum separation distance is ten (10) feet. (5-3-03)~~

~~**c.** All storage reservoirs shall have watertight roofs or covers and be sloped so that~~

~~water will drain;~~

~~(12-10-92)~~

~~d. Manholes shall be fitted with an overlapping watertight locked cover and be at least four (4) inches above the surface of the roof. At least two (2) manholes located above the water line shall be provided where space permits.~~ ~~(5-3-03)~~

~~e. Overflows shall be downturned, discharge to daylight, and be provided with either:~~ ~~(4-6-05)~~

~~i. A twenty-four (24) mesh noncorrodible screen installed within the pipe when practical, or;~~ ~~(4-6-05)~~

~~ii. An expanded metal screen installed within the pipe plus a weighted flapper valve, or;~~ ~~(4-6-05)~~

~~iii. An equivalent system acceptable to the Department.~~ ~~(4-6-05)~~

~~f. Drains shall discharge to daylight in a way that will preclude the possibility of backflow to the reservoir and, where practical, be provided with an expanded metal screen installed within the pipe that will exclude rodents and deter vandalism.~~ ~~(4-6-05)~~

~~g. Any vent shall extend twelve (12) inches above the roof and be constructed and screened to exclude rain, snow, birds, animals, insects, dust and other potential sources of contamination;~~ ~~(12-10-92)~~

~~h. The bottom of any reservoir located below the ground surface shall be constructed a minimum of four (4) feet above the high groundwater table; and~~ ~~(12-10-92)~~

~~i. There shall be a minimum distance of fifty (50) feet between any buried or partially buried storage reservoir and any sanitary sewers, storm sewers, or any other source of contamination. The area around ground level reservoirs shall be graded in a manner that will prevent standing water within ten (10) feet.~~ ~~(5-3-03)~~

~~j. Hydroneumatic (pressure) tanks shall be acceptable for small water systems serving up to one hundred fifty (150) homes.~~ ~~(5-3-03)~~

~~k. Removable silt stops shall be provided to prevent sediment from entering the reservoir discharge pipe.~~ ~~(5-3-03)~~

~~l. All unused subsurface storage tanks shall be removed and backfilled, or abandoned by extracting residual fluids and filling the structure with sand or fine gravel.~~ ~~(5-3-03)~~

544. FACILITY AND DESIGN STANDARDS - GENERAL DESIGN OF FINISHED WATER STORAGE.

The materials and designs used for finished water storage structures shall provide stability and durability as well as protect the quality of the stored water. Steel structures such as steel tanks, standpipes, reservoirs, and elevated tanks shall be designed and constructed in accordance with

applicable AWWA Standards, incorporated by reference into these rules at Subsection 002.01. Other materials of construction are acceptable when properly designed to meet the requirements of Section 544. ( )

01. **Sizing**. Storage facilities shall have sufficient capacity, as determined from engineering studies *that consider peak flows, fire flow capacity, and analysis of the need for various components of finished storage* as defined under the term "Components of Finished Water Storage" in Section 003. *The* requirement *for storage* may be reduced when the source and treatment facilities have sufficient capacity with standby power to supply peak demands of the system. ( )

02. **Location**. Storage facilities shall be located in a manner that protects against contamination, ensures structural stability, and protects against flooding. ( )

a. If the bottom elevation of a storage reservoir must be below normal ground surface, it shall be placed above the seasonal high ground water table. ( )

b. Sewers, drains, standing water, and similar sources of possible contamination must be kept at least fifty (50) feet from the reservoir, except that gravity sewers constructed of water main quality pipe are allowed as close as twenty (20) feet from the reservoir. ( )

c. No public water supply storage tank shall be located within five hundred (500) feet of any municipal or industrial wastewater treatment plant or any land which is spray irrigated with wastewater or used for sludge disposal. ( )

d. The top of a partially buried storage structure shall not be less than two (2) feet above normal ground surface. ( )

03. **Protection from Contamination**. All finished water storage structures shall have suitable watertight roofs which exclude birds, animals, insects, and excessive dust. The installation of appurtenances, such as antennas, shall be done in a manner that ensures no damage to the tank, coatings or water quality, or corrects any damage that occurred. ( )

04. **Protection from Trespassers**. Fencing, locks on access manholes, and other necessary precautions shall be provided to prevent trespassing, vandalism, and sabotage. ( )

05. **Drains**. No drain on a water storage structure may have a direct connection to a sewer or storm drain. The design shall allow draining the storage facility for cleaning or maintenance without causing loss of pressure in the distribution system. ( )

06. **Overflow**. Overflow pipes shall discharge to daylight in a way that will preclude the possibility of backflow to the reservoir and, where practical, be provided with an expanded metal screen installed within the pipe that will exclude rodents and deter vandalism. ( )

a. When an internal overflow pipe is used on elevated tanks, it shall be located in the access tube. ( )

b. The overflow for a ground-level storage reservoir shall open downward and be

screened with a twenty-four (24) mesh noncorrodible screen installed within the pipe when practical, or an expanded metal screen installed within the pipe plus a weighted flapper valve, or an equivalent system acceptable to the Department. A splash pan or similar provision to prevent erosion shall be provided at the base of the overflow. ( )

c. The overflow pipe shall be of sufficient diameter to permit waste of water in excess of the filling rate. The overflow shall be brought down to an elevation between twelve (12) and twenty-four (24) inches above ground surface and discharge over a drainage inlet structure or a splash plate. ( )

07. **Access**. Finished water storage structures shall be designed with reasonably convenient access to the interior for cleaning and maintenance. At least two (2) manholes shall be provided above the waterline at each water compartment where space permits. ( )

a. The following access requirements apply to elevated storage structures; ( )

i. At least one (1) of the access manholes shall be framed at least four (4) inches above the surface of the roof at the opening. The manholes shall be fitted with a solid water tight cover which overlaps the framed opening and extends down around the frame at least two (2) inches, shall be hinged on one side, and shall have a locking device. ( )

ii. All other manholes or access ways shall be bolted and gasketed according to the requirements of the reviewing authority, or shall meet the requirements of the Subsection 544.07.a.i. ( )

b. The following access requirements apply to ground level storage structures: ( )

i. Each manhole shall be elevated at least twenty-four (24) inches above the top of the tank or covering sod, whichever is higher. ( )

ii. Each manhole shall be fitted with a solid water tight cover which overlaps a framed opening and extends down around the frame at least two (2) inches. The frame shall be at least four (4) inches high. Each cover shall be hinged on one side, and shall have a locking device. ( )

08. **Vents**. Finished water storage structures shall be vented. The overflow pipe shall not be considered a vent. Open construction between the sidewall and roof is not permissible. Vents shall: ( )

a. Prevent the entrance of surface water and rainwater and extend twelve (12) inches above the roof. ( )

b. Exclude birds and animals. ( )

c. Exclude insects and dust, as much as this function can be made compatible with effective venting. ( )

d. On ground-level structures, open downward with the opening at least twenty-four

(24) inches above the roof or sod and covered with twenty-four (24) mesh non-corrodible screen. The screen shall be installed within the pipe at a location least susceptible to vandalism. ( )

e. On elevated tanks and standpipes, open downward, and be fitted with four (4) mesh non-corrodible screen. ( )

09. **Roof and Sidewall**. The roof and sidewalls of all water storage structures must be watertight with no openings except properly constructed vents, manholes, overflows, risers, drains, pump mountings, control ports, or piping for inflow and outflow. Particular attention shall be given to the sealing of roof structures which are not integral to the tank body. ( )

a. Any pipes running through the roof or sidewall of a metal storage structure must be welded, or properly gasketed. In concrete tanks, these pipes shall be connected to standard wall castings which were poured in place during the forming of the concrete. ( )

b. Openings in the roof of a storage structure designed to accommodate control apparatus or pump columns shall be curbed and sleeved with proper additional shielding to prevent contamination from surface or floor drainage. ( )

c. The roof of the storage structure shall be sloped to facilitate drainage. Downspout pipes shall not enter or pass through the reservoir. Parapets, or similar construction which would tend to hold water and snow on the roof, will not be approved unless adequate waterproofing and drainage are provided. ( )

d. Reservoirs with pre-cast concrete roof structures must be made watertight with the use of a waterproof membrane or similar product. ( )

10. **Construction Materials**. Materials used in storage facility construction shall meet the requirements for water contact surfaces set forth in Subsection 501.01. Porous materials such as wood or concrete block are not acceptable for use in storage construction. ( )

11. **Protection from Freezing**. Finished water storage structures and their appurtenances, especially the riser pipes, overflows, and vents, shall be designed to prevent freezing which will interfere with proper functioning. ( )

12. **Internal Catwalk**. Every catwalk over finished water in a storage structure shall have a solid floor with sealed raised edges, designed to prevent contamination from shoe scrapings and dirt. ( )

13. **Silt Stops**. Removable silt stops shall be provided to prevent sediment from entering the reservoir discharge pipe. ( )

14. **Grading**. The area surrounding a ground-level structure shall be graded in a manner that will prevent surface water from standing within fifty (50) feet of it. ( )

15. **Coatings and Cathodic Protection**. Proper protection shall be given to metal surfaces by paints or other protective coatings, by cathodic protective devices, or by both. ( )

16. **Disinfection**. Storage facilities shall be disinfected in accordance with AWWA Standard C652, incorporated by reference into these rules at Subsection 002.01. Two (2) or more successive sets of samples, taken at twenty-four (24) hour intervals, shall indicate microbiologically satisfactory water before the facility is placed into operation. ( )

17. **Abandonment**. All unused subsurface storage tanks shall be removed and backfilled, or abandoned by extracting residual fluids and filling the structure with sand or fine gravel. ( )

545. FACILITY AND DESIGN STANDARDS - TREATMENT PLANT STORAGE FACILITIES.

The design standards of Section 544 shall apply to treatment plant storage. ( )

01. **Filter Wash Water**. Filter wash water tanks shall be sized, in conjunction with available pump units and finished water storage, to provide the backwash water required by Section 521. Consideration must be given to the backwashing of several filters in rapid succession. ( )

02. **Clearwell**. When finished water storage is used to provide disinfectant contact time special attention must be given to tank size and baffling. An overflow and vent shall be provided. A minimum of two (2) clearwell compartments shall be provided. Clearwells constructed under filters may be exempt from the requirements set out in Subsection 544.02.d. when the design provides adequate protection from contamination. ( )

03. **Adjacent Storage**. Finished or treated water must not be stored or conveyed in a compartment adjacent to untreated or partially treated water when the two (2) compartments are separated by a single wall, unless approved by the reviewing authority. ( )

04. **Other Treatment Plant Storage Tanks**. Unless otherwise allowed by the reviewing authority, other treatment plant storage tanks/basins such as detention basins, backwash reclaim tanks, receiving basins, and pump wet-wells for finished water shall be designed as finished water storage structures. ( )

546. FACILITY AND DESIGN STANDARDS - DISTRIBUTION SYSTEM STORAGE FACILITIES.

01. **Design**. The applicable design standards of Section 544 shall be followed for distribution system storage. ( )

02. **Isolation**. Finished water storage structures which provide pressure directly to the distribution system shall be designed so they can be isolated from the distribution system and drained for cleaning or maintenance without causing a loss of pressure in the distribution system. ( )

03. **Drain**. Drains shall discharge to daylight in a way that will preclude the possibility of backflow to the reservoir and, where practical, be provided with an expanded metal screen installed within the pipe that will exclude rodents and deter vandalism. ( )

04. Level Controls. Adequate controls shall be provided to maintain levels in distribution system storage structures. Level indicating devices shall be provided at a central location. ( )

547. FACILITY AND DESIGN STANDARDS - HYDROPNEUMATIC TANK SYSTEMS.
Hydropneumatic tanks use compressed air to regulate pump cycling and to absorb pressure surges (water hammer). These tanks do not provide true storage. Systems serving more than one-hundred-fifty (150) homes are generally better served by providing reservoir storage, as set forth in Sections 544 and 547. ( )

01. General Design of Hydropneumatic Systems. ( )

a. Tanks shall be located above normal ground surface and be completely housed. ( )

b. Tanks shall have bypass piping to permit operation of the system while the tank is being repaired or painted. Exterior surfaces and accessible interior surfaces shall be provided with protective coatings and shall be maintained in good condition. Supports beneath tanks shall be structurally sound. ( )

c. Tanks shall be sized to limit pump cycles to not more than six (6) per hour unless a pump manufacturer's warranty specifically supports more frequent cycling. The number of pump cycles may be increased in systems with multiple pumps if a means to automatically alternate pumps is provided. The Franklin Electric AIM manual, referenced in Subsection 002.02, Chapter 11 of the Washington State Department of Health Water System Design Manual, referenced in Subsection 002.02, or manufacturer's recommendations may be used as guidance in calculating the size of hydropneumatic tanks. ( )

d. Tanks of greater than one-hundred twenty (120) gallons volume shall conform with the American Society of Mechanical Engineers (ASME) specifications code for unfired pressure vessels. Tanks of less than one hundred twenty (120) gallons volume shall meet the ASME code or be certified by a nationally recognized testing agency to be capable of withstanding twice the maximum allowable working pressure. ( )

02. Requirements Specific to Conventional Hydropneumatic Tanks. Conventional tanks are those that have a direct air to water interface and require periodic air recharge to compensate for absorption of air into the water. ( )

a. Each tank shall have an access manhole, a drain, and control equipment consisting of a pressure gauge, water sight glass, automatic or manual air blow-off, means for adding air that is filtered or otherwise protected from contamination, and pressure operated start-stop controls for the pumps. If tank size allows, the access manhole shall be at least twenty-four (24) inches in diameter. ( )

b. The gross volume of tanks in systems served by variable speed pumps may be less than that required for systems served by constant speed pumps. Design volumes shall be approved by the Department on a site-specific basis. ( )

03. **Requirements Specific to Bladder Tanks**. Bladder tanks have a membrane that separates air and water inside the tank. ( )

a. Bladder tanks must be pre-charged with air to a pressure of five (5) psi below the setting at which the pump turns on (the low operating pressure for the system). ( )

b. Each manifold assembly shall have a pressure gauge and pressure operated start-stop controls for the pumps. ( )

c. The procedure for sizing bladder tanks is to determine the number of a selected size of tanks that are needed to provide pump protection. Reduced tank volume in systems served by variable speed pumps shall be approved by the Department on a site specific basis. ( )

548. FACILITY AND DESIGN STANDARDS - DISINFECTION OF FACILITIES PRIOR TO USE.

~~***09. Disinfection.***~~ Any supplier of water for a public water system shall ensure that new construction or modifications to an existing system ~~*will*~~ shall be flushed and disinfected in accordance with American Water Works Association (AWWA) Standards, ~~*as set forth in*~~ incorporated by reference into these rules at Subsection ~~*002.02.k.*~~ 002.01, prior to being placed into service. ~~*(4-6-05)*~~( )

~~***10. Violations**. Any failure to comply with any provision contained in Section 550 shall be considered a design or construction defect. (12-10-92)***~~

~~***551. FACILITY AND DESIGN STANDARDS -- CONSTRUCTION REQUIREMENTS FOR PUBLIC WATER SYSTEMS.***~~

~~***01. Engineering Report**. For all new water systems or material modifications to existing water systems, an engineering report shall be submitted for review and approval by the Department, or other reviewing authority in the case of water main extensions, prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. This report shall provide the following information: (4-11-06)***~~

~~***a.** A general description and location of the project; (12-10-92)***~~

~~***b.** The estimated design population of the project; (12-10-92)***~~

~~***c.** Design data for domestic, irrigation, fire fighting, commercial and industrial water uses, including maximum hourly, maximum daily, and average daily demands; (12-10-92)***~~

~~***d.** Storage requirements; (12-10-92)***~~

~~***e.** Pressure ranges for normal and peak flow conditions; (12-10-92)***~~

~~***f.** A computer analysis of the hydraulics of the distribution system if requested by the Department; any analysis of an existing distribution system shall be properly calibrated. (5-3-03)***~~

~~g. Adequacy, quality and availability of sources of water. A water system that is to be served by a separate non-potable irrigation system must provide documentation of legal water rights sufficient to ensure that the irrigation system will not compete with or in any way diminish the source of water for the potable water system. (5-3-03)~~

~~h. Describe the sewerage system and sewage treatment works, with special reference to their relationship to existing or proposed water works structures which may affect the operation of the water supply system, or which may affect the quality of the supply. (4-11-06)~~

~~i. Characterize the various wastes from the water treatment plant, if applicable, their volume, constituents, proposed treatment and disposal. If discharging to a sanitary sewerage system, verify that the system is capable of handling the flow to the treatment works and that the treatment works is capable and willing to accept the additional loading. (4-11-06)~~

~~j. For a community system, results of analysis for total coliform, inorganic chemical contaminants, organic chemicals, and radionuclide contaminants set forth in Subsections 050.01, 050.02, 050.05, 100.01, 100.03, 100.04, 100.05, and 100.06, unless analysis is waived pursuant to Subsection 100.07. (5-3-03)~~

~~k. For a nontransient noncommunity system, results of analysis for total coliform and inorganic and organic chemical contaminants listed in Subsections 050.01, 050.02, 100.01, 100.03, 100.04, unless analysis is waived pursuant to Subsection 100.07. (5-3-03)~~

~~l. For a transient noncommunity system, results of a total coliform, nitrite, and nitrate analysis listed in Subsections 050.01, 100.01 and 100.03. (5-3-03)~~

~~m. For any system supplied by surface water or groundwater under the direct influence of surface water, results of turbidity analysis listed in Subsection 100.02. (12-10-92)~~

~~n. For all new groundwater sources, including but not limited to wells, springs, and infiltration galleries, systems shall supply information as required by the Department to determine if these sources are under the direct influence of the surface water. (12-10-92)~~

~~o. Potential sources of contamination to proposed sources of water; (12-10-92)~~

~~p. Mechanisms for protection of the system from flooding; (12-10-92)~~

~~q. In addition to the items listed in Subsections 551.01.a. through 551.01.p., the following information must be provided for proposed surface water sources and groundwater sources under the direct influence of surface water: (4-11-06)~~

~~i. Hydrological and historical stream flow data; (4-11-06)~~

~~ii. A copy of the water right from the Idaho Department of Water Resources; (12-10-92)~~

~~iii. Anticipated turbidity ranges, high and low; and (12-10-92)~~

~~*iv. Treatment selection process and alternative evaluations. (12-10-92)*~~

~~***r.** In addition to the items listed in Subsections 551.01.a. through 551.01.n., the following information must be provided for a proposed groundwater source: (12-10-92)*~~

~~*i. A site evaluation report as required in Subsection 550.03.a. for wells and Subsection 550.04 for springs; (5-3-03)*~~

~~*ii. Dimensions of the well lot; and (12-10-92)*~~

~~*iii. Underground geological data and existing well logs. (12-10-92)*~~

~~*iv. If the water is to be treated, summarize the adequacy of proposed processes and unit parameters for the treatment of the specific water. Bench scale testing, pilot studies, or demonstrations of treatment adequacy may be required. (4-11-06)*~~

~~***s.** Generally discuss soil, ground water conditions, and potential building foundation problems, including a description of: (4-11-06)*~~

~~*i. The character of the soil through which water mains are to be laid; (4-11-06)*~~

~~*ii. Foundation conditions prevailing at sites of proposed structures; and (4-11-06)*~~

~~*iii. The approximate elevation of ground water in relation to subsurface structures. (4-11-06)*~~

~~***02. Ownership**. Documentation of the ownership and responsibility for operating the proposed system shall be made available to the Department prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. The documentation must show organization and financial arrangements adequate to assure construction, operation and maintenance of the system according to these rules. Documentation shall also include the name of the water system, the name, address, and phone number of the supplier of water, the system size, and the name, address, and phone number of the system operator. (10-1-93)*~~

~~***03. Connection to an Existing System**. If the proposed project is to be connected to an existing public water system, a letter from the purveyor must be submitted to the Department stating that they will be able to provide services to the proposed project. This letter must be submitted prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. (12-10-92)*~~

~~***04. Review of Plans and Specifications**. "Recommended Standards for Water Works, A Report of the Water Supply Committee of the Great lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers" except Parts One (1) and Eight (8), and all applicable laws, rules, and standards shall be applied in the review of plans and specifications for public water system facilities. With respect to water main extensions, as defined in Section 003, these rules shall apply. "Idaho Guidance for Public Drinking Water Systems" shall be used only to provide assistance in applying and interpreting these rules. (4-11-06)*~~

~~a. Prior to construction of new public drinking water systems, new drinking water systems designed to serve ten (10) or more service connections, or material modifications of existing public water systems, plans and specifications must be submitted to the Department for review and approval. Plans and specifications for water main extensions shall not require pre-construction approval by the Department when such extensions will be owned and operated by a city, county, quasi-municipal corporation or regulated public utility, provided that such plans and specifications are reviewed and approved by a qualified Idaho licensed professional engineer who was not involved in the preparation of the plans and specifications being reviewed to verify compliance with the requirements of these rules prior to initiation of construction. (4-11-06)~~

~~b. The Department shall review plans and specifications to determine compliance with these rules and engineering standards of care. If the plans and specifications comply with these rules and engineering standards of care, the Department shall not substitute its judgement for that of the owner's design engineer concerning the manner of compliance with the rule. (4-11-06)~~

~~c. The Department shall review plans and specifications and endeavor to resolve design issues within forty-two (42) calendar days of submittal such that approval can be granted. If the Department and applicant have not resolved design issues within forty-two (42) calendar days or at any time thereafter, the applicant may file a written demand to the Department for a decision. Upon receipt of such written demand, the Department shall deliver a written decision to the applicant within no more than seven (7) calendar days explaining any reasons for disapproval. The Department shall maintain records of all written demands for decision made pursuant to Subsection 551.04.c. with such records including the final decision rendered and the timeliness thereof. (4-11-06)~~

~~d. Plans and specifications shall be submitted by an Idaho registered professional engineer and bear the imprint of the engineer's seal; except that the Department will accept the seal of an Idaho registered professional geologist on the following: (5-3-03)~~

~~i. Well or spring source site evaluation reports, as specified in Subsections 550.03.a. and 550.04. (5-3-03)~~

~~ii. Plans and specifications for well construction and results of field inspection and testing, as specified in Subsections 550.03.e. and 550.03.f. (5-3-03)~~

~~e. Plans and specifications shall, where pertinent, provide the following: (4-11-06)~~

~~i. General layout, including: (4-11-06)~~

~~(1) Suitable title; (4-11-06)~~

~~(2) Name of municipality or other entity or person responsible for the water supply; (4-11-06)~~

~~(3) Area or institution to be served; (4-11-06)~~

~~(4) Scale of drawings; (4-11-06)~~

~~(5) North point; (4-11-06)~~

~~(6) Datum used; (4-11-06)~~

~~(7) General boundaries of municipality or area to be served; (4-11-06)~~

~~(8) Date, name, and address of the designing engineer; (4-11-06)~~

~~(9) Legible prints suitable for reproduction; (4-11-06)~~

~~(10) Location and size of existing water mains, if applicable; and (4-11-06)~~

~~(11) For systems undergoing material modification, location and nature of existing water works structures and appurtenances affecting the proposed improvements. (4-11-06)~~

~~ii. Detailed plans, including: (4-11-06)~~

~~(1) Stream crossings, providing profiles with elevations of the stream bed and the estimated normal and extreme high and, where appropriate, low water levels; (4-11-06)~~

~~(2) Location and size of the property to be used for the development with respect to known references such as roads, streams, section lines, or streets; (4-11-06)~~

~~(3) Topography and arrangement of present or planned wells or structures; (4-11-06)~~

~~(4) Elevations of the one hundred (100) year flood level in relation to the floor of structures, upper termination of protective casings, and grade surrounding facilities; (4-11-06)~~

~~(5) Details of well construction, including diameter and depth of drill holes, casing and liner diameters and depths, grouting depths, elevations, and designation of geological formations, water levels and other data as specified in Subsection 550.03.e; (4-11-06)~~

~~(6) Location of all known existing and potential sources of pollution which may affect the water source or underground treated storage facilities; (4-11-06)~~

~~(7) Size, length, and materials of proposed water mains; (4-11-06)~~

~~(8) Location of existing or proposed streets; water sources, ponds, lakes, and drains; storm sanitary, combined and house sewers; septic tanks, disposal fields and cesspools; (4-11-06)~~

~~(9) Schematic flow diagrams and hydraulic profiles showing the flow through various plant units; (4-11-06)~~

~~(10) Piping in sufficient detail to show flow through the plant including waste lines; (4-11-06)~~

~~(11) Locations of all chemical storage areas, feeding equipment, and points of chemical~~

~~*application;*~~ ~~*(4-11-06)*~~

~~*(12) All appurtenances, specific structures, equipment, water treatment plant waste disposal units and points of discharge having any relationship to the plans for water mains or water works structures;*~~ ~~*(4-11-06)*~~

~~*(13) Locations of sanitary or other facilities, such as lavatories, showers, toilets, and lockers, when applicable or required by the Department;*~~ ~~*(4-11-06)*~~

~~*(14) Locations, dimensions, and elevations of all proposed plant facilities;*~~ ~~*(4-11-06)*~~

~~*(15) Locations of all sampling taps; and*~~ ~~*(4-11-06)*~~

~~*(16) Adequate description of any significant features not otherwise covered by the specifications that may impact public safety or welfare.*~~ ~~*(4-11-06)*~~

~~*iii. Complete, detailed technical specifications shall be supplied for the proposed project, including:*~~ ~~*(4-11-06)*~~

~~*(1) A program for keeping existing water works facilities in operation during construction of additional facilities so as to minimize interruption of service;*~~ ~~*(4-11-06)*~~

~~*(2) Laboratory facilities and equipment;*~~ ~~*(4-11-06)*~~

~~*(3) Description of chemical feeding equipment;*~~ ~~*(4-11-06)*~~

~~*(4) Procedures for flushing, disinfection and testing, as needed, prior to placing the project in service; and*~~ ~~*(4-11-06)*~~

~~*(5) Materials or proprietary equipment for sanitary or other facilities, including any necessary backflow or back-siphonage protection.*~~ ~~*(4-11-06)*~~

~~*iv. Complete design criteria, as set forth in these rules.*~~ ~~*(4-11-06)*~~

~~*v. The Department may require additional information which is not part of the construction drawings, including but not limited to head loss calculations, proprietary technical data, and copies of contracts;*~~ ~~*(4-11-06)*~~

~~***f.** Except for water main extensions, as set forth in Subsection 551.04.a., during construction or modification, the Department must be notified of any material deviation from the approved plans. The Department's prior written approval is required before any material deviation is allowed.*~~ ~~*(4-11-06)*~~

~~***g.** Within thirty (30) calendar days of the completion of construction of facilities for which plans are required to be reviewed pursuant to Subsection 551.04.a., record plans and specifications based on information provided by the construction contractor and field observations made by the engineer or the engineer's designee depicting the actual construction of facilities performed, must be submitted to the Director by the engineer representing the city,*~~

~~*county, quasi-municipal corporation or regulated public utility that owns the project, or by the design engineer or owner-designated substitute engineer if the facilities will not be owned and operated by a city, county, quasi-municipal corporation or regulated public utility. Such submittal by the professional engineer must confirm material compliance with the approved plans and specifications or disclose any material deviations therefrom. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that effect prepared by a qualified Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings. (4-11-06)*~~

~~***05. Exception**. A District Health Department may exclude noncommunity water systems from the Department's plan and specification review if the District has reviewed the project and will inspect it during construction. The Department may waive the plan and specification approval required of any particular facility or category of facilities when doing so will have no significant impact on public health or the environment. (4-11-06)*~~

~~***06. Construction**. No construction shall commence until all of the necessary approvals have been received from the Department. (12-10-92)*~~

~~***07. Source**. Before a public water system uses a new source of water to provide water to consumers, the source shall be approved by the Department. (12-10-92)*~~

~~***08. Installation of Water Mains**. Division 400 of "Idaho Standards for Public Works Construction," as specified in Subsection 002.02.p., may be used as guidance for installation of water mains. In addition, the following provisions shall apply: (4-11-06)*~~

~~***a.** Installed pipe shall be pressure tested and leakage tested in accordance with the applicable AWWA Standards or manufacturer's standard for high-density polyethylene. (4-11-06)*~~

~~***b.** New, cleaned, and repaired water mains shall be disinfected in accordance AWWA Standard C651. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. (4-11-06)*~~

~~***c.** In areas where aggressive soil conditions are suspected or known to exist, analyses shall be performed to determine the actual agressiveness of the soil. If soils are found to be aggressive, action shall be taken to protect metallic joint restraints and the water main, such as encasement in polyethylene, provision of cathodic protection, or use of corrosion resistant materials. (4-11-06)*~~

~~***d.** The Department must approve any interconnection between potable water supplies, taking into account differences in water quality between the two (2) systems. (4-11-06)*~~

~~***e.** A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six (6) inches below the bottom of the pipe. (4-11-06)*~~

~~***f.** Water mains shall be covered with sufficient earth or other insulation to prevent freezing. (4-11-06)*~~

~~**g.** *All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement.* (4-11-06)~~

~~**09. Well Abandonment**. *Any water supply well that will no longer be used must be abandoned by sealing the borehole carefully to prevent pollution of the groundwater, eliminate any physical hazard, conserve aquifer yield, maintain confined head conditions in artesian wells, and prevent mixing of waters from different aquifers. The objective of proper well abandonment procedures is to restore, as far as possible, the original hydrogeologic conditions. The services of a licensed well driller are required. Instructions for abandoning various types of wells may be obtained from the Idaho Department of Water Resources.* (5-3-03)~~

549. -- 551. (RESERVED).

552. FACILITY AND DESIGN STANDARDS -- OPERATING CRITERIA FOR PUBLIC WATER SYSTEMS.

01. Quantity and Pressure Requirements. (12-1-92)

a. Minimum Quantity. The capacity of a public drinking water system shall in no instance be less than eight hundred (800) gallons per day per residence, plus irrigation flows. (5-3-03)

b. ~~*Minimum*~~ Pressure. If the Department receives a complaint from a customer or customers of a public drinking water system regarding inadequate or excessive pressure, the Department may, after initial investigation by the water system or the Department, require the public water system to conduct a local pressure monitoring study to diagnose and correct pressure problems. ~~(12-1-92)~~(____)

i. Any public water system shall be capable of providing sufficient water during *maximum* ~~*hourly*~~ *day* demand conditions, ~~(~~including fire flow~~)~~ to maintain a minimum pressure of twenty (20) psi throughout the distribution system, at ground level, as measured at the service connection or along the property line adjacent to the consumer's premises. ~~(4-11-06)~~(____)

ii. Any public water system constructed or significantly modified after July 1, 1985, shall maintain a minimum pressure of forty (40) psi throughout the distribution system, during ~~*maximum*~~ peak hourly demand conditions, excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises. ~~(4-11-06)~~(____)

(1) Existing water systems that are planning to expand their service area shall meet the criteria in Subsections 552.01.b.i. and 552.01.b.ii. in the new service area. (4-11-06)

(2) Compliance with these requirements by water systems that do not have a meter vault or other point of access at the service connection or along the property line adjacent to the consumer's premises where pressure in the distribution system can be reliably measured shall be determined by measurements within the consumer's premises, or at another representative location acceptable to the Department. (5-3-03)

iii. Any public water system shall keep static pressure within the distribution system below one hundred (100) psi and should ordinarily keep static pressure below eighty (80) psi. Pressures above one hundred (100) psi shall be controlled by pressure reducing devices installed in the distribution main. If system modification will cause pressure to routinely exceed eighty (80) psi, the water system shall notify affected customers. The Department may approve the use of pressure reducing devices at individual service connections on a case by case basis, if it can be demonstrated that higher pressures in portions of the distribution system are required for efficient system operation. ~~(5-3-03)~~(____)

iv. The Department may allow the installation of booster pump systems at individual service connections on a case by case basis. However, such an installation may only occur with the full knowledge and agreement of the public water system, including assurance by the water system that the individual booster pump will cause no adverse effects on system operation. (4-11-06)

v. When pressures within the system are known to have fallen below twenty (20) psi, the water system must provide public notice and disinfect the system. (5-3-03)

c. Fire Flows. Any public water system designed to provide fire flows shall ensure that such flows are compatible with the water demand of existing and planned fire fighting equipment and fire fighting practices in the area served by the system. (5-3-03)

d. Irrigation Flows. (12-1-92)

i. Any public water system constructed after November 1, 1977, shall be capable of providing water for uncontrolled, simultaneous foreseeable irrigation demand, which shall include all acreage that the system is designed to irrigate. (5-3-03)

(1) The Department must concur with assumptions regarding the acreage to be irrigated. In general, an assumption that no outside watering will occur is considered unsound and is unlikely to be approved. (5-3-03)

(2) An assumption of minimal outside watering, as in recreational subdivisions, may be acceptable if design flows are adequate for maintenance of "green zones" for protection against wildland fire. (5-3-03)

ii. The requirement of Subsection 552.01.d.i. may be modified by the Department if: (5-3-03)

(1) A separate irrigation system is provided; or (12-10-92)

(2) The supplier of water can regulate the rate of irrigation through its police powers, and the water system is designed to accommodate a regulated rate of irrigation flow. The Department may require the water system to submit a legal opinion addressing the enforceability of such police powers. (5-3-03)

iii. If a separate nonpotable irrigation system is provided for the consumers, all mains,

hydrants and appurtenances shall be easily identified as nonpotable. The Department must concur with a plan to ensure that each new potable water service is not cross-connected with the irrigation system. (5-3-03)

~~***02. Additives**. No chemical or other substance shall be added to drinking water, nor shall any process be utilized to treat drinking water, unless specifically approved by the Department. All chemicals shall conform to applicable American Water Works Association Standards as set forth in Subsection 002.02.k., and be listed as approved under ANSI/NSF standard 60 or 61, as specified in Subsections 002.02.l. and 002.02.m. (4-11-06)***~~

0~~3~~2. Ground Water. (12-10-92)

a. Public water systems constructed after July 1, 1985, and supplied by ground water, shall treat water within the system by disinfection if the groundwater source is not protected from contamination. (12-10-92)

b. The Department may, in its discretion, require disinfection for any existing public water system supplied by ground water if the system consistently exceeds the MCL for coliform, and if the system does not appear adequately protected from contamination. Adequate protection will be determined based upon at least the following factors: (12-10-92)

i. Location of possible sources of contamination; (12-10-92)

ii. Size of the well lot; (12-10-92)

iii. Depth of the source of water; (12-10-92)

iv. Bacteriological quality of the aquifer; (12-10-92)

v. Geological characteristics of the area; and (12-10-92)

vi. Adequacy of development of the source. (12-10-92)

0~~4~~3. Operating Criteria. The operating criteria for systems supplied by surface water or ground water under the direct influence of surface water shall be as follows: (12-10-92)

a. Each system must develop and follow a water treatment operations plan acceptable to the Department, by July 31, 1993, or within six (6) months of installation of filtration treatment, whichever is later. For a maximum of twelve (12) months, this may be a draft operations plan based on pilot studies or other criteria acceptable to the Department. After twelve (12) months the plan shall be finalized based on full scale operation. (12-10-92)

b. The purveyor shall ensure that treatment facilities are operated in accordance with good engineering practices such as those found in the Recommended Standards for Water Works, A Report of the Water Supply Committee of the Great Lakes - Upper Mississippi River Board of Public Health and Environmental Managers as set forth in Subsection 002.02.c., or other equal standard designated by the Department. (4-6-05)

c. New treatment facilities shall be operated in accordance with Subsection 552.0~~4~~3.b., and the system shall conduct monitoring specified by the Department for a trial period specified by the Department before serving water to the public in order to protect the health of consumers served by the system. ~~(12-10-92)~~(____)

0~~5~~4. Chlorination. Systems that regularly add chlorine to their water are subject to the provisions of Section 320. Systems using surface water or ground water under the direct influence of surface water, are subject to the disinfection requirements of Sections 300 and ~~*Subsection 550.05*~~ 518. ~~(4-6-05)~~(____)

a. Systems using only ground water that add chlorine for the purpose of disinfection, as defined in Section 003, are subject to the following requirements: (4-6-05)

i. Chlorinator capacity shall be such that the system is able to demonstrate that it is routinely achieving four (4) logs (ninety-nine point ninety-nine percent) (99.99%)) inactivation of viruses. The required contact time will be specified by the Department. This condition must be attainable even when the maximum hourly demand coincides with anticipated maximum chlorine demands. (4-6-05)

ii. A detectable chlorine residual shall be maintained throughout the distribution system. (4-6-05)

iii. Automatic proportioning chlorinators are required where the rate of flow is not reasonably constant. (12-10-92)

iv. Analysis for free chlorine residual shall be made at least daily and records of these analyses shall be kept by the supplier of water for at least one (1) year. The frequency of measuring free chlorine residuals shall be sufficient to detect variations in chlorine demand or changes in water flow. (4-6-05)

v. A separate and ventilated room for gas chlorination equipment shall be provided. (12-10-92)

vi. The Department may, in its discretion, require a treatment rate higher than that specified in Subsection 552.0~~5~~4.a.i. ~~(4-6-05)~~(____)

vii. When chlorine gas is used, chlorine leak detection devices and safety equipment shall be provided in accordance with the 1992 Recommended Standards for Water Works, as set forth in Subsection 002.02.c. (12-10-92)

b. Systems using only ground water that add chlorine for the purpose of maintaining a disinfectant residual in the distribution system, when the source(s) is not at risk of microbial contamination, are subject to the following requirements: (4-6-05)

i. Automatic proportioning chlorinators are required where the rate of flow is not reasonably constant. (4-6-05)

ii. Analysis for free chlorine residual shall be made at a frequency that is sufficient to

detect variations in chlorine demand or changes in water flow. (4-6-05)

c. Systems using only ground water that add chlorine for other purposes, such as oxidation of metals or taste and odor control, when the source(s) is known to be free of microbial contamination, must ensure that chlorine residual entering the distribution system after treatment is less than four (4.0) mg/L. The requirements in Subsection 552.0~~5~~4.b.ii. also apply if the system maintains a chlorine residual in the distribution system. ~~(4-6-05)~~(____)

0~~6~~5. Fluoridation. (12-1-92)

a. Commercial sodium fluoride, sodium silico fluoride and hydrofluosilicic acid which conform to the applicable American Water Works Association (AWWA) Standards, incorporated by reference into these rules at Subsection 002.01, are acceptable~~ as set forth in Subsection 002.02.k~~. Use of other chemicals shall be specifically approved by the Department. ~~(4-6-05)~~(____)

~~**b.** The accuracy of chemical feeders used for fluoridation shall be plus or minus five percent (5%) of the intended dose. (12-10-92)~~

~~**e**~~**b.** Fluoride compounds shall be stored in covered or unopened shipping containers. ~~Storage areas shall be ventilated. (12-10-92)~~(____)

~~**d**~~**c.** Provisions shall be made to minimize the quantity of fluoride dust. Empty bags, drums, or barrels shall be disposed of in a manner that will minimize exposure to flouride dusts. ~~(12-10-92)~~(____)

~~**e**~~**d.** Daily records of flow and amounts of fluoride added shall be kept. An analysis for fluoride in finished water shall be made at least weekly. Records of these analyses shall be kept by the supplier of water for five (5) years. (12-10-92)

06. Cross Connection Control Program - Community Water Systems. Pursuant to Section 543, all suppliers of water for community water systems shall implement a cross connection control program to prevent the entrance to the system of materials known to be toxic or hazardous. See AWWA "Cross Connection Control Manual," referenced in Subsection 002.02. The program will include: (____)

a. An inspection once a year of all facilities listed in Subsection 900.02 (Table 2) to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service. (____)

b. Required installation and operation of adequate backflow prevention assemblies. A selection chart for various facilities, fixtures, equipment, and uses of water is provided in Subsection 900.02 (Table 2). (____)

c. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department. Testing shall be done in accordance with the test procedures published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. See the USC Manual of

Cross-Connection Control referenced in Subsection 002.02. ( )

d. Discontinuance of service to any facility where suitable backflow protection has not been provided for a cross connection. ( )

07. Cross Connection Control Program - Non-Community Water Systems. All suppliers of water for non-community water systems shall ensure that cross connections do not exist or are isolated from the potable water system by an approved backflow prevention assembly. Backflow prevention assemblies shall be inspected for functionality on a regular basis by a licensed tester, as specified in Subsection 552.06.c. ( )

(BREAK IN CONTINUITY OF SECTIONS)

900. TABLES

01. Table 1 -- Minimum Distances From a Public Water System Well.

Minimum Distances from a Public Water System Well	
Gravity sewer line	50 feet
Pressure sewer line	100 feet
Individual home septic tank	100 feet
Individual home disposal field	100 feet
Individual home seepage pit	100 feet
Privies	100 feet
Livestock	50 feet
Canals, streams, ditches, lakes, ponds and tanks used to store nonpotable substances	50 feet

~~(12-10-92)~~( )

02. Table 2 -- Selection Chart for Minimum Backflow Prevention Services.

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Animal Watering	X	X		X	X
Aspirators, harmful substance	X	X		X	X
Autopsy Equipment	X	X		X	
Autoclaves				X	

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Boiler Feeds without harmful chemicals			X		
Boiler Feeds with harmful chemicals				X	X
Bed Pan Washers	X	X			
Cuspidors, Open Outlet	X	X			
Cuspidors, Valved Outlet		X			
Dairies and Farms ~~— high risk~~				X	X
~~Dairies and Farms – low risk~~			~~X~~	~~X~~	~~X~~
Dishwashers	X	X			X
Domestic Water Booster Pump on service lines			X	X	
Garbage Can Washers		X			X
Heat Exchangers with transfer fluids			X	X	
High Rise Buildings, 3 stories or more, bldgs. on hill			X	X	
Irrigation Systems, such as cemeteries, golf courses, playgrounds, parks, estates, ranches, schools, and residential uses with chemicals added				X	X
Irrigation Systems, such as cemeteries, golf courses, playgrounds, parks, estates, ranches, schools, and residential uses without chemicals added	X	X	X		
Laundries with under rim or bottom-fill inlets, dry cleaning, and dye works	X	X		X	X
Mobile Home and RV Parks with nonapproved waste valves		X	X	X	
Mobile Home and RV Parks with below ground level service line termination				X	
Fixing Tees with steam and water used with harmful substances				X	
Fixing Tees with steam and water used without harmful substances			X		
Private Water Sources which are unmonitored				X	
Radiator-Vats				X	X
Slaughter Houses				X	
Car Washes using soaps and waxes			X	X	
Chemical Plants				X	X
Dockside Watering Facilities, Marinas	X		X	X	X
Film Laboratories				X	X

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Food Processing Plants			X	X	X
Fertilizer Plants				X	X
Hospitals handling harmful substances				X	
Lab Sink using toxics (unharmful)	X	X	X	X	
Meat Packing Plants				X	
Medical Bldgs, clinics, laboratories, etc.				X	
Nonpotable Water				X	X
Oil Refinery and Petroleum Storage Facilities				X	
Sanitariums	X	X		X	
Sewage Piping or Plants				X	X
Tank Truck Fill Station				X	X
Mortuaries				X	
Hoses that could be in contact with animal waste	X	X			
Shampoo Sprays	X	X			
Sterilizers				X	
Steam Cookers using low health risk substance			X		
Steam Cookers using high health risk substance				X	
Swim Pools, Hot Tubs, private or semiprivate	X	X		X	X
Swim Pools direct connection	X	X		X	X
Urinals	X			X	
Water Cooling or Heating Coils		X		X	
Water Closets	X			X	

X -- indicates suitable protection to be required by the public water system. For facilities with multiple options, the public water system will determine the lowest degree of protection that is acceptable. (4-6-05)

03. Table 3- Well Casing Standards for Public Water System Wells.

STEEL PIPE		
		WEIGHT PER FOOT (pounds)

STEEL PIPE					
SIZE	DIAMETER (inches) External	DIAMETER (inches) Internal	THICKNESS (inches)	Plain Ends couplings (calculated)	With Threads and (nominal)
6 (id) *	6.625	6.065	0.280	18.97	19.18
8	8.625	7.981	0.322	28.55	29.35
10	10.750	10.020	0.365	40.48	41.85
12	12.750	12.000	0.375	49.56	51.15
14 (od) *	14.000	13.250	0.375	54.57	57.00
16	16.000	15.250	0.375	62.58	
18	18.000	17.250	0.375	70.59	
20	20.000	19.250	0.375	78.60	
22	22.000	21.000	0.500	114.81	
24	24.000	23.000	0.500	125.49	
26	26.000	25.000	0.500	136.17	
28	28.000	27.000	0.500	146.85	
30	30.000	29.000	0.500	157.53	
32	32.000	31.000	0.500	168.21	
34	34.000	33.000	0.500	178.89	
36	36.000	35.000	0.500	189.57	

* id = inside diameter
od = outside diameter

(____)

901. -- 999. (RESERVED).

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.11 - GROUND WATER QUALITY RULE

DOCKET NO. 58-0111-0601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. This action is authorized by Sections 39-105, 39-107, 39-120 and 39-126, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, July 5, 2006, Vol. 06-7, pages 95 through 105. The agency received no public comments; however, a correction has been made to the proposed rule publication error in the footnote for total coliform (Subsection 200.01.a.). In the second sentence of the footnote, "and" has been changed to "or." The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/groundwater/58_0111_0601_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations. There is no federal law or regulation that is comparable to the Ground Water Quality Rule. Therefore, the changes to the rule are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." This rule may be used to regulate an activity not regulated by the federal government. The following is a summary of additional information required by Sections 39-107D(3) and (4), Idaho Code. Information relating to Section 39-107D(2) has also been provided. The requirements set forth in this rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), and professional scientific and medical journals. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding health effects.

Section 39-107D(2)(a), Idaho Code. To the degree that a department action is based on science the department shall utilize the best available peer reviewed science and supporting

studies conducted in accordance with sound objective scientific practices.
The presence of E. coli or fecal coliform in water is universally accepted as evidence that the water has been contaminated with the fecal material of man or other animals. Fecal contamination is an indicator that a potential health risk exists for individuals exposed to or ingesting this water. The requirements set forth in this rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), and professional scientific and medical journals. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding health effects.

Section 39-107D(2)(b), Idaho Code. To the degree that a department action is based on science, the department shall utilize data collected by accepted methods or best available methods if the reliability of the method and the nature of the decision justifies use of the data.
Data were not collected or analyzed by DEQ as part of this rulemaking process. DEQ relied on information readily available to the public from federal and state government publications and articles from medical and scientific professional journals.

Section 39-107D(3)(a), Idaho Code. Identification of each population or receptor addressed by an estimate of public health effects or environmental effects.
Escherichia coli (E. coli) is a normal inhabitant of the intestines of all animals including humans. The primary reservoir of this bacterium has been found to be healthy cattle (Jackson et al., 1998). While there are many harmless E. coli strains, E. coli O157:H7 can cause food- and waterborne illness. E. coli O157:H7 causes approximately 73,000 infections and about 61 deaths per year in the U.S (CDC, 2005). It was first recognized in 1982, when it was associated with two foodborne outbreaks of bloody diarrhea and abdominal cramps (Gugnani, 1999).

Hemorrhagic colitis is the name of the acute disease caused by E. coli O157:H7 (FDA, 2005). E. coli O157:H7 infection often causes severe bloody diarrhea and abdominal cramps; sometimes the infection causes diarrhea or other symptoms. This bacterium produces potent toxins (verotoxins) related to Shigella toxins. The incubation period is 3-4 days, and the symptoms occur for 7–10 days (Moe, 1997; Rice, 1999). Usually little or no fever is present. However, in some persons, particularly children under 5 years of age and the elderly, the infection can cause a complication called hemolytic uremic syndrome (HUS), in which the red blood cells are destroyed and the kidneys fail. About 2%-7% of infections lead to this complication. In the United States, HUS is the principal cause of acute kidney failure in children, and most cases of HUS are caused by E. coli O157:H7. HUS is a life threatening condition usually treated in an intensive care unit. Blood transfusions and kidney dialysis are often required. With intensive care, the death rate for HUS is 3%-5% (CDC, 2005). In the elderly, HUS, plus two other symptoms, fever and neurologic symptoms constitutes thrombotic purpura (TTP). This illness can have a mortality rate in the elderly as high as 50% (FDA, 2005).

One route of human exposure to E. coli is through the consumption of contaminated drinking water. The bacteria are shed in animal and human fecal matter, and drinking water sources may become contaminated during rain or snowmelts that wash E. coli-contaminated wastes into surface and ground water. If the source water is not properly treated, drinking water may remain contaminated with E. coli (USEPA, 2006a). Additionally, bacteria can contaminate ground water

as a result of malfunctioning septic systems, leaking sewer lines, and above-ground pathways that extend below the surface, such as deep cracks in the ground.

Although E. coli O157:H7 is not usually a concern in treated drinking water, outbreaks involving consumption of drinking water contaminated with human sewage or cattle feces have been documented (Swerdlow et al., 1992; Bruce-Grey-Owen Sound Health Unit, 2000).

E. coli O157:H7 infections can be deadly. Recent water related outbreaks of E. coli O157:H7 in North America include a May 2000 tragedy in Walkerton, Ontario, where 7 people died and approximately 2,300 persons became ill from consuming E. coli O157:H7-contaminated ground water. Of the more than 2,300 individuals affected, 65 were hospitalized, 27 developed hemolytic uremic syndrome (HUS), a serious and potentially fatal kidney ailment (Hrudley et al, 2002). In 1999, at a fair near Albany, New York, approximately 804 cases of E. coli O157:H7 infections were linked to consumption of contaminated ground water. Sixty-five people were hospitalized and two people died (USEPA, 2006a). There were also drinking water E. coli O157:H7 outbreaks reported in Wyoming, Illinois, and Washington in 1997 and 1998; all were associated with contaminated ground water systems (Barwick et al, 2000).

Section 39-107D(3)(b) and (c), Idaho Code. Identification of the expected risk or central estimate of risk for the specific population or receptor and identification of each appropriate upper bound or lower bound estimate of risk.
The U.S. EPA (USEPA, 2006b) reports that preliminary data from eight ground water microbial studies of public water system wells indicate pathogen occurrence rates from 6% to 12% and pathogen indicator occurrence rates of 12% to 38%. If these occurrence rates are extrapolated to Idaho, where approximately 400,000 people are not served by regulated public water systems, but rely on private domestic wells to withdraw ground water for drinking water people, then between 24,000 and 152,000 Idahoans are potentially at risk.

This estimate of risk does not include the approximately 1 million Idahoans served by regulated public water systems. About 95% of these public water systems use ground water as the source of their drinking water. If treatment used by the public water systems fails to work properly during a bacterial contamination event then incidents similar to those reported in the previous section could occur. The threat associated with this possibility is not quantified.

In 1995, a significant bacterial contamination event occurred in Island Park, Idaho resulting in 82 cases of shigellosis. The likely cause of the contamination is believed to be leakage from nearby septic tanks or sewer lines. The findings of the investigation indicated possible transmission from multiple wells in the same area, suggesting the spread of organisms through the groundwater (CDC, 1996).

Section 39-107D(3)(d), Idaho Code. Identification of each significant uncertainty identified in the process of the assessment of public health effects or environmental effects and any studies that would assist in resolving the uncertainty.
According to the Center for Risk Science and Public Health at The George Washington University School of Public Health and Health Services, “much of what is known about the risk factors in populations comes from outbreak data. In the United States, waterborne disease outbreaks are tracked using voluntary passive surveillance techniques by the Centers for Disease Control and Prevention (CDC) in collaboration with the Environmental Protection Agency. State and local

health departments may report the epidemiologic data from an outbreak to CDC, but reporting varies by the type of outbreak, state, infectious agent, and time period. Such data often do not include the demographic or other characteristics essential for assessing inter-individual differences in susceptibility. Exposure analysis is also very limited, and water quality parameters are not always included in the analysis" (Balbus and Embrey, 2002).

"The likelihood that individual cases of illness will be detected, epidemiologically linked, and associated with water is slim. For an outbreak to be detected, a series of events must happen. First, people who are ill must consult a health care provider, and generally, at least two patients must consult the same provider for an association to be made. Next, the health care provider must recognize the possibility of an outbreak and perform appropriate laboratory testing or report the cases to a local or state health department. The availability and patterns of use of laboratory testing, the requirements for laboratories or physicians to report results to local or state health departments, and the activities of state and local health and environmental agencies all affect the likelihood that an outbreak will be recognized and reported. Often, pathogens are not identified because the appropriate tests are not ordered. For example, most laboratories do not test for *Cryptosporidium parvum* on a routine ova and parasites examination, and *E. coli* O157:H7 will not be detected from a routine stool culture. The most frequently identified etiologic agents traced to both drinking water and recreational water outbreaks representing the three pathogen classifications, protozoa, viruses, and bacteria, are *Giardia* and *Cryptosporidium*, Norwalk-like viruses, and *E. coli* O157:H7" (Balbus and Embrey, 2002).

According to information from the U.S. Food and Drug Administration (FDA, 2005) the infective dose of E. coli is unknown, but from a compilation of outbreak data, the dose may be similar to that of Shigella spp (as few as 10 organisms). A study of outbreak data indicates less than 50 E. coli organisms can result in an infective dose (Tilden et al, 1996).

Studies have shown that the E. coli dose required to produce symptoms is lower than that for most other enteric pathogenic bacteria. The probability of becoming ill depends on the number of organisms ingested, the health status of the person, and the resistance of the person to the organism or toxin (AWWA Committee Report, 1999). Children and the elderly are most susceptible to HUS complications. In susceptible individuals such as infants, the elderly, and immunocompromised individuals, the effects may be severe, chronic (e.g., kidney damage), or even fatal.

Section 39-107D(3)(e), Idaho Code. Identification of studies known to the department that support, are directly relevant to, or fail to support any estimate of public health effects or environmental effects and the methodology used to reconcile inconsistencies in the data.
The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding health effects.

References:
AWWA (American Water Works Association) Committee Report (1999) *Emerging pathogens — bacteria*. J. Am. Water Works Assoc., 91(9): 101–109.

Balbus JN, and Embrey MA, (2002). Risk factors for waterborne enteric infections. Current Opinions in Gastroenterology 2002, 18:46-50.

Barwick RS, et al, (2000). Surveillance for waterborne-disease outbreaks. Morb Mortal Wkly Rep Surveill Summ 49(SS04):1-35 (2000)

Bruce-Grey-Owen Sound Health Unit (2000) The investigative report on the Walkerton outbreak of waterborne gastroenteritis. May–June, Owen Sound (http://www.publichealthgreybruce.on.ca/_private/Report/SPReport.htm).

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FDA (U.S. Food and Drug Administration), (2005) Foodborne Pathogenic Microorganisms and Natural Toxins Handbook: Escherichia coli O157:H7. Available: http://www.cfsan.fda.gov/~mow/chap15.html

Gugnani, H.C. (1999) Some emerging food and water borne pathogens. J. Commun. Dis., 31(2): 65–72.

Hrudley, S.E., Huck, P.M., Payment, P., Gillham, R.W., and Hrudley, R.J., (2002) Walkerton: Lessons learned in comparison with waterborne outbreaks in the developed world, Journal Environmental Engineering Science 1: 397-407.

Jackson, S.G., Goodbrand, R.B., Johnson, R.P., Odorico, V.G., Alves, D., Rahn, K., Wilson, J.B., Welch, M.K., and Khakhria, R. (1998) Escherichia coli O157:H7 diarrhea associated with well water and infected cattle on an Ontario farm. Epidemiol. Infect., 120: 17–20.

Moe, C.L. (1997) Waterborne transmission of infectious agents. In: Manual of environmental microbiology. C.J. Hurst, G.R. Knudsen, M.J. McInerney, L.D. Stetzenbach, and M.V. Walter (eds.). ASM Press, Washington, DC.
Rice, E.W. (1999) Escherichia coli. In: AWWA manual M48: Waterborne pathogens. American Water Works Association, Denver, CO. pp. 75–78.

Swerdlow, D.L., Woodruff, B.A., Brady, R.C., Griffin, P.M., Tippen, S., Donnell, H.D., Jr., Geldreich, E., Payne, B.J., Meyer, A., Jr., Wells, J.G., Greene, K.D., Bright, M., Bean, N.H., and Blake, P.A. (1992) A waterborne outbreak in Missouri of Escherichia coli O157:H7 associated with bloody diarrhea and death. Ann. Intern. Med., 17(10): 812–819.

Tilden, J. Jr., Young, W., McNamara, A.M., et al. (1996) A new route of transmission for Escherichia coli: infection from dry fermented salami, American Journal of Public Health, 1996, 86:1142-45.

USEPA (U.S. Environmental Protection Agency), (2006a). Office of Ground Water and Drinking Water. E. coli in Drinking Water (fact sheet). Available: http://www.epa.gov/safewater/ecoli.html.

USEPA (U.S. Environmental Protection Agency), (2006b). Office of Ground Water and Drinking Water, Ground Water Rule: Public Health Concerns. Available: http://www.epa.gov/safewater/standard/phs.html

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this rulemaking, contact Edward Hagan at ed.hagan@deq.idaho.gov, (208)373-0356.

Dated this 12th day of October 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. This action is authorized by Sections 39-105, 39-107, 39-120 and 39-126, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency.

Written requests for a hearing must be received by the undersigned on or before July 19, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: The purpose of this rulemaking is to make revisions that would allow the Department of Environmental Quality (DEQ) to use improvements in analytical technology implemented since the Ground Water Quality Rule was promulgated in 1997 to identify the subset of coliform bacteria more likely to be harmful to human health. The proposed revisions augment the ground water quality standards for bacteria by adding standards for fecal coliform and Escherichia coli (E. coli) bacteria.

The proposed standard for both fecal coliform and E. coli bacteria is less than one viable colony or less than one colony forming unit/100 ml as determined by any EPA approved method. This standard is based on comments received from the state health lab during negotiated rulemaking. The state health lab indicated that test results for bacteria may be reported three ways: as zero, presence or absence, or less than one. A standard of less than one would satisfy all three reporting options. In addition, DEQ proposes to remove the reference to Subsection 200.01.c. from Subsection 400.02.a.iii. The reference to Subsection 200.01.c. is no longer correct due to revisions made to Section 200 in 2003.

In the preliminary draft for negotiated rulemaking, DEQ proposed to remove the standard for total coliform bacteria to eliminate redundancy due to the proposed addition of standards for fecal coliform and E. coli bacteria. However, during the negotiated

rulemaking process, DEQ received comments in favor of maintaining the current total coliform standard due to its widespread use, both historically and currently.

As proposed, the numerical ground water quality standard for bacteria will become a two-step process. The first step will be to screen the sample for bacteria using total coliform testing. If the primary ground water quality standard of 1 colony forming unit/100 ml for total coliform is exceeded, an additional analysis for fecal coliform and E. coli would be conducted to determine if the bacteria are likely to be harmful to human health. Laboratory tests currently in use can identify E. coli or fecal coliform when total coliform bacteria are present in the sample.

This phased implementation approach would eliminate the redundancy in the rule caused when standards for fecal coliform and E. coli are added, while maintaining the total coliform standard. It also allows DEQ to fulfill statutory requirements by requiring an action - testing for fecal coliform or E. coli - when a standard is exceeded. More importantly, the proposed rule change enables DEQ and other agencies to focus resources on those sites where bacterial impacts are the result of fecal contamination and are more likely to pose a threat to human health.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. Domestic well owners and the public at large may be interested in this rulemaking.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in October 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations. There is no federal law or regulation that is comparable to the Ground Water Quality Rule. Therefore, the proposed changes to the rule are not broader in scope or more stringent than federal law or regulations.
Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government". This rule may be used to regulate an activity not regulated by the federal government. The following is a summary of additional information required by Sections 39-107D(3) and (4), Idaho Code. Information relating to Section 39-107D(2) has also been provided. The requirements set forth in this proposed rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), and professional scientific and medical journals. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further

detailed information regarding health effects.

Section 39-107D(2)(a), Idaho Code. To the degree that a department action is based on science the department shall utilize the best available peer reviewed science and supporting studies conducted in accordance with sound objective scientific practices.

The presence of E. coli or fecal coliform in water is universally accepted as evidence that the water has been contaminated with the fecal material of man or other animals. Fecal contamination is an indicator that a potential health risk exists for individuals exposed to or ingesting this water. The requirements set forth in this proposed rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), and professional scientific and medical journals. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding health effects.

Section 39-107D(2)(b), Idaho Code. To the degree that a department action is based on science, the department shall utilize data collected by accepted methods or best available methods if the reliability of the method and the nature of the decision justifies use of the data.

Data were not collected or analyzed by DEQ as part of this rulemaking process. DEQ relied on information readily available to the public from federal and state government publications and articles from medical and scientific professional journals.

Section 39-107D(3)(a), Idaho Code. Identification of each population or receptor addressed by an estimate of public health effects or environmental effects.

Escherichia coli (E. coli) is a normal inhabitant of the intestines of all animals including humans. The primary reservoir of this bacterium has been found to be healthy cattle (Jackson et al., 1998). While there are many harmless E. coli strains, E. coli O157:H7 can cause food- and waterborne illness. E. coli O157:H7 causes approximately 73,000 infections and about 61 deaths per year in the U.S (CDC, 2005). It was first recognized in 1982, when it was associated with two foodborne outbreaks of bloody diarrhea and abdominal cramps (Gugnani, 1999).

Hemorrhagic colitis is the name of the acute disease caused by E. coli O157:H7 (FDA, 2005). E. coli O157:H7 infection often causes severe bloody diarrhea and abdominal cramps; sometimes the infection causes diarrhea or other symptoms. This bacterium produces potent toxins (verotoxins) related to Shigella toxins. The incubation period is 3-4 days, and the symptoms occur for 7-10 days (Moe, 1997; Rice, 1999). Usually little or no fever is present. However, in some persons, particularly children under 5 years of age and the elderly, the infection can cause a complication called hemolytic uremic syndrome (HUS), in which the red blood cells are destroyed and the kidneys fail. About 2%-7% of infections lead to this complication. In the United States, HUS is the principal cause of acute kidney failure in children, and most cases of HUS are caused by E. coli O157:H7. HUS is a life threatening condition usually treated in an intensive care unit. Blood transfusions and kidney dialysis are often required. With intensive care, the death rate for HUS is 3%-5% (CDC, 2005). In the elderly, HUS, plus two other symptoms, fever and neurologic symptoms constitutes thrombotic purpura (TTP). This illness can have a mortality rate in the elderly as high as 50% (FDA, 2005).

One route of human exposure to E. coli is through the consumption of contaminated drinking water. The bacteria are shed in animal and human fecal matter, and drinking water sources may

become contaminated during rain or snowmelts that wash E. coli-contaminated wastes into surface and ground water. If the source water is not properly treated, drinking water may remain contaminated with E. coli (USEPA, 2006a). Additionally, bacteria can contaminate ground water as a result of malfunctioning septic systems, leaking sewer lines, and above-ground pathways that extend below the surface, such as deep cracks in the ground.

Although E. coli O157:H7 is not usually a concern in treated drinking water, outbreaks involving consumption of drinking water contaminated with human sewage or cattle feces have been documented (Swerdlow et al., 1992; Bruce-Grey-Owen Sound Health Unit, 2000).

E. coli O157:H7 infections can be deadly. Recent water related outbreaks of E. coli O157:H7 in North America include a May 2000 tragedy in Walkerton, Ontario, where 7 people died and approximately 2,300 persons became ill from consuming E. coli O157:H7-contaminated ground water. Of the more than 2,300 individuals affected, 65 were hospitalized, 27 developed hemolytic uremic syndrome (HUS), a serious and potentially fatal kidney ailment (Hrudley et al, 2002). In 1999, at a fair near Albany, New York, approximately 804 cases of E. coli O157:H7 infections were linked to consumption of contaminated ground water. Sixty-five people were hospitalized and two people died (USEPA, 2006a). There were also drinking water E. coli O157:H7 outbreaks reported in Wyoming, Illinois, and Washington in 1997 and 1998; all were associated with contaminated ground water systems (Barwick et al, 2000).

Section 39-107D(3)(b) and (c), Idaho Code. Identification of the expected risk or central estimate of risk for the specific population or receptor and identification of each appropriate upper bound or lower bound estimate of risk.

The U.S. EPA (USEPA, 2006b) reports that preliminary data from eight ground water microbial studies of public water system wells indicate pathogen occurrence rates from 6% to 12% and pathogen indicator occurrence rates of 12% to 38%. If these occurrence rates are extrapolated to Idaho, where approximately 400,000 people are not served by regulated public water systems, but rely on private domestic wells to withdraw ground water for drinking water people, then between 24,000 and 152,000 Idahoans are potentially at risk.

This estimate of risk does not include the approximately 1 million Idahoans served by regulated public water systems. About 95% of these public water systems use ground water as the source of their drinking water. If treatment used by the public water systems fails to work properly during a bacterial contamination event then incidents similar to those reported in the previous section could occur. The threat associated with this possibility is not quantified.

In 1995, a significant bacterial contamination event occurred in Island Park, Idaho resulting in 82 cases of shigellosis. The likely cause of the contamination is believed to be leakage from nearby septic tanks or sewer lines. The findings of the investigation indicated possible transmission from multiple wells in the same area, suggesting the spread of organisms through the groundwater (CDC, 1996).

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According to the Center for Risk Science and Public Health at The George Washington University School of Public Health and Health Services, “much of what is known about the risk

factors in populations comes from outbreak data. In the United States, waterborne disease outbreaks are tracked using voluntary passive surveillance techniques by the Centers for Disease Control and Prevention (CDC) in collaboration with the Environmental Protection Agency. State and local health departments may report the epidemiologic data from an outbreak to CDC, but reporting varies by the type of outbreak, state, infectious agent, and time period. Such data often do not include the demographic or other characteristics essential for assessing inter-individual differences in susceptibility. Exposure analysis is also very limited, and water quality parameters are not always included in the analysis" (Balbus and Embrey, 2002).

"The likelihood that individual cases of illness will be detected, epidemiologically linked, and associated with water is slim. For an outbreak to be detected, a series of events must happen. First, people who are ill must consult a health care provider, and generally, at least two patients must consult the same provider for an association to be made. Next, the health care provider must recognize the possibility of an outbreak and perform appropriate laboratory testing or report the cases to a local or state health department. The availability and patterns of use of laboratory testing, the requirements for laboratories or physicians to report results to local or state health departments, and the activities of state and local health and environmental agencies all affect the likelihood that an outbreak will be recognized and reported. Often, pathogens are not identified because the appropriate tests are not ordered. For example, most laboratories do not test for Cryptosporidium parvum on a routine ova and parasites examination, and E. coli O157:H7 will not be detected from a routine stool culture. The most frequently identified etiologic agents traced to both drinking water and recreational water outbreaks representing the three pathogen classifications, protozoa, viruses, and bacteria, are Giardia and Cryptosporidium, Norwalk-like viruses, and E. coli O157:H7" (Balbus and Embrey, 2002).

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The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding health effects.

REFERENCES:

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Bruce-Grey-Owen Sound Health Unit (2000) The investigative report on the Walkerton outbreak of waterborne gastroenteritis. May-June, Owen Sound (http://www.publichealthgreybruce.on.ca/_private/Report/SPReport.htm).

CDC (U. S. Centers for Disease Control and Prevention) (2005). Division of Bacterial and Mycotic Diseases. Escherichia coli O157:H7. General Information (fact sheet). Available: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli_g.htm.

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FDA (U. S. Food and Drug Administration), (2005) Foodborne Pathogenic Microorganisms and Natural Toxins Handbook: Escherichia coli O157:H7. Available: http://www.cfsan.fda.gov/~mow/chap15.html

Gugnani, H.C. (1999) Some emerging food and water borne pathogens. J. Commun. Dis., 31(2): 65-72.

Hrudley, S.E., Huck, P.M., Payment, P., Gillham, R.W., and Hrudley, R.J., (2002) Walkerton: Lessons learned in comparison with waterborne outbreaks in the developed world, Journal Environmental Engineering Science 1: 397-407.

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Moe, C.L. (1997) Waterborne transmission of infectious agents. In: Manual of environmental microbiology. C.J. Hurst, G.R. Knudsen, M.J. McInerney, L.D. Stetzenbach, and M.V. Walter (eds.). ASM Press, Washington, DC.

Rice, E.W. (1999) Escherichia coli. In: AWWA manual M48: Waterborne pathogens. American Water Works Association, Denver, CO. pp. 75-78.

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Tilden, J. Jr., Young, W., McNamara, A.M., et al. (1996) A new route of transmission for Escherichia coli: infection from dry fermented salami, American Journal of Public Health, 1996,

86:1142-45.

USEPA (U.S. Environmental Protection Agency), (2006a). Office of Ground Water and Drinking Water. E. coli in Drinking Water (fact sheet). Available: http://www.epa.gov/safewater/ecoli.html.

USEPA (U.S. Environmental Protection Agency), (2006b). Office of Ground Water and Drinking Water, Ground Water Rule: Public Health Concerns. Available: http://www.epa.gov/safewater/standard/phs.html

NEGOTIATED RULEMAKING: The text of the proposed rule has been drafted based on discussions held during a negotiation conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, April 5, 2006, Vol. 06-4, page 102.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Edward Hagan at ed.hagan@deq.idaho.gov, (208)373-0356.

Anyone may submit written comments on the proposed rule by mail, fax or e-mail at the address below. DEQ will consider all written comments received by the undersigned on or before August 2, 2006.

Dated this 13th day of June, 2006.

THIS NOTICE WAS PUBLISHED WITH THE NEGOTIATED RULE

AUTHORITY: In compliance with Section 67-5220, Idaho Code, and IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality," Sections 810 through 815, notice is hereby given that this agency intends to promulgate a rule and desires public participation before publishing a proposed rule. This rulemaking action is authorized by Sections 39-105, 39-107, 39-120 and 39-126, Idaho Code.

DESCRIPTIVE SUMMARY: The purpose of this rulemaking is to make revisions that would allow the Department of Environmental Quality (DEQ) to use improvements in analytical technology implemented since the Ground Water Quality Rule was promulgated in 1997 to identify the subset of coliform bacteria more likely to be harmful to human health. The current total coliform standard is primarily a screening test used to detect a broad range of bacteria, many of which are not harmful to human health. The proposed revisions include: 1) Removing the standard for total coliform bacteria; 2) Adding a standard for fecal coliform bacteria of zero; and 3) Adding a standard for Escherichia coliform (*E. coli*) bacteria of zero.

In addition, DEQ proposes to remove the reference to Subsection 200.01.c. from Subsection

400.02.a.iii. The reference to Subsection 200.01.c. is no longer correct due to revisions made to Section 200 in 2003.
Domestic well owners and the public at large may be interested in this rulemaking.

Upon conclusion of negotiations, DEQ intends to publish a proposed rule for public comment in June or July 2006 and then present the final proposal to the Board of Environmental Quality for adoption of a pending rule in October 2006.

PRELIMINARY DRAFT: A preliminary draft of the rule can be obtained at http://www.deq.idaho.gov/rules/groundwater/58_0111_0601_negotiated.cfm or by contacting Paula Wilson at paula.wilson@deq.idaho.gov, (208)373-0418.

MEETING SCHEDULE: Those interested in participating in the negotiated rulemaking process are encouraged to attend the following meeting. Additional meetings may be scheduled if necessary. For information regarding additional meetings, contact Edward Hagan at ed.hagan@deq.idaho.gov, (208)373-0356.

April 19, 2006, 9 a.m. to 12 noon
Department of Environmental Quality, Conference Room B
1410 N. Hilton, Boise, Idaho

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning the negotiated rulemaking, contact Edward Hagan at ed.hagan@deq.idaho.gov, (208) 373-0356.

Anyone may submit written comments during this negotiated rulemaking by mail, fax or e-mail at the address below. Written comments on the preliminary draft must be received by April 26, 2006. For information regarding submission of written comments on subsequent drafts of the negotiated rule, and to receive the most recent version of the draft negotiated rule, contact the undersigned.

Dated this 3rd day of March, 2006.

Paula J. Wilson, Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton, Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

200. GROUND WATER QUALITY STANDARDS.
The following numerical and narrative standards apply to all ground water of the state and shall

not be exceeded unless otherwise allowed in this rule. (3-20-97)

01. Numerical Ground Water Quality Standards. (3-20-97)

a. The Primary Constituent Standards are based on protection of human health and are identified in Table II.

Table II - Primary Constituent Standards

Chemical Abstract Service Number	Constituent	Standard (mg/l unless otherwise specified)
7440-36-0	Antimony	0.006
7440-38-2	Arsenic	0.05
1332-21-4	Asbestos	7 million fibers/l longer than 10 um
7440-39-3	Barium	2
7440-41-7	Beryllium	0.004
7440-43-9	Cadmium	0.005
7440-47-3	Chromium	0.1
7440-50-8	Copper	1.3
57-12-5	Cyanide	0.2
16984-48-8	Fluoride	4
7439-92-1	Lead	0.015
7439-97-6	Mercury	0.002
*1	Nitrate (as N)	10
*1	Nitrite (as N)	1
*1	Nitrate and Nitrite (both as N)	10
7782-49-2	Selenium	0.05
7440-28-0	Thallium	0.002
15972-60-8	Alachlor	0.002
1912-24-9	Atrazine	0.003
71-43-2	Benzene	0.005
50-32-8	Benzo(a)pyrene (PAH)	0.0002
75-27-4	Bromodichloromethane (THM)	0.1
75-25-2	Bromoform (THM)	0.1
1563-66-2	Carbofuran	0.04
56-23-5	Carbon Tetrachloride	0.005
57-74-9	Chlordane	0.002

Table II - Primary Constituent Standards		
Chemical Abstract Service Number	**Constituent**	**Standard (mg/l unless otherwise specified)**
124-48-1	Chlorodibromomethane (THM)	0.1
67-66-3	Chloroform(THM)	0.002
94-75-7	2,4-D	0.07
75-99-0	Dalapon	0.2
103-23-1	Di(2-ethylhexyl) adipate	0.4
96-12-8	Dibromochloropropane	0.0002
541-73-1	Dichlorobenzene m-	0.6
95-50-1	Dichlorobenzene o-	0.6
106-46-7	1,4(para)-Dichlorobenzene or Dichlorobenzene p-	0.075
107-06-2	1,2-Dichloroethane	0.005
75-35-4	1,1-Dichloroethylene	0.007
156-59-2	cis-1, 2-Dichloroethylene	0.07
156-60-5	trans-1, 2-Dichloroethylene	0.1
75-09-2	Dichloromethane	0.005
78-87-5	1,2-Dichloropropane	0.005
117-81-7	Di(2-ethylhexyl)phthalate	0.006
88-85-7	Dinoseb	0.007
85-00-7	Diquat	0.02
145-73-3	Endothall	0.1
72-20-8	Endrin	0.002
100-41-4	Ethylbenzene	0.7
106-93-4	Ethylene dibromide	0.00005
1071-83-6	Glyphosate	0.7
76-44-8	Heptachlor	0.0004
1024-57-3	Heptachlor epoxide	0.0002
118-74-1	Hexachlorobenzene	0.001
77-47-4	Hexachlorocyclopentadiene	0.05
58-89-9	Lindane	0.0002
72-43-5	Methoxychlor	0.04
108-90-7	Monochlorobenzene	0.1
23135-22-0	Oxamyl (Vydate)	0.2

Table II - Primary Constituent Standards		
Chemical Abstract Service Number	**Constituent**	**Standard (mg/l unless otherwise specified)**
87-86-5	Pentachlorophenol	0.001
1918-02-1	Picloram	0.5
1336-36-3	Polychlorinated biphenyls (PCBs)	0.0005
122-34-9	Simazine	0.004
100-42-5	Styrene	0.1
1746-01-6	2,3,7,8-TCDD (Dioxin)	3.0 x 10-8
127-18-4	Tetrachloroethylene	0.005
108-88-3	Toluene	1
*1	Total Trihalomethanes [the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform), and trichloromethane (chloroform)]	0.1
8001-35-2	Toxaphene	0.003
93-72-1	2,4,5-TP (Silvex)	0.05
120-82-1	1,2,4-Trichlorobenzene	0.07
71-55-6	1,1,1-Trichloroethane	0.2
79-00-5	1,1,2-Trichloroethane	0.005
79-01-6	Trichloroethylene	0.005
75-01-4	Vinyl Chloride	0.002
1330-20-7	Xylenes (total)	10
*1	Gross alpha particle activity (including radium -226, but excluding radon and uranium)	15 pCi/l
*1	Combined beta/photon emitters	4 millirems/year effective dose equivalent
*1	Combined Radium - 226 and radium 228	5 pCi/l
*1	Strontium 90	8 pCi/l
*1	Tritium	20,000 pCi/l
*1	Total Coliform[2]	1 colony forming unit/100 ml
	Escherichia coliform (E. coli)	Less than 1 viable colony or colony forming unit/100 ml using any EPA approved method
	Fecal coliform	Less than 1 viable colony or colony forming unit/100 ml using any EPA approved method

Table II - Primary Constituent Standards		
Chemical Abstract Service Number	**Constituent**	**Standard (mg/l unless otherwise specified)**
Table Footnotes		
*1 No Chemical Abstract Service Number exists for this constituent.		
2 An exceedance of the primary ground water quality standard for total coliform is not a violation of these rules. If the primary ground water quality standard for total coliform is exceeded, additional analysis for fecal coliform *or* E. coli will be conducted. An exceedance of the primary ground water quality standards for either fecal coliform or E. coli is a violation of these rules.		

~~(3-20-97)~~(_____)

b. The Secondary Constituent Standards are generally based on aesthetic qualities and are identified in Table III.

TABLE III - SECONDARY CONSTITUENT STANDARDS	
Constituent	**Standard (mg/l unless otherwise specified)**
Aluminum	0.2
Chloride	250
Color	15 Color Units
Foaming Agents	0.5
Iron	0.3
Manganese	0.05
Odor	3.0 Threshold Odor Number
pH	6.5 to 8.5 (no units apply)
Silver	0.1
Sulfate	250
Total Dissolved Solids	500
Zinc	5

(3-20-97)

c. Sample preservation and analytical procedures to determine compliance with the standards identified in Subsection 200.01 shall be in accordance with the following, except that cyanide shall be analyzed as weak acid dissociable cyanide using a method approved by the Department: (5-3-03)

i. Environmental Protection Agency, Code of Federal Regulations, Title 40, Parts 141 and 143, revised as of July 2001; or (5-3-03)

ii. Another method approved by the Department. (3-20-97)

02. Narrative Ground Water Quality Standards. Contaminant concentrations, alone or in combination with other contaminants or properties, shall not cause the ground water to be hazardous, deleterious, carcinogenic, mutagenic, teratogenic, or toxic. Determinations of specific numerical levels when applying this standard shall be based on: (3-20-97)

a. Best scientific information currently available on adverse effects of the contaminant(s); (3-20-97)

b. Protection of a beneficial use; or (3-20-97)

c. Practical quantitation levels for the contaminant(s), if they exceed the levels identified in Subsection 200.02.a. or 200.02.b. (3-20-97)

03. Natural Background Level. If the natural background level of a constituent exceeds the standard in this section, the natural background level shall be used as the standard. (3-20-97)

(BREAK IN CONTINUITY OF SECTIONS)

400. GROUND WATER CONTAMINATION.

01. Releases Degrading Ground Water Quality. No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that: (3-20-97)

a. Causes a ground water quality standard to be exceeded; (3-20-97)

b. Injures a beneficial use of ground water; or (3-20-97)

c. Is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method. (3-20-97)

02. Prevention Measures. (3-20-97)

a. When a numerical standard is not exceeded, but degradation of ground water quality is detected and deemed significant by the Department, the Department shall take one (1) or more of the following actions: (3-20-97)

i. Require a modification of regulated activities to prevent continued degradation;

(3-20-97)

ii. Coordinate with the appropriate agencies and responsible persons to develop and implement prevention measures for activities not regulated by the Department; (3-20-97)

iii. Allow limited degradation of ground water quality for the constituents identified in Subsection~~s~~ 200.01.a. ~~*and 200.01.c.,*~~ if it can be demonstrated that: ~~*(3-20-97)*~~(____)

(1) Best management practices, best available methods or best practical methods, as appropriate for the aquifer category, are being applied; and (3-20-97)

(2) The degradation is justifiable based on necessary and widespread social and economic considerations; or (3-20-97)

iv. Allow degradation of ground water quality up to the standards in Subsection 200.01.b., if it can be demonstrated that: (3-20-97)

(1) Best management practices are being applied; and (3-20-97)

(2) The degradation will not adversely impact a beneficial use. (3-20-97)

b. The following criteria shall be considered when determining the significance of degradation: (3-20-97)

i. Site specific hydrogeologic conditions; (3-20-97)

ii. Water quality, including seasonal variations; (3-20-97)

iii. Existing and projected future beneficial uses; (3-20-97)

iv. Related public health issues; and (3-20-97)

v. Whether the degradation involves a primary or secondary constituent in Section 200. (3-20-97)

03. Contamination Exceeding a Ground Water Quality Standard. The discovery of any contamination exceeding a ground water standard that poses a threat to existing or projected future beneficial uses of ground water shall require appropriate actions, as determined by the Department, to prevent further contamination. These actions may consist of investigation and evaluation, or enforcement actions if necessary to stop further contamination or clean up existing contamination, as required under the Environmental Protection and Health Act, Section 39-108, Idaho Code. (3-20-97)

04. Agricultural Chemicals. Agricultural chemicals found in intermittently saturated soils within the crop root zone will not be considered ground water contaminants as long as the chemicals remain within the crop root zone, and have been applied in a manner consistent with all appropriate regulatory requirements. (3-20-97)

05. Site-Specific Ground Water Quality Levels. The Department may allow site-specific ground water quality levels, for any aquifer category, that vary from a standard(s) in Section 200 or Section 300, based on consideration of effects to human health and the environment, for: (3-20-97)

a. Remediation conducted under the Department's oversight; (3-20-97)

b. Permits issued by the Department; (3-20-97)

c. Situations where the site background level varies from the ground water quality standard; or (3-20-97)

d. Other situations authorized by the Department in writing. (3-20-97)

06. Mineral Extraction. Naturally occurring constituents found in ground water within a specified area surrounding an active mineral extraction area, as determined by the Department, will not be considered contaminants as long as all applicable best management practices, best available methods or best practical methods, as approved by the Department, are applied. (7-1-98)

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.16 - WASTEWATER RULES

DOCKET NO. 58-0116-0502

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment sine die of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Idaho Code Sections 67-5224 and 67-5291.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Chapters 1 and 36, Title 39, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, August 2, 2006, Vol. 06-8, pages 235 through 284. After consideration of public comments, the proposed rule has been revised at Sections 004, 401, 410, 411, 430, 440, 441, 450, 455, 490, 493, and 500. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/wastewater/58_0116_0502_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. There is no federal law or regulation that is comparable to plan and specification review and facility standard provisions set forth in the Wastewater Rules. Therefore, the changes to the rules are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." The Wastewater Rules address the review and approval of plans and specifications for sewage treatment plants and other waste treatment and disposal facilities and the standard by which the agency does the review and approval. This is not an activity regulated by the federal government. Therefore, Section 39-107D, Idaho Code, applies.

Section 39-107D(3), Idaho Code, provides that any rule subject to 39-107D that proposes a standard necessary to protect human health and the environment must also include in the rulemaking record and in the notice of rulemaking additional information. This additional information includes any estimates of risk accomplished, identification of populations or receptors addressed by any estimates, and other information related to an estimation of risk. The Wastewater Rules include facility and design standards which are intended to protect human

health and the environment. The standards, however, are for the design and construction of wastewater systems. The rules are not based upon any express estimate or analysis of risk to public health or the environment. Instead, the facility and design standards are based upon guidelines set forth in documents, such as the "Recommended Standards for Wastewater Facilities", that are generally accepted and used throughout the United States by engineers and state regulators.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact Mark Mason, mark.mason@deq.idaho.gov, (208) 373-0266.

Dated this 16th day of November, 2006.

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. This action is authorized by Chapters 1 and 36, Title 39, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before August 16, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: The purpose of this rulemaking is to initiate phase two of the effort to comply with Section 2 of Senate Bill 1220 (2005), which directed the Department of Environmental Quality (DEQ) to develop facility and design standards for both drinking water and wastewater systems. This is the wastewater portion. DEQ proposes to add or modify several sections between Sections 400 and 599 of the Wastewater Rules for wastewater pumping and treatment works. This rulemaking will also modify several other sections to reflect these changes and to add or modify existing language based on input from stakeholders and DEQ.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. Wastewater system owners and operators, developers, consultants, engineers, cities, counties, industry, wastewater professional organizations, and the public at large may be interested in participating in this rulemaking.

DEPARTMENT OF ENVIRONMENTAL QUALITY ***Docket No. 58-0116-0502***
Wastewater Rules ***PENDING RULE***

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in November 2006 for adoption of a pending rule. The rule is expected to be final and effective upon the adjournment of the 2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations, or which propose to regulate an activity not regulated by the federal government. There is no federal law or regulation that is comparable to plan and specification review and facility standard provisions set forth in the Wastewater Rules. Therefore, the changes to the rules are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." The Wastewater Rules address the review and approval of plans and specifications for sewage treatment plants and other waste treatment and disposal facilities and the standard by which the agency does the review and approval. This is not an activity regulated by the federal government. Therefore, Section 39-107D, Idaho Code, applies.

Section 39-107D(3), Idaho Code, provides that any rule subject to 39-107D that proposes a standard necessary to protect human health and the environment must also include in the rulemaking record and in the notice of rulemaking additional information. This additional information includes any estimates of risk accomplished, identification of populations or receptors addressed by any estimates, and other information related to an estimation of risk. The Wastewater Rules include facility and design standards which are intended to protect human health and the environment. The standards, however, are for the design and construction of wastewater systems. The rules are not based upon any express estimate or analysis of risk to public health or the environment. Instead, the facility and design standards are based upon guidelines set forth in documents, such as the "Recommended Standards for Wastewater Facilities", that are generally accepted and used throughout the United States by engineers and state regulators.

NEGOTIATED RULEMAKING: The text of the proposed rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, December 7, 2005, Vol. 05-12, page 110.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Mark Mason, mark.mason@deq.idaho.gov, (208) 373-0266.

Anyone may submit written comments on the proposed rule by mail, fax or e-mail at the address below. DEQ will consider all written comments received by the undersigned on or before August 30, 2006.

Dated this 30th day of June, 2006.

Paula J. Wilson
Hearing Coordinator
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706-1255
(208)373-0418/Fax No. (208)373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

004. INCORPORATION BY REFERENCE.
Sections *401.2.9,* 401.3.4 and 401.3.6, ~~*and*~~ 501.3.4, and 505.3.3 of "Idaho Standards for Public Works Construction," 2005 Edition, are incorporated by reference into these rules. These documents are available at the Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, (208)373-0502 or, for a fee, from the Local Highway Technical Assistance Council (LHTAC) at LHTAC, 3330 Grace Street, Boise, ID, 83703, (208) 344-0565.
~~*(4-11-06)*~~(_____)

(BREAK IN CONTINUITY OF SECTIONS)

00~~8~~7. USE OF GUIDANCE IN DESIGN AND REVIEW.
Guidance documents are to be used to assist both designers and reviewers in determining a reasonable way to achieve compliance with the rules. Nothing in these rules makes the use of a particular guidance or guidance document mandatory. If the plans and specifications comply with applicable facility ~~*standards*~~ and design standards as set out in these rules, Section 39-118, Idaho Code, requires that the reviewing authority not substitute his or her judgment for that of the design engineer concerning the manner of compliance. If the design engineer needs assistance as to how to comply with a particular rule, the design engineer may use the referenced guidance documents listed in Section 008 for that assistance. However, the design engineer may also use other guidance or provide documentation to substantiate his or her own professional judgment.
~~*(4-11-06)*~~(_____)

00~~7~~8. REFERENCED MATERIAL.

01. "Recommended Standards for Wastewater Facilities." ~~*2004 Edition,*~~ A Report

of the Wastewater Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers ~~(except Chapters 10, 20, and 30)~~. ~~This document, and subsequent revisions of this document, provides assistance in applying and interpreting these rules.~~ This document is available through Health Education Services at http://www.hes.org. ~~(4-11-06)~~( )

02. Memorandum of Understanding. The Memorandum of Understanding between the Idaho Department of Environmental Quality and the Idaho Division of Building Safety Plumbing Bureau ~~signed and dated April 4, 2003~~ provides assistance in determining juridiction over water and sewer service lines. Copies of the document are available at the Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, www.deq.idaho.gov. ~~(4-11-06)~~( )

03. "Idaho Standards for Public Works Construction." ~~2005 Edition. This document, and subsequent revisions of this document, provides assistance in applying and interpreting these rules.~~ This document is available for a fee through the Local Highway Technical Assistance Council (LHTAC) at LHTAC, 3330 Grace Street, Boise, ID, 83703, (208) 344-0565. ~~(4-11-06)~~( )

04. Water Environment Federation (WEF) Manuals of Practice. Water Environment Federation, 601 Wythe Street, Alexandria, VA, 22314-1994, 1-800-666-0206, www.wef.com. ( )

05. American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practices. American Society of Civil Engineers, 1801Alexander Bell Drive, Reston, VA 20191, 800-548-2723, www.asce.org. ( )

06. "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability." U.S. EPA (EPA-430-99-74-001), www.epa.gov. ( )

07. American National Standard Institute/Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design. 1819 L Street NW Suite 600, Washington, DC 20036, (202) 293-8020, www.ansi.org. ( )

08. The Compressed Gas Association Publication CGA G-3-1995, "Sulfur Dioxide". ( )

09. "Wastewater Engineering, Treatment and Reuse," Metcalf and Eddy. ( )

10. "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse," National Water Research Institute/American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235, (800)926-7337, www.awwa.org. ( )

11. Pumping Station Design – Third Edition 2006. Garr M. Jones. Elsevier Publications. ( )

12. Plan and Specification Dispute Resolution Policy. PM05-2: Plan and

Specification Review Dispute Resolution Advisory Panel for Engineering Disputes can be found at http://www.deq.idaho.gov/rules/policies/pm05_2.cfm. ( )

13. Nutrient-Pathogen Evaluation Program for On-Site Wastewater Treatment Systems. Nutrient-Pathogen Evaluation Program for On-Site Wastewater Treatment Systems can be found at http://www.deq.idaho.gov/water/assist_business/septic/nutrient_pathogen_eval_guide.pdf. ( )

14. Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater. The Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater can be found at http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm. ( )

009. LAWS AND CODES OUTSIDE OF THESE RULES.
Compliance with the following laws and codes are not required by these rules, but may be required by other regulatory entities. ( )

01. International Building Code. ( )

02. Uniform Plumbing Code. ( )

03. National Fire Protection Association Code (NFPA). ( )

04. Requirements of National Institute for Occupational Safety and Health (NIOSH). ( )

05. Requirements of the Occupational Safety and Health Administration (OSHA). ( )

06. National Electrical Code. ( )

07. International Fire Code. ( )

010. DEFINITIONS.
For the purpose of the rules contained in IDAPA 58.01.16, "Wastewater Rules," the following definitions apply: (4-11-06)

01. Available. Based on public wastewater system size, complexity, and variation in raw waste, a licensed wastewater operator must be on site, on call, or able to be contacted as needed to initiate the appropriate action for normal or emergency conditions in a timely manner. (4-11-06)

02. Adequate Emergency Storage Capacity. The emergency storage capacity of a lift station wet well is the volume of the wet well measured between the high water alarm and the gravity sewer invert into the wet well. For the purpose of this definition, "adequate" shall be defined as twice the estimated emergency response time multiplied by the daily peak flow to the wet well. The high water alarm shall be placed at an elevation below the wet well invert sufficient to achieve the defined volumetric emergency storage capacity. ( )

0~~2~~3. Beneficial Use. Any of the various uses which may be made of the water of Idaho, including, but not limited to, domestic water supplies, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics. The beneficial use is dependent upon actual use, the ability of the water to support a non-existing use either now or in the future, and its likelihood of being used in a given manner. The use of water for the purpose of wastewater dilution or as a receiving water for a waste treatment facility effluent is not a beneficial use. (4-11-06)

0~~3~~4. Biochemical Oxygen Demand (BOD). The measure of the amount of oxygen necessary to satisfy the biochemical oxidation requirements of organic materials at the time the sample is collected; unless otherwise specified, this term will mean the five (5) day BOD incubated at twenty (20) degrees C. (4-11-06)

0~~4~~5. Board. The Idaho Board of Environmental Quality. (4-11-06)

0~~5~~6. Class A Effluent. Class A effluent is treated municipal reclaimed wastewater that must be oxidized, coagulated, clarified, and filtered, or treated by an equivalent process and adequately disinfected. For comprehensive Class A Effluent criteria and permitting requirements refer to IDAPA 58.01.17, "~~*Wastewater Land Application Permit*~~ Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater." ~~*(4-11-06)*~~(____)

0~~6~~7. Class A Effluent Distribution System. The delivery system for Class A effluent. The distribution system does not include any of the collection or treatment portions of the wastewater facility and is not subject to operator licensing requirements in Section 203 of these rules. (4-11-06)

0~~7~~8. Collection System. That portion of the wastewater system or treatment facility in which wastewater is received from the premises of the discharger and conveyed to the point of treatment through a series of lines, pipes, manholes, pumps/lift stations and other appurtenances. ~~*(4-11-06)*~~(____)

0~~8~~9. Compliance Schedule or Schedule of Compliance. A schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard. (4-11-06)

~~09~~10. Department. The Idaho Department of Environmental Quality. (4-11-06)

1~~0~~1. Design Flow. The critical flow used for steady-state wasteload allocation modeling. (4-11-06)

1~~1~~2. Designated Beneficial Use or Designated Use. Those beneficial uses assigned to identify waters in Idaho Department of Environmental Quality Rules, IDAPA 58.01.02, "Water Quality Standards," Sections 110 through 160, whether or not the uses are being attained. (4-11-06)

1~~2~~3. Director. The Director of the Idaho Department of Environmental Quality or his authorized agent. (4-11-06)

1~~3~~4. Discharge. When used without qualification, any spilling, leaking, emitting, escaping, leaching, or disposing of a pollutant into the waters of the state. (4-11-06)

1~~4~~5. Disinfection. A method of reducing the pathogenic or objectionable organisms by means of chemicals or other acceptable means. (4-11-06)

1~~5~~6. Disposal Facility. Any facility used for disposal of any wastewater. Facilities for the disposal of sludge are regulated under Section 650 of these rules. ~~(4-11-06)~~( )

1~~6~~7. Effluent. Any wastewater discharged from a treatment facility. (4-11-06)

18. Environmental Review. An environmental review document for a specific project includes a description of purpose and need for the project; a description of the affected environment and environmental impacts including, but not limited to, endangered species, historical and archaeological impacts, air impacts, surface and ground water impacts, and noise and visual impacts; a description of the planned mitigation for these impacts; and descriptions of the public process, agencies consulted, referenced documents, and a mailing list of interested parties. A checklist, which can be used as guidance, can be found at http://www.deq.idaho.gov/water/permits_forms/forms/waste_water/form_j_eid_outline_checklist.doc. This is for Department grant and loan projects, but can be used in part or in whole as a guide. ( )

1~~7~~9. EPA. The United States Environmental Protection Agency. (4-11-06)

20. Facility Plan. The Facility Plan for a municipal wastewater treatment and disposal facility describes the overall system, including the collection system, the treatment systems, and the disposal systems. It is a comprehensive planning document for the existing infrastructure and includes the plan for the future of the systems, including upgrades and additions. It is usually updated on a regular basis due to anticipated or unanticipated growth patterns, regulatory requirements, or other infrastructure needs. A Facility Plan is sometimes referred to as a master plan or facilities planning study. In general, a Facility Plan is an overall system-wide plan as opposed to a project specific plan. ( )

~~18~~21. Facility ~~Standards~~ and Design Standards. Facility ~~standards~~ and design standards are described in Sections 400~~, 410, 420, and 430~~ through 599 of these rules. Facility and design standards found in Sections ~~410, 420, and 430~~ 400 through 599 of these rules must be followed in the planning, design, construction, and review of municipal wastewater facilities. ~~(4-11-06)~~( )

~~19~~22. Geometric Mean. The geometric mean of "n" quantities is the "nth" root of the product of the quantities. (4-11-06)

2~~0~~3. Ground Water. Any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil. (4-11-06)

2~~1~~4. Industrial Wastewater. Any waste, together with such water as is present, that is the by-product of industrial processes including, but not limited to, food processing or food washing wastewater. (4-11-06)

2~~2~~5. Land Application. A process or activity involving application of wastewater, surface water, or semi-liquid material to the land surface for the purpose of disposal, pollutant removal, or ground water recharge. (4-11-06)

2~~3~~6. License. A physical document issued by the Idaho Bureau of Occupational Licenses certifying that an individual has met the appropriate qualifications and has been granted the authority to practice in Idaho under the provisions of Chapter 24, Title 54, Idaho Code. (4-11-06)

2~~4~~7. Material Deviation. A change from the design plans that significantly alters the type or location of facilities, requires engineering judgment to design, or impacts the public safety or welfare. (4-11-06)

2~~5~~8. Material Modification. Material modifications are those that are intended to increase system capacity or to alter the methods or processes employed. (4-11-06)

2~~6~~9. Mixing Zone. A defined area or volume of the receiving water surrounding or adjacent to a wastewater discharge where the receiving water, as a result of the discharge, may not meet all applicable water quality criteria or standards. It is considered a place where wastewater mixes with receiving water and not as a place where effluents are treated. (4-11-06)

~~27~~30. Municipal Wastewater. Unless otherwise specified, sewage and associated solids, whether treated or untreated, together with such water that is present. Also called domestic wastewater. Industrial wastewater may also be present, but is not considered part of the definition. (4-11-06)

~~28~~31. National Pollutant Discharge Elimination System (NPDES). Point source permitting program established pursuant to Section 402 of the federal Clean Water Act. (4-11-06)

~~29~~32. Natural Background Conditions. No measurable change in the physical, chemical, biological, or radiological conditions existing in a water body without human sources of pollution within the watershed. (4-11-06)

~~***30. Nephelometric Turbidity Units (NTU)**. A measure of turbidity based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of the light scattered by a standard reference suspension under the same conditions. (4-11-06)~~

33. Non-Contact Cooling Water. Water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat) or finished product. Non-contact cooling water is not considered wastewater. Non-contact cooling water can be land applied as recharge water as discussed in Section 600 based on a Department approval as described in Subsections 600.04 and 600.05. (____)

3~~1~~4. Nuisance. Anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the state. (4-11-06)

3~~2~~5. Nutrients. The major substances necessary for the growth and reproduction of

aquatic plant life, consisting of nitrogen, phosphorus, and carbon compounds. (4-11-06)

3~~3~~6. **Non-Potable Mains**. The pipelines that collect and convey non-potable discharges from or to multiple service connections. Examples would include sewage collection and interceptor mains, storm sewers, non-potable irrigation mains, and reclaimed wastewater mains. ~~(4-11-06)~~(____)

3~~4~~7. **Non-Potable Services**. The pipelines that convey non-potable discharges from individual facilities to a connection with the non-potable main. This term also refers to pipelines that convey non-potable water from a pressurized irrigation system, reclaimed wastewater system, and other non-potable systems to individual consumers. (4-11-06)

3~~5~~8. **Operating Personnel**. Any person who is employed, retained, or appointed to conduct the tasks associated with the day-to-day operation and maintenance of a public wastewater system. Operating personnel shall include every person making system control or system integrity decisions about water quantity or water quality that may affect public health. (4-11-06)

3~~6~~9. **Owner**. ~~*For purposes of Sections 202 through 204, t*~~The person, company, corporation, district, association or other organizational entity that owns the public wastewater system, and who provides, or intends to provide, wastewater service to system users and is ultimately responsible for the public wastewater system operation. ~~(4-11-06)~~(____)

~~37~~40. **Person**. An individual, public or private corporation, partnership, association, firm, joint stock company, joint venture, trust, estate, state, municipality, commission, political subdivision of the state, state or federal agency, department or instrumentality, special district, interstate body or any legal entity, which is recognized by law as the subject of rights and duties. (4-11-06)

~~38~~41. **Point Source**. Any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged to surface waters of the state. This term does not include return flows from irrigated agriculture, discharges from dams and hydroelectric generating facilities or any source or activity considered a nonpoint source by definition. (4-11-06)

~~39~~42. **Pollutant**. Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, silt, cellar dirt; and industrial, municipal and agricultural waste, gases entrained in water; or other materials which, when discharged to water in excessive quantities, cause or contribute to water pollution. Provided however, biological materials shall not include live or occasional dead fish that may accidentally escape into the waters of the state from aquaculture facilities. (4-11-06)

4~~0~~3. **Potable Water**. A water which is free from impurities in such amounts that it is safe for human consumption without treatment. (4-11-06)

4~~1~~4. **Potable ~~*Water*~~ Mains**. Pipelines that deliver potable water to multiple service

connections. ~~(4-11-06)~~(____)

4~~2~~5. Potable ~~Water~~ Service. Pipelines that convey potable water from a connection to the potable water main across private property to individual consumers. ~~(4-11-06)~~(____)

46. Preliminary Engineering Report. The Preliminary Engineering Report for the municipal wastewater treatment or disposal facility is the report that addresses specific portions of the systems as they are being contemplated for design. These reports address specific purpose and scope, design requirements, alternative solutions, costs, operation and maintenance requirements, and other requirements as described in Section 411. Preliminary Engineering Reports are generally project specific as opposed to an overall system-wide plan, such as a Facility Plan. (____)

4~~3~~7. Primary Treatment. Processes or methods that serve as the first stage treatment of wastewater, intended for removal of suspended and settleable solids by gravity sedimentation; provides no changes in dissolved and colloidal matter in the sewage or wastes flow. (4-11-06)

48. Private Community Municipal Wastewater Treatment Plant. A wastewater facility that treats municipal wastewater from a private community or subdivision. These systems are typically initially owned, operated, and maintained by a developer with the ownership, operation and maintenance transferring to a homeowners association, sewer district, or similar entity as lots are sold within the development. (____)

4~~4~~9. Public Wastewater System or Wastewater System. For purposes of Sections 202 through 204, a public wastewater system or wastewater system is any publicly or privately owned collection system or treatment system that generates, collects, or treats two thousand five hundred (2,500) or more gallons of wastewater per day. This does not include any wastewater treatment system operated and maintained exclusively by a single family residence or any wastewater system consisting solely of a gravity flow, non-mechanical septic tank and subsurface treatment and distribution system, any wastewater system with individual septic tanks and individual pump stations that discharge to a common gravity flow subsurface treatment and distribution system when ownership of each septic tank and pumping station is by individual property owner and ownership of the common system is by a public or private entity; any animal waste system used for agricultural purposes that have been constructed in part or whole by public funds, or industrial wastewater systems under private ownership. This definition also does not include any industrial or other nonmunicipal wastewater system which is covered under Section 401 of these rules. ~~(4-11-06)~~(____)

~~4~~50. Quasi-Municipal Corporation. A public entity, other than community government, created or authorized by the legislature to aid the state in, or to take charge of, some public or state work for the general welfare. For the purpose of these rules, this term refers to wastewater or sewer districts. (4-11-06)

~~46~~51. Receiving Waters. Those waters which receive pollutants from point or nonpoint sources. (4-11-06)

~~47~~52. Recharge. The process of adding water to the zone of saturation. (4-11-06)

~~48~~53. **Recharge Water**. Water that is specifically utilized for the purpose of adding water to the zone of saturation. (4-11-06)

54. **Redundancy**. Redundancy for wastewater treatment and disposal facilities is generally focused on supplying or installing backup equipment and facilities to make the operation of the systems more reliable. These redundant systems are sometimes required to provide backup for emergencies, taking certain processes off-line, or for treating spikes in wastewater flow or strength. ( )

55. **Reliability**. Reliability for wastewater collection and treatment and disposal facilities is usually based on its ability to consistently handle the wastewater flows in the community and to meet the requirements of its permit. This reliability is in part based on the redundancy built into the wastewater infrastructure and proper maintenance of the system. ( )

~~49~~56. **Responsible Charge (RC)**. For purposes of Sections 202 through 204, responsible charge means, active, daily on-site and/or on-call responsibility for the performance of operations or active, on-going, on-site and/or on-call direction of employees and assistants. (4-11-06)

5~~0~~7. **Responsible Charge Operator**. For purposes of Sections 202 through 204, a responsible charge operator is an operator licensed at a class equal to or greater than the classification of the system and who has been designated by the system owner to have direct supervision of and responsibility for the performance of operations of a specified wastewater treatment system(s) or wastewater collection system(s) and the direction of personnel employed or retained at the same system. The responsible charge operator has an active daily on-site and/or on-call presence at the specified facility. (4-11-06)

58. **Reuse**. The use of reclaimed wastewater for beneficial uses including, but not limited to, land treatment, irrigation, ground water recharge using surface spreading, seepage ponds, or other unlined surface water features. ( )

5~~1~~9. **Reviewing Authority**. For those projects requiring preconstruction approval by the Department, the Department is the reviewing authority. For those projects allowing for preconstruction approval by others, pursuant to Subsection 400.01.b. of these rules, the qualified Idaho licensed professional engineer is also the reviewing authority. ~~(4-11-06)~~( )

~~52~~60. **Sanitary Sewer Extension**. As used in Section 400, an extension of an existing wastewater collection system that does not require a lift station or force main and is intended to increase the service area of the wastewater collection system. (4-11-06)

~~53~~61. **Secondary Treatment**. Processes or methods for the supplemental treatment of wastewater, usually following primary treatment, to affect additional improvement in the quality of the treated wastes by biological means of various types which are designed to remove or modify organic matter. (4-11-06)

62. **Septage**. Septage is a general term for the contents removed from septic tanks, portable vault toilets, privy vaults, wastewater holding tanks, very small wastewater treatment plants, or semi-public facilities (i.e., schools, motels, mobile home parks, campgrounds, small commercial endeavors) receiving wastewater from domestic sources. Non-domestic (industrial)

wastes are not included in this definition. This does not include drinking water treatment residuals that may be held in a holding tank. ( )

~~54~~63. **Sewage**. The water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present. (4-11-06)

~~55~~64. **Sludge**. The semi-liquid mass produced and removed by ~~*partial dewatering of potable or spent process waters or wastewater*~~ the wastewater treatment process. ~~*(4-11-06)*~~( )

~~5~~65. **Special Resource Water**. Those specific segments or bodies of water which are recognized as needing intensive protection: (4-11-06)

a. To preserve outstanding or unique characteristics; or (4-11-06)

b. To maintain current beneficial use. (4-11-06)

~~57~~66. **State**. The state of Idaho. (4-11-06)

~~58~~67. **Substitute Responsible Charge Operator**. A public wastewater operator holding a valid license at a class equal to or greater than the public wastewater system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible. (4-11-06)

~~59~~68. **Surface Water Body**. All surface accumulations of water, natural or artificial, public or private, or parts thereof which are wholly or partially within, which flow through or border upon the state. This includes, but is not limited to, rivers, streams, canals, ditches, lakes, and ponds. It does not include private waters as defined in Section 42-212, Idaho Code. (4-11-06)

69. **Total Maximum Daily Load (TMDL)**. The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. ( )

~~6~~70. **Treatment**. A process or activity conducted for the purpose of removing pollutants from wastewater. (4-11-06)

~~6~~71. **Treatment Facility**. Any physical facility or land area for the purpose of collecting, treating, neutralizing or stabilizing pollutants including treatment plants~~,~~; the necessary collecting, intercepting, outfall and outlet sewers~~,~~; pumping stations integral to such plants or sewers~~,~~; disposal or reuse facilities; equipment and furnishing thereof; and their appurtenances. ~~*A*~~ For the purpose of these rules, a treatment facility may also be known as a treatment system, a wastewater system, wastewater treatment system, wastewater treatment facility, or wastewater treatment plant. ~~*(4-11-06)*~~( )

~~6~~72. **User**. Any person served by a public wastewater system. (4-11-06)

~~6~~73. Wastewater. Unless otherwise specified, sewage, industrial waste, agricultural waste, and associated solids or combinations of these, whether treated or untreated, together with such water as is present. (4-11-06)

~~6~~74. Wastewater Lagoon. Manmade impoundments for the purpose of storing or treating wastewater. (4-11-06)

~~6~~75. Wastewater Pipelines. The pipelines that collect and convey non-potable discharges from or to multiple service connections. (4-11-06)

~~6~~76. Wastewater ~~System~~ Pumping Station. ~~*Wastewater system includes any collection system, treatment system, or disposal facility.*~~ A wastewater facility that collects wastewater from the collection system or the treatment system and pumps it to a higher elevation. Also called lift station or wastewater lift station. ~~*(4-11-06)*~~( )

~~6~~77. Wastewater System Operator. The person who is employed, retained, or appointed to conduct the tasks associated with routine day to day operation and maintenance of a public wastewater treatment or collection system in order to safeguard the public health and environment. (4-11-06)

~~6~~78. Water Main Extension. An extension of the distribution system of an existing public water system that does not require a booster pumping station and is intended to increase the service area of the water system. (4-11-06)

~~6~~79. Water Pollution. Any alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the state, or the discharge of any pollutant into the waters of the state, which will or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to fish and wildlife, or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses. (4-11-06)

~~7~~80. Waters and Waters of the State. All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state. (4-11-06)

~~7~~81. Watershed. The land area from which water flows into a stream or other body of water which drains the area. (4-11-06)

(BREAK IN CONTINUITY OF SECTIONS)

203. PUBLIC WASTEWATER SYSTEM OPERATOR LICENSURE REQUIREMENTS.

01. System Operator Licensure Requirement. Owners of all public wastewater systems must place the direct supervision of their wastewater system(s), including each treatment

system and each collection system, under the responsible charge of an operator who holds a valid license equal to or greater than the classification of the wastewater treatment system and collection system. An operator in responsible charge of both a wastewater treatment system and a collection system shall hold two (2) licenses, one (1) for wastewater treatment and one (1) for collection. Owners shall notify the Department in writing of any change of responsible charge or substitute responsible charge operator within ten (10) days of such change. (4-11-06)

02. Responsible Charge Operator License Requirement. An operator in responsible charge of a public wastewater system in Idaho must hold a valid license equal to or greater than the classification of the wastewater system(s), including each treatment system, where present, and each collection system as determined by the Department. (4-11-06)

03. Substitute Responsible Charge Operator. At such times as the responsible charge operator is not available, a substitute responsible charge operator shall be designated to replace the responsible charge operator. (4-11-06)

04. Wastewater System Operator Licensure. All other operating personnel at public wastewater systems including each treatment system and collection system must hold a valid license. (4-11-06)

05. Class A Reclaimed Wastewater System Operator License Exception. Any public wastewater system operating personnel that exclusively operate a Class A Effluent Distribution System of a Class A Municipal Reclaimed Wastewater System permitted in accordance with IDAPA 58.01.17, "~~*Wastewater Land Application Permit*~~ Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater," is not subject to operator licensing requirements. ~~*(4-11-06)*~~(____)

06. General Compliance Deadline. All public wastewater systems addressed in Sections 202 and 203 shall be in compliance with these rules by April 15, 2006. (4-11-06)

07. Land Application/Reuse Operator Compliance Deadline. Each public wastewater land application/reuse system addressed in these rules shall employ, retain or contract with licensed land application/reuse operating personnel by April 15, 2007. ~~*(4-11-06)*~~(____)

08. Qualifications for Operator Licensure. All public wastewater system operating personnel, including responsible charge and substitute responsible charge operators, must qualify for and hold a valid license issued by the Idaho Bureau of Occupational Licenses. (4-11-06)

(BREAK IN CONTINUITY OF SECTIONS)

400. REVIEW OF PLANS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES.
~~*All applicable laws, rules and standards shall be used in the review of plans and specifications for municipal wastewater treatment or disposal facilities. "Recommended Standards for Wastewater Facilities," - 2004 edition, A Report of the Wastewater Committee of the Great Lakes-Upper*~~

~~*Mississippi River Board of State and Provincial Public Health and Environmental Managers (except Chapters 10, 20, and 30)*~~ Plans and specifications for municipal wastewater treatment or disposal facilities must comply with the facility and design standards set forth in Sections 410 through 599. If design issues are not addressed by the facility and design standards, then guidance documents, some of which are listed in Section 008, shall be used as guidance in the design and review of plans and specifications for municipal wastewater treatment or disposal facilities. See also Section 007. ~~*(4-11-06)*~~(____)

01. Plan and Specification Review. (4-11-06)

a. Except as provided in Subsection 400.01.b., all plans and specifications for the construction of new sewage systems, sewage treatment plants or systems, other municipal wastewater treatment or disposal facilities, or for material modifications to existing sewage treatment plants or systems, municipal wastewater treatment or disposal facilities shall be submitted to the Department for review and approval before construction may begin and all construction shall be in substantial compliance therewith. This does not include plan and specifications for facilities for sludge disposal, but does include plans and specifications for treatment or storage of sludge. If construction does not commence within twelve (12) months of the Department's final approval of plans and specifications, the Department may require resubmittal of all or part of the plans and specifications for review. The Department shall review plans and specifications and endeavor to resolve design issues within forty-two (42) calendar days of submittal such that approval can be granted. If the Department and applicant have not resolved design issues within forty-two (42) calendar days or at any time thereafter, the applicant may file a written demand to the Department for a decision. Upon receipt of such written demand, the Department shall deliver a written decision to the applicant within no more than seven (7) calendar days explaining any reasons for disapproval. The Department shall maintain records of all written demands for decision made pursuant to Subsection 400.01.a. with such records including the final decision rendered and the timeliness thereof. No material deviation shall be made to the approved plans and specifications without the prior approval of the Department. ~~*(4-11-06)*~~(____)

b. Plans developed for sanitary sewer extensions, when such facilities will be owned and operated by a city, county, quasi-municipal corporation or regulated public utility, shall not require preconstruction approval by the Department, provided that such plans and specifications are reviewed and approved by another qualified Idaho licensed professional engineer to verify compliance with the requirements of these rules prior to initiation of construction. Any plans approved pursuant to Subsection 400.01.b. shall be transmitted to the Department at the time construction is authorized along with a statement that the plans comply with the requirements of these rules and that construction has been authorized by the city, county, quasi-municipal corporation or regulated public utility that will own and operate the system. At the discretion of the city, county, quasi-municipal corporation or regulated public utility, the plans addressed by this subsection may be referred to the Department for review and approval prior to initiation of construction. The Department has the authority to review plans and specifications approved by a qualified Idaho licensed professional engineer and can require modifications if the plans and specifications do not meet facility and design standards. ~~*(4-11-06)*~~(____)

02. Professional Engineer. Plans and specifications for construction, alteration or expansion of any sewage system, sewage treatment plant or system, or other municipal

wastewater treatment or disposal facility shall be prepared by or under the supervision of an Idaho ~~registered~~ licensed professional engineer and shall bear the imprint of the engineer's seal. Construction shall be observed by an ~~registered~~ Idaho licensed professional engineer or a person under the supervision of an ~~registered~~ Idaho licensed professional engineer. ~~(4-11-06)~~(____)

03. Record Plans and Specification. Within thirty (30) calendar days of the completion of construction of facilities covered by Subsection 400.01, record plans and specifications based on information provided by the construction contractor and field observations made by the engineer or the engineer's designee depicting the actual construction of facilities performed, must be submitted to the Director by the engineer representing the city, county, quasi-municipal corporation or regulated public utility that owns the project, or by the design engineer or owner-designated substitute engineer if the constructed facilities will not be owned and operated by a city, county, quasi-municipal corporation or regulated public utility. Such submittal by the ~~professional~~ engineer must confirm material compliance with the approved plans and specifications or disclose material deviations therefrom. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that affect prepared by an ~~qualified~~ Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings. ~~(4-11-06)~~(____)

04. Compliance With Applicable Standards and Rules. All plans and specifications submitted to satisfy the requirements of Sections 400 through 599 or approved in compliance with Sections 400 through 599, shall be in compliance with the requirements of these rules and shall conform in style and quality to regularly accepted engineering standards. The Department shall review plans and specifications to determine compliance with these rules and engineering standards of care. If the plans and specifications comply with these rules and engineering standards of care, the Department shall not substitute its judgment for that of the owner's design engineer concerning the manner of compliance with these rules. ~~(4-11-06)~~(____)

05. Waiver of Approval Requirement. The Department may waive the plan and specification approval for any particular facility or category of facilities, or may waive any portion of these rules, which will have no significant impact on the environment or on the public health. ~~(4-11-06)~~(____)

06. Requirement to Have Approved Plans and Specifications and Approval Letter On-site During Construction. It is the responsibility of the owner to maintain one (1) copy of the approved plans and specifications and the approval letter from the reviewing authority on-site during construction at all times. (____)

07. Construction Inspection Requirement. Except as provided in Subsection 400.01.b., no construction shall commence until all of the necessary approvals have been received from the Department. The owner shall provide for the inspection of the construction of a municipal wastewater treatment or disposal facility by an Idaho licensed professional engineer to the extent required to confirm material compliance with the approved plans and to produce accurate record documents as required by Subsection 400.03. (____)

401. REVIEW OF PLANS FOR NONMUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES.

01. Plan and Specification Approval Required. The construction, alteration or expansion of any nonmunicipal wastewater treatment or disposal facility must not begin before plans and specifications for the proposed facility have been submitted to and approved by the Department. Deviations may be allowed as provided in Subsection 401.02. The Department does not require review of industrial in-plant processes. (4-11-06)

02. Deviations from Approved Plans. No *material* deviations are to be made from the approved plans and specifications without prior approval of the Department. ~~*(4-11-06)*~~( )

03. Record Plans and Specifications. If actual construction deviates from the approved plans and specifications, complete and accurate plans and specifications depicting the actual construction, alteration, or modification performed, shall be submitted to the Department for review and approval within thirty (30) days of completion of construction. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that affect prepared by an Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings. ~~*(4-11-06)*~~( )

04. Waiver of Approval Requirement. The Department can waive the plan and specification approval required in Subsection 401.01 for any particular facility or category of facilities, or may waive any portion of these rules, which will have no significant impact on the environment or on the public health. ~~*(4-11-06)*~~( )

05. Applicability of Standards. The facility and design standards for municipal wastewater treatment or disposal facilities set out in these rules do not apply to nonmunicipal wastewater treatment or disposal facilities covered under Section 401. ( )

402. PLAN AND SPECIFICATION REVIEW DISPUTE RESOLUTION.
The Department's plan and specification review dispute resolution policy is set out in PM05-2: Plan and Specification Review Dispute Resolution Advisory Panel for Engineering Disputes, http://www.deq.idaho.gov/rules/policies/pm05_2.cfm. ( )

40~~2~~3. -- 409. (RESERVED).

410. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES -- ~~*ENGINEERING REPORTS AND*~~ FACILITY PLANS.

01. ~~*Engineering Reports and*~~ Facility Plans Required. ~~*Engineering Reports and current Facility Plans are required for*~~ All new municipal wastewater treatment or disposal facilities, and all existing municipal wastewater treatment or disposal facilities undergoing material modification or expansion, are required to have a current Facility Plan that shall address all applicable issues specifically required in Sections 410 and 412 through 599 of these rules including, but not limited to, and shall address hydraulic capacity, treatment capacity, project financing, and operation and maintenance considerations sufficiently to determine the effects of the project on the overall wastewater infrastructure. ~~*Engineering Reports must be completed for minor collection system, pump station, and interceptor projects. Comprehensive Facility Plans are not required for minor or routine collection systems. Comprehensive Facility Plans must be completed or have been completed for projects involving new, expanded,*~~ Material modification or

expansion that requires a Facility Plan includes upgraded, or rehabilitated municipal wastewater treatment or disposal facilities and major collection, interceptor sewer, and pump station projects. ~~and~~ Facility Plans must address the entire potential service area of the project. Facility Plans are not required for minor or routine collection system projects *or, at the Department's discretion, temporary lift stations*. The determination of classification as major or minor collection interceptor sewer and pump station projects will be made by the ~~*reviewing authority*~~ Department based on review of *the owner's* recommended classification ~~*by the owner*~~. A Facility Plan may be completed for collection systems only. If such a collection system Facility Plan is conducted, and flows increase in excess of the design capacity of downstream collection and treatment facilities, the impact of the flow shall be addressed in the Facility Plan. ~~*(4-11-06)*~~( )

02. Submittal to ~~*Reviewing Authority*~~ **Department**. ~~*Documents referenced in Subsection 410.01 must*~~ Facility Plans shall be submitted to the ~~*reviewing authority*~~ Department for review and approval~~,~~ prior to the submission of plans and specifications for a project related to the Facility Plan. In the case of a sanitary sewer extension reviewed by a qualified Idaho licensed professional engineer pursuant to Subsection 400.01.b., an updated Facility Plan shall be submitted to the Department for review and approval unless the reviewing authority already has ~~*the reports and*~~ a Department approved Facility Plan~~s~~ in ~~*its*~~ his possession. ~~*(4-11-06)*~~( )

03. ~~*Engineering Report or*~~ **Facility Plan Contents**. The ~~*Engineering Report or*~~ Facility Plan must include sufficient detail to demonstrate that the proposed project meets applicable criteria. The Facility Plan generally addresses the overall system-wide plan. The Facility Plan ~~*typically*~~ shall identif~~*ies*~~y and evaluate~~s~~ wastewater related problems; assemble~~s~~ basic information; present~~s~~ criteria and assumptions; examines ~~*alternate projects,*~~ alternative solutions with preliminary layouts and cost estimates; describes financing methods~~,9~~; set~~s~~ forth anticipated charges for users; review~~s~~ organizational and staffing requirements; offer~~s~~ a conclusion with a proposed project for client consideration; and outline~~s~~ official actions and procedures to implement the project. If the project is funded by the state revolving fund or a grant, other requirements may also apply. See IDAPA 58.01.12, "Rules for Administration of Water Pollution Control Loans," and IDAPA 58.01.04, "Rules for Administration of Wastewater Treatment Facility Grants." A checklist, which can be used as guidance, can be found at http://www.deq.idaho.gov/water/permits_forms/forms/waste_water/form_i_report_checklist.pdf. The guidance document is for Department grant and loan projects, but may be used in part or in whole as a guide to assist in the development of a Facility Plan for any proposed project. ~~*(4-11-06)*~~( )

04. Engineer's Seal Required. Facility Plans submitted *to the Department shall* bear the imprint of *an Idaho licensed professional* engineer's seal that is both signed and dated by the engineer. ( )

411. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - PRELIMINARY ENGINEERING REPORTS.

01. Preliminary Engineering Reports Required. Preliminary Engineering Reports are required for municipal wastewater treatment or disposal facility projects that require plan and specification review and approval pursuant to Subsection 400.01 and shall address all applicable issues specifically required in Sections 411 through 599 of these rules including, but not limited to, purpose, scope, hydraulic capacity, treatment capacity, and operation and maintenance

considerations sufficiently to determine the effects of the project on the overall wastewater infrastructure. Preliminary Engineering Reports must be completed for major collection system projects, and all pump station projects, all interceptor projects, and all treatment plant designs and upgrades. The determination of classification as major or minor collection *system* projects will be made by the Department based on review of *the owner's* recommended classification. Preliminary Engineering Reports are not required for minor or routine collection system projects. ( )

02. **Submittal to Reviewing Authority**. Preliminary Engineering Reports shall be submitted to the reviewing authority for review and approval prior to the submission of plans and specifications. ( )

03. **Preliminary Engineering Report Contents**. The Preliminary Engineering Report must include sufficient detail to demonstrate that the proposed project meets applicable criteria. The Preliminary Engineering Report generally addresses project specific issues rather than the overall system-wide plan. The Preliminary Engineering Report shall identify and evaluate wastewater related problems; assemble basic information; present criteria and assumptions; examine alternative solutions with preliminary layouts and cost estimates; offer a conclusion with a proposed project; and outline official actions and procedures to implement the project. The items included in Subsections 411.03.a. through 411.03.k., and other items specifically called for in Sections 426 through 599, shall be addressed in detail in the Preliminary Engineering Report for all municipal wastewater treatment plant projects. If specific items are not applicable to a particular design, then the designer shall state this in the Preliminary Engineering Report and state the reason why it is not applicable. Items adequately addressed in the Facility Plan under which the project is being designed, may be addressed by reference for purposes of the Preliminary Engineering Report. ( )

a. Coordination with Facilities Plan. ( )

b. Design Criteria. ( )

i. Influent flow rates: average annual, maximum month, peak hour. ( )

ii. Influent wastewater characteristics, including wet weather flows. ( )

iii. Effluent requirements. ( )

iv. Solids production, disposal or recycling requirements. ( )

v. Process units design criteria, process selection, and support data. ( )

vi. Mass balance calculations for process units, including but not limited to flow and solids. ( )

vii. Redundancy provisions. ( )

c. Site Evaluation and Layout. ( )

i. Currently proposed facilities. ( )

ii. Facilities for twenty (20) year design condition. (____)

iii. Facilities for build-out conditions. (____)

iv. Space for facilities to meet higher levels of treatment. (____)

v. Liquid process facilities and conveyance. (____)

vi. Solids process facilities and conveyance. (____)

vii. Plant access and on-site roads and walkways. (____)

viii. Process piping and utilities. (____)

ix. Primary electric system. (____)

x. Flood control provisions. (____)

xi. Geotechnical investigation and provisions. (____)

xii. Buffer zones. (____)

xiii. Landscaping. (____)

xiv. Security. (____)

xv. Administration and Operations Buildings. (____)

xvi. Laboratory. (____)

xvii. Operations and Maintenance assessments. (____)

xviii. Treatment during construction. (____)

xix. Odor Management Plan. (____)

d. Hydraulic Profile. (____)

i. Twenty (20) year design facilities. (____)

ii. Provision for higher levels of treatment. (____)

iii. Receiving stream one hundred (100) year water surface elevation. (____)

iv. Hydraulics and pipe sizing for build-out condition. (____)

e. Process Units. (____)

i. Current project, twenty (20) year design, build-out conditions. ( )

ii. Size, number of units and loading rates. ( )

iii. Redundancy provisions. ( )

iv. Equipment type, size, performance criteria and power requirements. ( )

v. Structure, equipment and piping layout. ( )

vi. Special code requirements. ( )

vii. Cold temperature operation. ( )

f. Instrumentation and Control System. ( )

i. System configuration. ( )

ii. Operator interface. ( )

iii. Process and Instrumentation Diagrams. ( )

g. Collection system piping materials. ( )

i. Current project fifty (50) year design, build-out conditions. ( )

ii. Depth of bury. ( )

iii. Soil and ground water conditions. ( )

iv. Corrosion protection. ( )

v. Odor control. ( )

h. Code Provisions. Summary of applicable codes. ( )

i. Cost Estimate. ( )

j. Schedule. ( )

k. Environmental Review. ( )

04. **Engineer's Seal Required**. Preliminary Engineering Reports submitted *to the Department shall* bear the imprint of *an Idaho licensed professional* engineer's seal that is both signed and dated by the engineer. ( )

41~~1~~2. -- 419. (RESERVED).

(BREAK IN CONTINUITY OF SECTIONS)

421. -- 42~~9~~4. (RESERVED).

425. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - OPERATION AND MAINTENANCE MANUALS.
Final operation and maintenance manuals for construction of wastewater systems that include lift stations or treatment works must be submitted to the Department for review and approval prior to start-up of the proposed system. ( )

426. -- 429. (RESERVED)

430. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES -- DESIGN AND CONSTRUCTION OF WASTEWATER PIPELINES.

01. Design Capacity and Design Flow. In general, sewer capacities shall be designed for the estimated ultimate tributary population, except in considering parts of the systems that can be readily increased in capacity. (4-11-06)

02. Details of Design and Construction. (4-11-06)

a. Minimum Pipe Size. Minimum pipe size *for gravity sewer mains* shall be *eight (8) inches in diameter. Minimum pipe size for gravity sewer services shall be four (4) inches in diameter. Pipe diameters larger than these minimums shall be* based on cleaning capability and hydraulic capacity, and shall conform with the required planning documents. ~~*(4-11-06)*~~( )

b. Depth. Wastewater pipelines shall be installed sufficiently deep or specifically designed to prevent freezing and to protect the facilities from surface loading. (4-11-06)

c. Buoyancy. Buoyancy of wastewater pipelines shall be considered and flotation of the pipe shall be prevented with appropriate construction where high groundwater conditions are anticipated. (4-11-06)

d. Slope. Gravity wastewater pipelines shall be designed to have sufficient slope and velocity to "self clean" or transport constituent solids to the treatment facility. ~~*or*~~ Justification for these slopes shall be included in the Preliminary Engineering Report and shall be based on widely used guidance documents or published friction coefficients and Manning's formula. ( )

i. If the current or future ownership of the system is by a city, county, quasi-municipal corporation or regulated public utility and the velocities are less than self cleaning, the owner shall, ~~*periodically*~~ as a condition of the Department's approval of plans and specifications, provide justification for the lower velocities and commit to, at a minimum, annually service

wastewater pipelines to flush, transport, or remove solids from wastewater pipelines ~~with minimal velocities~~. This would include the use of cutting tools for roots, vactor trucks, and any other method required to keep the pipelines clean, intact and flowing. That commitment shall be in the form of a letter from both the owner and the future owner entity stating said commitment, and shall include a discussion of the current and future owners' capacity to do said flushing. ~~(4-11-06)~~(____)

ii. If the current or future ownership of the system is by a developer that is passing the operation and maintenance on to a homeowner's association or other similar entity, then the design shall not allow for velocities that are less than self cleaning. (____)

e. Materials. (4-11-06)

i. Any generally accepted material for wastewater pipelines will be given consideration. The material selected should be adapted to local conditions, such as: character of industrial wastes, possibility of septicity, soil characteristics, exceptionally heavy external loadings, abrasion, corrosion, and similar problems. (4-11-06)

ii. Couplings complying with applicable standard specifications shall be used for joining dissimilar materials. (4-11-06)

iii. For new pipe materials for which standards have not been established, the design engineer shall provide complete pipe specifications and installation specifications developed on the basis of criteria adequately documented and certified in writing by the pipe manufacturer to be satisfactory for the specific application. (4-11-06)

f. Installation. Installation specifications shall contain appropriate requirements based on the criteria, standards, and requirements established by industry in its technical publications. Reference current edition of the Idaho Standards for Public Works Construction~~, 2005 Edition, and subsequent revisions,~~ for assistance in designing such specifications. ~~(4-11-06)~~(____)

g. Joints and Infiltration. (4-11-06)

i. The installation of joints and the materials used shall be included in the specifications. Wastewater pipeline joints shall be designed to minimize infiltration and to prevent the entrance of roots throughout the life of the system. Reference current edition of the Idaho Standards for Public Works Construction~~, 2005 Edition, and subsequent revisions,~~ for assistance in designing such specifications. ~~(4-11-06)~~(____)

ii. Service connections to the wastewater pipeline main shall be water tight and not protrude into the wastewater pipelines. If a saddle type connection is used, it shall be a device designed to join with the types of pipe which are to be connected. All materials used to make service connections shall be compatible with each other and with the pipe materials to be joined and shall be corrosion proof. (4-11-06)

h. Manholes. Manholes shall be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections. Cleanouts may be used only for special conditions

and shall not be substituted for manholes nor installed at the end of laterals greater than one hundred fifty (150) feet in length. (4-11-06)

i. Testing. Testing shall conform with Section 500.3.4 of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004. ~~(4-11-06)~~(____)

j. Inverted Siphons. Inverted siphons shall have not less than two (2) barrels or pipes. They shall be provided with necessary appurtenances for maintenance, convenient flushing, and cleaning equipment. Design shall provide sufficient head and appropriate pipe sizes to secure sufficient velocities for design average flows. ~~(4-11-06)~~(____)

k. Wastewater Pipelines in Relation to Surface Water Bodies. The top of all wastewater pipelines entering or crossing surface water bodies shall be at a sufficient depth below the natural bottom of the bed or otherwise designed to protect the wastewater pipeline. (4-11-06)

i. Wastewater pipelines located ~~along~~ adjacent to surface water bodies shall be located outside of the bed and sufficiently removed therefrom to provide for future possible stream widening and to prevent pollution by siltation during construction. ~~(4-11-06)~~(____)

ii. Structures. Wastewater pipeline outfalls, headwalls, manholes, gate boxes, or other structures shall be designed to address anticipated flood flows of the surface water bodies. (4-11-06)

iii. Alignment. Wastewater pipelines crossing surface water bodies should be designed to cross the surface water body as nearly perpendicular to the surface water body flow as possible and shall be free from change in grade. (4-11-06)

iv. Materials. Wastewater pipelines entering or crossing surface water bodies shall be constructed of water transmission pressure rated pipe with restrained joints conforming to Section 401.*2.9* of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004, or other suitable pipe with restrained joints capable of being installed to remain watertight and free from changes in alignment or grade. Material used to back-fill the trench shall be concrete slurry, stone, coarse aggregate, washed gravel, or other materials which will not readily erode, cause siltation, damage pipe during placement, or corrode the pipe. ~~(4-11-06)~~(____)

v. Siltation and Erosion. Construction methods that will minimize siltation and erosion shall be employed. (4-11-06)

l. Aerial Crossings. Support shall be provided for all joints in pipes utilized for aerial crossings. Restrained joints or structural casings are required. (4-11-06)

m. Cross Connections Prohibited. There shall be no physical connections between a public or private potable water supply system and a wastewater pipeline, or appurtenance thereto, which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come into contact with any part of a wastewater pipeline manhole. (4-11-06)

n. Protection of Water Sources, Supplies. When wastewater pipelines are proposed in the vicinity of any drinking water sources or supplies or other drinking water facilities, requirements of IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," shall be used to confirm acceptable isolation distances. (4-11-06)

o. Non-Potable Pipelines in Relation to Potable Water ~~*Mains*~~ Pipelines. ~~*(4-11-06)*~~(____)

i. Non-potable mains in relation to potable ~~*water*~~ mains. ~~*(4-11-06)*~~(____)

(1) Parallel installation requirements. (4-11-06)

(a) Greater than ten (10) feet separation: no conditions. (4-11-06)

(b) Ten (10) feet to six (6) feet separation: separate trenches, with potable main above non-potable main, and non-potable main constructed with potable-water class pipe. (4-11-06)

(c) Less than six (6) feet separation: design engineer to submit data to the Department for review and approval that this installation will protect public health and environment and non-potable main constructed with potable-water class pipe. ~~*(4-11-06)*~~(____)

(d) ~~*Never in same trench.*~~ Non-potable mains are prohibited from being located in the same trench as potable mains. ~~*(4-11-06)*~~(____)

(e) Pressure sewage mains shall be no closer horizontally than ten (10) feet from potable mains. (____)

(2) Non-potable mains crossing potable ~~*water*~~ mains requirements. ~~*(4-11-06)*~~(____)

(a) Eighteen (18) inches or more vertical separation with potable ~~*water*~~ main above non-potable main: non-potable main joint as far as possible from potable water main. ~~*(4-11-06)*~~(____)

(b) Less than eighteen (18) inches vertical separation: non-potable main constructed with potable water class pipe ~~*and non-potable main joint as far as possible from potable water main;*~~ for a minimum of ten (10) feet either side of potable main with a single twenty (20) foot section of potable water class pipe being centered on the crossing, or sleeve non-potable ~~*pipe*~~ or potable main with potable water class pipe for ten (10) feet either side of crossing. Use of concrete slurry encasement is not allowed as a substitute for sleeving. If potable main is below non-potable main, the non-potable main must also be supported through the crossing to prevent settling. ~~*(4-11-06)*~~(____)

(c) Pressure sewage mains shall be no closer vertically than eighteen (18) inches from potable mains. (____)

ii. New non-potable services in relation to potable ~~*water*~~ services and new non-potable services in relation to potable ~~*water*~~ mains. The Department will use the Memorandum of

Understanding with the Plumbing Bureau as guidance in determining the relative responsibilities for reviewing service lines. The following conditions shall apply to all non-potable services constructed or reconstructed after April 15, 2007, and where the Department or the qualified Idaho licensed professional engineer is the reviewing authority. ~~(4-11-06)~~(____)

(1) Parallel installation requirements. (4-11-06)

(a) Greater than six (6) feet separation: no conditions. (4-11-06)

(b) Less than six (6) feet separation: design engineer to submit data that this installation will protect public health and environment and non-potable service constructed with potable water class pipe. (4-11-06)

(c) ~~*Never in same trench.*~~ New non-potable services are prohibited from being located in the same trench as potable mains or potable services. ~~(4-11-06)~~(____)

(2) Non-potable services crossing potable ~~*water*~~ services or potable ~~*water*~~ mains requirements. ~~(4-11-06)~~(____)

(a) Eighteen (18) inches or more separation with potable ~~*water*~~ service or main above non-potable service: non-potable main joint as far as possible from potable ~~*water*~~ main. ~~(4-11-06)~~(____)

(b) Less than eighteen (18) inches separation or potable ~~*water*~~ service or main below non-potable service: non-potable service or main constructed with potable water class pipe and non-potable main joint as far as possible from potable ~~*water*~~ main~~;~~, or sleeve non-potable ~~*pipe*~~ service or main with potable water class pipe for ten (10) feet either side of crossing. Use of concrete slurry encasement is not allowed as a substitute for sleeving. ~~(4-11-06)~~(____)

iii. Existing potable services in relation to new non-potable mains, and existing non-potable services in relation to new potable mains, shall meet the requirements of Subsection 430.02.o.ii., where practical, based on cost, construction factors, and public health significance. If the Department determines that there are significant health concerns with these services, such as where a large existing service serves an apartment building or a shopping center, then the design shall conform with Subsection 430.02.o.ii. (____)

431. -- ~~59~~399. (RESERVED).

440. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - WASTEWATER PUMPING STATIONS.

01. General. Section 440 regulates both public and private municipal wastewater collection pump stations and does not regulate individual residence pump stations, individual residence grinder pump stations, or individual residence septic tank effluent pump stations. See Section 441 for regulation of those types of pump stations. (____)

a. Flooding. Wastewater pumping station structures and electrical and mechanical equipment shall be protected from physical damage by the one hundred (100) year flood.

Wastewater pumping stations shall remain fully operational and accessible during the twenty-five (25) year flood. Regulations of state and federal agencies regarding flood plain obstructions shall be considered. ( )

b. Accessibility and Security. The pumping station shall be accessible by maintenance vehicles during all weather conditions. ( )

c. Grit. The wet well and pump station piping shall be designed to avoid operational problems from the accumulation of grit. ( )

d. Safety. Provisions shall be made to consider the protection of maintenance personnel and visitors from typical and foreseeable hazards in accordance with the engineering standards of care. See also Subsection 450.07. ( )

02. **Design**. Design of wastewater pumping stations shall meet the applicable requirements of Subsections 440.02.a. through 440.02.i. ( )

a. Type. Wastewater pumping stations in general use fall into four types: wet well/dry well, submersible, suction lift, and screw pump. ( )

b. Structures. ( )

i. Separation. Dry wells shall be completely separated from the wet well. Common walls must be gas tight. ( )

ii. Equipment Removal. Provision shall be made to facilitate removing pumps, motors, and other mechanical and electrical equipment. Individual pump and motor removal must not interfere with the continued operation of remaining pumps. ( )

iii. Access and Safety Landings. ( )

(1) Access. Suitable means of access for maintenance personnel wearing self-contained breathing apparatus shall be provided to dry wells and to wet wells. See also Subsection 450.07. ( )

(2) Safety Landings. Section 009 provides a reference to requirements of the Occupational Safety and Health Administration (OSHA), compliance with which may be required by other law. ( )

iv. Buoyancy. Where high groundwater conditions are anticipated, buoyancy of the wastewater pumping station structures shall be considered and, if necessary, adequate provisions shall be made for protection. ( )

v. Construction Materials. Materials shall be selected that are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. This is particularly important in the selection of metals and paints. ( )

c. Pumps. ( )

i. Multiple Units. Multiple pumps shall be provided. Units shall have capacity such that, with any unit out of service, the remaining units will have capacity to handle the design peak hourly flow. ( )

ii. Protection Against Clogging. Pumps (except screw pumps) handling separate sanitary wastewater from thirty (30) inch or larger diameter sewers shall be protected by bar racks. Appropriate protection from clogging shall also be considered for small pumping stations. ( )

iii. Pump Openings. Pumps handling unscreened raw wastewater shall be capable of passing spheres of at least three (3) inches in diameter or be a grinder pump. ( )

iv. Priming. The pump shall be placed so that, under normal operating conditions, it will operate under a positive suction head, except as specified in Subsection 440.03. ( )

v. Electrical Equipment. Section 009 provides a reference to the requirements of the National Electrical Code, compliance with which may be required by other law. ( )

vi. Intake. Section 008 provides a reference to the American National Standard Institute/Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design. ( )

vii. Dry Well Dewatering. Dry wells shall be equipped with a positive means for dewatering. ( )

viii. Pumping Rates. The pumps and controls of main pumping stations shall be selected to operate with varying rates. The pump control system design shall take into account, and minimize as needed, downstream impact of pump discharge hydraulic surges. The station design capacity shall be based on peak hourly flow as determined in accordance with Section 411 and shall be adequate to maintain a velocity in the force main sufficient to avoid solids deposition. See Subsection 440.09. ( )

d. Controls. Water level control sensing devices shall be designed to allow for automatic control of pumps. ( )

e. Valves. ( )

i. Suction Line. Suitable shutoff valves shall be placed on the suction lines of dry pit pumps. ( )

ii. Discharge Line. *Suitable shutoff and check valves shall be placed on the discharge line of each pump (except on screw pumps). The check valve shall be located between the shutoff valve and the pump. Check valves shall be suitable for the material being handled and shall be placed on the horizontal portion of the discharge piping except for ball checks, which may be placed in the vertical run. Valves shall be capable of withstanding normal pressure and water hammer. All shutoff and check valves shall be operable from the floor level and accessible for*

maintenance. Outside levers are recommended on swing check valves. ( )

f. Wet Wells. ( )

i. Section 008 provides a reference to the American National Standard Institute/ Hydraulic Institute ANSI/HI 9.8, American National Standard for Centrifugal and Vertical Pump Intake Design as a guidance document. ( )

ii. Air Displacement. Covered wet wells shall have provisions for air displacement to the atmosphere, such as an inverted "j" tube or other means. ( )

g. Safety Ventilation. Adequate ventilation shall be provided for all pump stations unless access is provided using confined space entry procedures. Where the dry well is below the ground surface, mechanical ventilation is required. If screens or mechanical equipment requiring maintenance or inspection are located in the wet well, permanently installed ventilation is required. There shall be no interconnection between the wet well and dry well ventilation systems. Section 008 provides a reference to guidance documents; see Subsection 008.11. ( )

h. Flow Measurement. Suitable methods for measuring wastewater flow shall be addressed at all pumping stations. ( )

i. Water Supply. There shall be no physical connection between any potable water supply and a wastewater pumping station which, under any conditions, might cause contamination of the potable water supply. If a potable water supply connection is made to the station, the connection shall comply with IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems". ( )

03. Suction Lift Pump Stations - Special Considerations. Suction lift pumps shall meet the applicable requirements of Subsection 440.02. ( )

a. Pump Priming and Lift Requirements. Suction lift pumps shall be of the self-priming or vacuum-priming type. Suction lift pump stations using dynamic suction lifts exceeding the limits outlined in Subsections 440.03.b. through 440.03.d. may be approved upon submission of factory certification of pump performance and detailed calculations indicating satisfactory performance under the proposed operating conditions. ( )

b. Self-Priming Pumps. Self-priming pumps shall be capable of rapid priming and re-priming at the "lead pump on" elevation. Such self-priming and re-priming shall be accomplished automatically under design operating conditions. ( )

c. Vacuum-Priming Pumps. Vacuum-priming pump stations shall be equipped with dual vacuum pumps capable of automatically and completely removing air from the suction lift pump. The vacuum pumps shall be adequately protected from damage due to wastewater. The combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions shall not exceed twenty-two (22) feet. ( )

d. Equipment, Wet Well Access, and Valving Location. The pump equipment compartment shall be above grade or offset and shall be effectively isolated from the wet well to

prevent a hazardous and corrosive sewer atmosphere from entering the equipment compartment. Wet well access shall not be through the equipment compartment and shall be at least twenty-four (24) inches in diameter. Gasketed replacement plates shall be provided to cover the opening to the wet well for pump units removed for servicing. Valving shall not be located in the wet well. ( )

04. Submersible Pump Stations - Special Considerations. Submersible pump stations shall meet the applicable requirements of Subsection 440.02, except as modified in Subsection 440.04. ( )

a. Construction. Submersible pumps and motors shall be designed specifically for raw wastewater use, including totally submerged operation during a portion of each pumping cycle. An effective method to detect shaft seal failure or potential seal failure shall be provided. ( )

b. Pump Removal. Submersible pumps shall be readily removable and replaceable without personnel entering or dewatering the wet well, or disconnecting any piping in the wet well. ( )

c. Electrical Equipment. Section 009 provides a reference to the requirements of the National Electrical Code, compliance with which may be required by other law. ( )

i. Power Supply and Control Circuitry. Electrical supply, control, and alarm circuits shall be designed to provide strain relief and to allow disconnection from outside the wet well. Terminals and connectors shall be protected from corrosion by location outside the wet well or through use of watertight seals. ( )

ii Controls. The motor control center shall be located outside the wet well, be readily accessible, and be protected by a conduit seal or other appropriate measures to prevent the atmosphere of the wet well from gaining access to the control center. The seal shall be located so that the motor may be removed and electrically disconnected without disturbing the seal. When such equipment is exposed to weather, it is recommended that it meet the requirements of weatherproof equipment NEMA 3R or 4. ( )

iii. Power Cord. Pump motor power cords shall be designed for flexibility and serviceability under conditions of extra hard usage. Ground fault interruption protection shall be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable. Power cord terminal fittings shall be corrosion-resistant and constructed in a manner to prevent the entry of moisture into the cable, shall be provided with strain relief appurtenances, and shall be designed to facilitate field connecting. ( )

d. Valves. Valves required under Subsection 440.02 shall be located in a separate valve chamber. Provisions shall be made to remove or drain accumulated water from the valve chamber. The valve chamber may be dewatered to the wet well through a drain line with a gas and water tight valve. Check valves that are integral to the pump need not be located in a separate valve chamber provided that the valve can be removed from the wet well in accordance with Subsection 440.04. Access shall be provided in accordance with Subsection 440.02. ( )

05. Screw Pump Stations - Special Considerations. Screw pump stations shall meet the applicable requirements of Subsection 440.02. ( )

a. Covers. Covers or other means of excluding direct sunlight shall be provided as necessary to eliminate adverse effects from temperature changes. ( )

b. Pump Wells. A positive means of isolating individual screw pump wells shall be provided. ( )

c. Bearings. Submerged bearings shall be lubricated by an automated system without pump well dewatering. ( )

06. Alarm Systems. Alarm systems with a backup power source shall be provided for pumping stations. The alarm shall be activated in cases of power failure, dry well sump and wet well high water levels, pump failure, unauthorized entry, or other cause of pump station malfunction. Pumping station alarms, including identification of the alarm condition, shall be transmitted to a twenty-four (24) hour response center. Audio-visual alarm systems may be acceptable in some cases in lieu of a transmitting system depending upon location, station holding capacity, and inspection frequency. ( )

07. Emergency Operation. ( )

a. Objective. The objective of emergency operation is to prevent the unintended discharge of raw or partially treated wastewater to any waters or land surface and to protect public health by preventing back up of wastewater and subsequent discharge to basements, streets, and other public and private property. ( )

b. Emergency Pumping Capability. Emergency pumping capability is required for all new lift stations constructed after April 15, 2007. Emergency pumping capability is required for all existing lift stations that undergo a material modification or expansion unless overall system reliability can be proven adequate to the Department as shown in Subsections 440.07.b.i. and 440.07.b.ii. or overflow prevention is provided by adequate emergency storage capacity as defined in these rules. If required, emergency pumping capability shall be accomplished by connection of the station to at least two (2) independent utility substations as determined by and stated in a letter from the appropriate power provider, by provision of portable or in-place internal combustion engine equipment which will generate electrical or mechanical energy, or by the provision of portable pumping equipment. Such emergency standby systems shall have sufficient capacity to start up and maintain the total rated running capacity of the station. Regardless of the type of emergency standby system provided, a portable pump connection to the force main with rapid connection capabilities and appropriate valving shall be provided outside the dry well and wet well. ( )

i. System reliability is considered adequate if power grid outages average three (3) or less per year based on data for the three (3) previous years with no more than six (6) outages in a single year. ( )

ii. Outage duration averages less than four (4) hours based on data for the three (3) previous years, with not more than one (1) outage during the three (3) previous year period

exceeding eight (8) hours. Power loss for at least thirty (30) minutes qualifies as an outage.( )

c. Equipment Requirements. ( )

i. General. The following general requirements shall apply to all internal combustion engines used to drive auxiliary pumps, service pumps through special drives, or electrical generating equipment: ( )

(1) Engine Protection. The engine must be protected from operating conditions that would result in damage to equipment. Unless continuous manual supervision is planned, protective equipment shall be capable of shutting down the engine and activating an alarm on site and as provided in Subsection 440.06. Protective equipment shall monitor for conditions of low oil pressure and overheating, except that oil pressure monitoring will not be required for engines with splash lubrication. ( )

(2) Size. The engine shall have adequate rated power to start and continuously operate under all connected loads. ( )

(3) Fuel Type. Reliability and ease of starting, especially during cold weather conditions, shall be addressed in the selection of the type of fuel. ( )

(4) Fuel Storage. Fuel storage and piping facilities if provided shall be constructed in accordance with applicable state and federal regulations. ( )

(5) Engine Ventilation. The engine shall have adequate ventilation of fuel vapors and exhaust gases. ( )

(6) Routine Start-up. All emergency equipment shall be provided with instructions indicating the need for regular starting and running of such units at full loads. ( )

(7) Protection of Equipment. Emergency equipment shall be protected from damage at the restoration of regular electrical power. ( )

ii. Engine-Driven Pumping Equipment. Where permanently-installed or portable engine-driven pumps are used, the following requirements in addition to general requirements shall apply. ( )

(1) Pumping Capacity. Engine-driven pumps shall meet the design pumping requirements unless storage capacity is available for flows in excess of pump capacity. Pumps shall be designed for anticipated operating conditions, including suction lift if applicable. ( )

(2) Operation. The engine and pump shall be equipped to provide automatic start-up and operation of pumping equipment unless manual start-up and operation is justified. Provisions shall also be made for manual start-up. Where manual start-up and operation is justified, storage capacity and alarm system must meet the requirements of Subsection 440.07.c.ii(3). ( )

(3) Portable Pumping Equipment. Where part or all of the engine-driven pumping equipment is portable, adequate emergency storage capacity with alarm system shall be provided

to allow time for detection of pump station failure and transportation and hookup of the portable equipment. ( )

iii. Engine-Driven Generating Equipment. Where permanently-installed or portable engine-driven generating equipment is used, the following requirements shall apply in addition to the general requirements of Subsection 440.07. ( )

(1) Generating Capacity. ( )

(a) Generating unit size shall be adequate to provide power for pump motor starting current and for lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation of the lift station. ( )

(b) The operation of only one pump during periods of auxiliary power supply must be justified. Such justification may be made on the basis of the design peak hourly flows relative to single-pump capacity, anticipated length of power outage, and storage capacity. ( )

(c) Manual or special sequencing controls shall be provided to start pump motors unless the generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating. ( )

(2) Operation. Provisions shall be made for automatic and manual startup and load transfer unless only manual start-up and operation is justified. Automatic transfer switches shall be UL listed and meet NEC requirements. The generator must be protected from operating conditions that would result in damage to equipment. Provisions shall be made to allow the engine to start and stabilize at operating speed before assuming the load. Where manual start-up and transfer is justified, storage capacity and alarm system must meet the requirements of Subsection 440.07.c.iii(3). ( )

(3) Portable Generating Equipment. Where portable generating equipment and manual transfer is provided, adequate emergency storage capacity with alarm system shall be provided to allow time for detection of pump station failure and transportation and connection of generating equipment. Special electrical connections and double throw switches shall be provided for connecting portable generating equipment. Manual transfer switches shall be UL listed and meet NEC requirements. ( )

iv. Independent Utility Substations. Where independent substations are used for emergency power, each separate substation and its associated transmission lines shall be capable of starting and operating the pump station at its rated capacity. ( )

08. Instructions and Equipment. Wastewater pumping stations and portable equipment shall be supplied with a complete set of operational instructions, including emergency procedures, maintenance schedules, tools, and such spare parts as may be necessary. ( )

09. Operation and Maintenance. ( )

a. An operation and maintenance manual shall be submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual shall be

required. The owner shall be responsible for maintaining the wastewater facility in a manner that assures its designed operation. ( )

b. For private municipal wastewater collection pump stations, documents that detail the technical, managerial, and financial capabilities of the private entity to properly operate and maintain said pump station for the long term shall be submitted to the Department for approval prior to operation. ( )

10. Force Mains. ( )

a. Velocity and Diameter. At design pumping rates, a cleansing velocity of at least two (2) feet per second shall be maintained. ( )

b. Air and Vacuum Relief Valve. An air relief valve shall be placed at high points in the force main to prevent air locking. The force main configuration and head conditions shall be evaluated as to the need for and placement of vacuum relief valves. ( )

c. Termination. The force mains from other than individual grinder pump stations shall enter a receiving manhole. Corrosion protection for the receiving manhole shall be provided. Control of odors at such discharge points shall be evaluated. ( )

d. Pipe and Design Pressure. Pipe and joints shall be equal to water main strength materials suitable for design conditions. The force main, reaction blocking, thrust restraint, and station piping shall be designed to withstand water hammer pressures and associated cyclic reversal of stresses that are expected with the cycling of wastewater lift stations. The use of surge valves, surge tanks, or other suitable means to protect the force main against severe pressure changes shall be evaluated. ( )

e. Special Construction. Force main construction near streams or water works structures and at water main crossings shall meet applicable provisions of Section 430. ( )

f. Design Friction Losses. ( )

i. Friction Coefficient. Friction losses through force mains shall be based on the Hazen and Williams formula or other acceptable methods. When the Hazen and Williams formula is used, the friction losses for varying values of "C" shall be evaluated for different types and ages of pipe. ( )

ii. Maximum Power Requirements. When initially installed, force mains will have a significantly higher "C" factor. The effect of the higher "C" factor shall be considered in calculating maximum power requirements and duty cycle time to prevent damage to the motor. The effects of higher discharge rates on selected pumps and downstream facilities shall also be considered. ( )

g. Identification. Where force mains are constructed of material which might cause the force main to be confused with potable water mains, the force main shall be appropriately identified using trench tape saying "raw sewage", "biohazard", or other appropriate wording. ( )

h. Leakage Testing. Leakage tests shall be specified including testing methods and leakage limits. Testing shall conform with Sections 401.3.6 and 505.3.3 of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004. ( )

i. Thrust Blocking or Restraint. Thrust blocking or restraint shall conform with Sections 401.3.4 of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004, or specific calculations reviewed and approved by the Department. ( )

j. Maintenance Considerations. Isolation valves shall be used if force mains connect into a common force main. ( )

k. Cover. Force mains shall be covered with sufficient earth or other insulation to prevent freezing or other physical damage. ( )

441. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - INDIVIDUAL RESIDENCE WASTEWATER PUMPING STATIONS.

01. General. Section 441 regulates individual residence pump stations, individual residence grinder pump stations, and individual residence septic tank effluent pump stations. *However,* this rule does not regulate grinder pump*s or their vaults that are* inside of individual residences or other structures. ( )

a. Flooding. Wastewater pumping station structures and electrical and mechanical equipment shall be protected from physical damage by the one hundred (100) year flood. Wastewater pumping stations shall remain fully operational and accessible during the twenty-five (25) year flood. Local, state and federal flood plain regulations shall be considered. ( )

b. Accessibility and Security. The pumping station shall be accessible by maintenance vehicles during all weather conditions. ( )

02. Design. Design of wastewater pumping stations shall meet the applicable requirements of Subsections 441.02.a. through 441.02.c. ( )

a. Pumps. ( )

i. Multiple Units. Duplex pumps for individual residence wastewater pump stations are not required. However, for developments having five (5) or more similar facilities, one (1) working spare pump for each size shall be provided and be readily available at all times. ( )

ii. Pump Openings. Pumps handling raw wastewater shall be capable of passing spheres of at least three (3) inches in diameter or be a grinder pump. ( )

iii. Priming. The pump shall be placed so that, under normal operating conditions, it will operate under a positive suction head. ( )

b. Controls. Water level control sensing devices shall be designed to allow for automatic control of pumps. ( )

c. Valves. Suitable means to facilitate pump removal and to prevent backflow shall be provided. All shutoff and check valves shall be accessible for maintenance. ( )

03. Submersible Pump Stations - Special Considerations. ( )

a. Construction. Submersible pumps and motors shall be designed specifically for raw wastewater use, including totally submerged operation during a portion of each pumping cycle. An effective method to detect shaft seal failure or potential seal failure shall be provided. ( )

b. Pump Removal. Submersible pumps shall be readily removable and replaceable without personnel entering or dewatering the wet well, or disconnecting any piping in the wet well. ( )

c. Electrical Equipment. Section 009 provides a reference to the requirements of the National Electrical Code, compliance with which may be required by other law. ( )

i. Power Supply and Control Circuitry. Electrical supply, control, and alarm circuits shall be designed to provide strain relief and to allow disconnection from outside the wet well. Terminals and connectors shall be protected from corrosion by location outside the wet well or through use of watertight seals. ( )

ii. Controls. The motor control center shall be located outside the wet well, be readily accessible, and be protected by a conduit seal or other appropriate measures to prevent the atmosphere of the wet well from gaining access to the control center. The seal shall be located so that the motor may be removed and electrically disconnected without disturbing the seal. When such equipment is exposed to weather, it is recommended that it meet the requirements of weatherproof equipment NEMA 3R or 4. ( )

iii. Power Cord. Pump motor power cords shall be designed for flexibility and serviceability under conditions of extra hard usage. Ground fault interruption protection shall be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable. Power cord terminal fittings shall be corrosion-resistant and constructed in a manner to prevent the entry of moisture into the cable, shall be provided with strain relief appurtenances, and shall be designed to facilitate field connecting. ( )

04. Alarm Systems. Audio-visual alarm systems shall be provided for pumping stations. The alarm shall be activated in cases of wet well high water levels *and shall be visible from the outside of the structure*. ( )

05. Instructions and Equipment. Wastewater pumping stations shall be supplied with a complete set of operational instructions, including emergency procedures, maintenance schedules, tools, and such spare parts as may be necessary. ( )

06. Operation and Maintenance. An operation and maintenance manual shall be

submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual shall be required. The owner shall be responsible for maintaining the wastewater facility in a manner that assures its designed operation. ( )

07. Force Mains. ( )

a. Velocity and Diameter. At design pumping rates, a cleansing velocity of at least two (2) feet per second shall be maintained. ( )

b. Special Construction. Force main construction near streams or water works structures and at water main crossings shall meet applicable provisions of Section 430. ( )

c. Design Friction Losses. ( )

i. Friction Coefficient. Friction losses through force mains shall be based on the Hazen and Williams formula or other acceptable methods. When the Hazen and Williams formula is used, the friction losses for varying values of "C" shall be evaluated for different types and ages of pipe. ( )

ii. Maximum Power Requirements. When initially installed, force mains will have a significantly higher "C" factor. The effect of the higher "C" factor shall be considered in calculating maximum power requirements and duty cycle time to prevent damage to the motor. The effects of higher discharge rates on selected pumps and downstream facilities shall also be considered. ( )

d. Identification. Where force mains are constructed of material which might cause the force main to be confused with potable water mains, the force main shall be appropriately identified using trench tape saying "raw sewage", "biohazard", or other appropriate wording. ( )

e. Leakage Testing. Leakage tests shall be specified including testing methods and leakage limits. Testing shall conform with Sections 401.3.6 and 505.3.3 of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004. ( )

f. Thrust Blocking. Thrust blocking shall conform with Sections 401.3.4 of the "Idaho Standards for Public Works Construction," incorporated by reference into these rules at Section 004. ( )

g. Maintenance Considerations. Isolation valves shall be used if force mains connect into a common force main. ( )

h. Cover. Force mains shall be covered with sufficient earth or other insulation to prevent freezing or other physical damage. ( )

442. – 449. (RESERVED).

450. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - WASTEWATER TREATMENT FACILITIES - GENERAL.

01. Plant Location. ( )

a. General. The Preliminary Engineering Report or Facility Plan shall include a detailed discussion for new facilities regarding site selection criteria and alternatives considered. See Sections 410 and 411. ( )

b. Flood Protection. The treatment plant structures, electrical, and mechanical equipment shall be protected from physical damage by the one hundred (100) year flood. Treatment plants shall be designed to remain fully operational and accessible during the one hundred (100) year flood. This requirement applies to new construction and to existing facilities undergoing major modification. Local, state and federal flood plain regulations shall be considered. ( )

c. Setback Distances. New treatment and storage facilities for wastewater treatment shall have a minimum setback*s* from their property line *as follows. For facilities open to the atmosphere such as lagoons, open clarifiers, open aeration basins, and other such facilities, the minimum setback to property zoned as residential shall be three hundred (300) feet. If the property with such open facilities is adjacent to property zoned as commercial or industrial, a lesser setback will be considered by the Department on a case by case basis. For totally enclosed facilities with noise and odor controls, the minimum setback shall be fifty (50) feet if approved by the Department*. Neighboring property owners may grant long term easements or other types of legal documents tied to the land to allow for similar setbacks from future development or public use. ( )

02. Quality of Effluent. The required degree of wastewater treatment shall be based on the effluent requirements and water quality standards established by the responsible state agency and/or appropriate federal regulations including discharge permit requirements. Combined sewer overflows are not allowed. ( )

03. Design. ( )

a. Type of Treatment. The Preliminary Engineering Report or Facility Plan shall include a detailed discussion regarding criteria and alternatives considered in selection of the appropriate type of treatment. See Sections 410 and 411. The plant design shall provide the necessary flexibility to perform satisfactorily within the expected range of waste characteristics and volumes. ( )

b. Required Engineering Data for New Process and Application Evaluation. The policy of the Department is to encourage rather than obstruct the development of any valid methods or equipment for treatment of wastewater. The lack of inclusion in these standards of some types of wastewater treatment processes or equipment should not be construed as precluding their use. The Department may approve other types of wastewater treatment processes and equipment that meet the performance standards set forth in these rules under the condition that the operational reliability and effectiveness of the process or device shall have been

demonstrated under similar conditions with a suitably-sized unit operating at its design load conditions, to the extent required. To determine that such new processes and equipment or applications have a reasonable and substantial chance of success, the Department may require the following: ( )

i. Monitoring observations, including test results and engineering evaluations, demonstrating the efficiency of such processes. ( )

ii. Detailed description of the test methods. ( )

iii. Testing, including appropriately-composited samples, under various ranges of strength and flow rates (including diurnal variations) and waste temperatures over a sufficient length of time to demonstrate performance under climatic and other conditions which may be encountered in the area of the proposed installations. ( )

iv. Other appropriate information. The Department may require that appropriate testing be conducted and evaluations be made under the supervision of a competent process engineer other than those employed by the manufacturer or developer. ( )

c. Design Period. The design period shall be clearly identified in the Preliminary Engineering Report or Facility Plan as required in Sections 410 and 411. ( )

d. Design Loads. ( )

i. Hydraulic Design. ( )

(1) Critical Flow Conditions. Flow conditions critical to the design of the treatment plant shall be as described in the Preliminary Engineering Report required by Section 411. Initial low flow conditions must be evaluated in the design to minimize operational problems with freezing, septicity, flow measurements and solids dropout. The appropriate design flows must be considered in evaluating unit processes, pumping, piping, etc. ( )

(2) Treatment Plant Design Capacity. The treatment plant design capacity shall be as described in Section 411. The plant design flow selected shall meet the appropriate effluent and water quality standards that are set forth in the discharge or other appropriate permit. For plants subject to high wet weather flows or overflow detention pump-back flows, the design maximum flows that the plant is to treat on a sustained basis shall be specified. ( )

(3) Flow Equalization. Facilities for the equalization of flows and organic shock load shall be considered at all plants which are critically affected by surge loadings. ( )

ii. Organic Design. Organic loadings for wastewater treatment plant design shall be based on the information provided in the Preliminary Engineering Report required by Section 411. The effects of septage flow which may be accepted at the plant shall be given consideration and appropriate facilities shall be included in the design. See Section 520. ( )

iii. Shock Effects. The shock effects of high concentrations and diurnal peaks for short periods of time on the treatment process, particularly for small treatment plants, shall be

considered. ( )

e. Conduits. All piping and channels shall be designed to carry the maximum expected flows. Conduits shall be designed to avoid creation of pockets and corners where solids can accumulate. ( )

f. Gates or Valves. Suitable gates or valves shall be placed in channels to seal off unused sections which might accumulate solids. The use of shear gates, stop plates or stop planks is permitted where they can be used in place of gate valves or sluice gates. Non-corrodible materials shall be used for control gates and conduits. ( )

g. Arrangement of Units. Component parts of the plant shall be arranged for appropriate operating and maintenance convenience, flexibility, economy, continuity of maximum effluent quality, and ease of installation of future units. ( )

h. Flow Division Control. Flow division control facilities shall be provided as necessary to ensure organic and hydraulic loading control to plant process units and shall be designed for easy operator access, change, observation, and maintenance. Appropriate flow measurement facilities shall be incorporated in the flow division control design. ( )

i. Odor Management. An odor management plan shall be submitted to and approved by the Department as a part of the Preliminary Engineering Report described in Section 411. The Water Environment Federation Guidance referenced in Section 008 of these rules provides guidance for use in developing an odor management plan that is inclusive of the facilities being designed. ( )

j. Cold Weather. Facilities shall be designed with regard for proper operation and maintenance and protection during cold weather temperatures expected at the specific location. The Water Environment Federation Guidance referenced in Section 008 of these rules provides guidance for use in designing, operating and maintaining facilities in cold weather. ( )

04. Plant Details. ( )

a. Unit Bypasses. ( )

i. Removal from Service. Properly located and arranged bypass structures and piping shall be provided so that each unit of the plant can be removed from service independently. The bypass design shall facilitate plant operation during unit maintenance and emergency repair so as to minimize deterioration of effluent quality and ensure rapid process recovery upon return to normal operational mode. The actuation of all bypasses shall require manual action by operating personnel. All power-actuated bypasses shall be designed to permit manual operation in the event of power failure. ( )

ii. Unit Bypass During Construction. Unit bypassing during construction shall be in accordance with the Preliminary Engineering Report required by Section 411. ( )

b. Unit Dewatering, Flotation Protection, and Plugging. Drains or sumps shall be

provided to completely dewater each unit to an appropriate point in the process. Due consideration shall be given to the possible need for hydrostatic pressure relief devices to prevent flotation of structures. Pipes subject to plugging shall be provided with means for mechanical cleaning or flushing. ( )

c. Construction Materials. Materials shall be selected that are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. This is particularly important in the selection of metals and paints. ( )

d. Painting. The contents and direction of flow shall be identified on the piping in a contrasting color. ( )

e. Operating Equipment. Tools, accessories, and spare parts necessary for the plant operator's use shall be provided. ( )

f. Storage and Work Space Facilities. Readily accessible storage and work space facilities shall be provided, and consideration shall be given to provision of a garage for large equipment storage, maintenance, and repair. ( )

g. Erosion Control During Construction. Effective site erosion control shall be provided during construction. ( )

h. Grading and Landscaping. Upon completion of the plant, the ground shall be graded and landscaped in accordance with the Preliminary Engineering Report developed in the Preliminary Engineering Report required by Section 411. ( )

05. Plant Outfalls. ( )

a. Discharge Impact Control. The outfall shall be designed to discharge to the receiving stream in a manner acceptable to various reviewing authorities including, but not limited to, EPA, the Idaho Department of Environmental Quality, U.S. Army Corp of Engineers, Idaho Department of Water Resources, and local jurisdictions. ( )

b. Protection and Maintenance. The outfall shall be so constructed and protected against the effects of floodwater, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage. Hazards to navigation shall be considered in designing outfalls. ( )

c. Sampling Provisions. All outfalls shall be designed so that a sample of the effluent can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters. ( )

06. Essential Facilities. ( )

a. Emergency Power Facilities. ( )

i. General. All wastewater treatment plants shall be provided with an alternate source

of electric power or pumping capability to allow continuity of operation during power failures. Refer to Subsection 440.07.c. for design requirements. Methods of providing alternate sources include: ( )

(1) The connection of at least two (2) independent power sources such as substations. A power line from each substation is required if this method is used. The determination of the independent power sources shall be done by the appropriate power provider and stated in a letter from that provider. ( )

(2) In-place internal combustion engine equipment which will generate electrical or mechanical energy. ( )

(3) Portable pumping equipment when only emergency pumping is required. Where part or all of the engine-driven pumping equipment is portable, adequate emergency storage capacity with alarm system shall be provided to allow time for detection of pump station failure and transportation and hookup of the portable equipment. ( )

ii. Power for Aeration. Standby generating capacity normally is not required for aeration equipment used in the activated sludge process. In cases where a history of chronic, long-term (4 hours or more) power outages have occurred, auxiliary power for minimum aeration of the activated sludge will be required as provided in Subsections 450.06.a.i.(1) or 450.06.a.i.(2). ( )

iii. Power for Disinfection. Standby generating capacity, as provided in Subsections 450.06.a.i.(1) or 450.06.a.i.(2), is required for disinfection facilities and dechlorination facilities. ( )

b. Water Supply. Section 009 provides a reference to the Uniform Plumbing Code, compliance with which may be required by other law. ( )

c. Sanitary Facilities. Section 009 provides a reference to the Uniform Plumbing Code, compliance with which may be required by other law. ( )

d. Stairways. Stairways shall be installed in lieu of ladders for top access to units requiring routine inspection and maintenance (such as digesters, trickling filters, aeration tanks, clarifiers, tertiary filters, etc.). ( )

e. Flow Measurement. ( )

i. Location. Flow measurement facilities shall be provided to measure the following flows: ( )

(1) Plant influent or effluent flow. ( )

(2) If influent flow is significantly different from effluent flow, both shall be measured or otherwise accounted for by other flow measurement facilities. ( )

(3) Other flows required to be monitored under the provisions of the discharge permit.

( )

(4) Other flows such as return activated sludge, waste activated sludge, and recycle required for plant operational control. ( )

ii. Facilities. Indicating, totalizing, and recording flow measurement devices for all influent or effluent flows shall be provided for all plants. Any other flow meters may be indicating and totalizing only. All flow measurement equipment must be sized to function to a satisfactory level of accuracy over the full range of flows expected and shall be protected against freezing. ( )

iii. Hydraulic Conditions. Flow measurement equipment including approach and discharge conduit configuration and critical control elevations shall be designed to ensure the required hydraulic conditions necessary for the measurement accuracy needed for the specific application. ( )

f. Sampling Equipment. Effluent composite sampling equipment shall be provided at all mechanical plants and at other facilities where necessary to meet discharge permit monitoring requirements. Composite sampling equipment shall also be provided as needed for influent sampling and for monitoring plant operations. The influent sampling point shall be located prior to any process return flows. ( )

07. Safety. ( )

a. General. Provisions shall be made to consider the protection of maintenance personnel and visitors from typical and foreseeable hazards in accordance with the engineering standards of care. Enclosure of the plant site with a fence and signs designed to discourage the entrance of unauthorized persons and animals is required. ( )

b. Hazardous Chemical Handling. The materials utilized for storage, piping, valves, pumping, metering, splash guards, etc., shall be specially selected considering the physical and chemical characteristics of each hazardous or corrosive chemical. ( )

08. Laboratory. ( )

a. All treatment plants shall include a laboratory for making the necessary analytical determinations and operating control tests, except for those plants utilizing only processes not requiring laboratory testing for plant control and where satisfactory off-site laboratory provisions are made to meet the permit monitoring requirements. The laboratory shall have sufficient size, bench space, equipment, and supplies to perform all self-monitoring analytical work required by discharge permits, and to perform the process control tests necessary for good management of each treatment process included in the design. ( )

b. Treatment plant laboratory needs may be divided into the following three (3) general categories: ( )

i. Plants performing only basic operational testing; this typically includes pH, temperature, dissolved oxygen, and chlorine residual. ( )

ii. Plants performing more complex operational and permit laboratory tests including biochemical oxygen demand, suspended solids, and fecal coliform analysis. ( )

iii. Plants performing more complex operational, permit, industrial pretreatment, and multiple plant laboratory testing. ( )

c. Expected minimum laboratory needs for the three (3) plant classifications set out in Subsection 450.08.b. must be addressed in the Preliminary Engineering Report. ( )

09. Instructions and Equipment. Wastewater treatment equipment shall be supplied with a complete set of operational instructions, including emergency procedures, maintenance schedules, tools and such spare parts as may be necessary. ( )

10. Operation and Maintenance. An operation and maintenance manual shall be submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual shall be required. The owner shall be responsible for maintaining the wastewater facility in a manner that assures its designed operation. ( )

451. -- 454. (RESERVED).

455. PRIVATE COMMUNITY MUNICIPAL WASTEWATER TREATMENT PLANTS.

01. Scope. Section 455 includes additional requirements for approval of private community municipal wastewater treatment plants with a surface water discharge, a discharge to land application or reuse, or a discharge to a drainfield. Individual extended treatment package systems for on-site systems are not covered by these rules, but are covered by IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules". See Technical Guidance Manual for Individual and Subsurface Sewage Disposal Systems available at http://www.deq.idaho.gov/water/assist_business/septic/tech_manual_updates.cfm. Private community municipal wastewater treatment plants may be considered if no other viable alternative is available. The use of these plants shall be fully protective of ground water and surface water quality standards. ( )

02. Preliminary Engineering Report. The Preliminary Engineering Report for private community municipal wastewater treatment plants shall include the following information, as well as relevant information included in Section 411. ( )

a. A Preliminary Engineering Report as described in Section 411 must be submitted to and approved by the Department prior to submittal of plans and specifications. ( )

b. In addition to the requirement in Subsection 455.02.a., at a minimum, the Preliminary Engineering Report shall evaluate the following alternatives: ( )

i. Wastewater treatment plants (possibly several brands). ( )

ii. Self-contained lagoon. ( )

iii. Conventional septic tank and drainfield (or alternate drainfield design). ( )

iv. Surface water discharge including impact on TMDLs. ( )

v. Gravity or pressure sewer into nearby community (see the Department's Policy for Determining Reasonable Access to Existing Public Wastewater Facilities for distances to community systems and required hook-up.) ( )

vi. Recirculating or intermittent sand filter. ( )

vii. Annual operation and maintenance costs. ( )

viii. Land application/reuse. ( )

c. The Preliminary Engineering Report must present capital and operation and maintenance costs, monitoring requirements and reporting, preliminary sizing (design criteria), hydrogeologic studies, bonding, the operation and maintenance manual, district health department requirements (nutrient/pathogen study), and all requirements of Section 411. ( )

d. The Preliminary Engineering Report must thoroughly analyze the effect of the treatment plant discharge on ground water quality, especially bacteria, viruses, phosphorus and nitrates as compared to the alternatives listed in Subsection 455.02.b. ( )

03. Plan and Specification Approval. ( )

a. Plans and specifications for the collection and treatment systems will not be approved until the owner is in receipt of one of the following (whichever is applicable): ( )

i. A draft NPDES permit from EPA for surface water discharges; or ( )

ii. A draft wastewater land application/reuse permit from the Department. ( )

b. For a subsurface treatment and disposal system (SSDS), the plans and specifications for the collection system will not be approved until the owner is in receipt of the SSDS permit from the district health department. ( )

c. For private community municipal wastewater treatment plants storing their treated effluent prior to irrigation or surface water discharge, the following additional items shall be considered by the Department, prior to approving either the treatment systems or the disposal option. These include, but are not limited to, sealing of storage ponds, filtration and disinfection requirements just prior to irrigation use or surface water discharge, the degree of treatment, and the intended type and area of irrigation. See IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater." ( )

04. Private Community Municipal Wastewater Treatment Plants. ( )

a. The private community municipal wastewater treatment plant must be NSF approved or equivalent as approved by the Department and the plant shall have at least two (2) full years of operating data on five (5) separate installations in the United States. The data

submittal shall include the name, address, and telephone number for a regulatory agency contact person familiar with the performance of each reported installation. For individual package treatment plants with septic tanks and drainfields, IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules," apply and owners must comply with the requirements of those rules. ( )

b. The owner shall provide for a minimum of a Class II operator in responsible charge of the facility. The actual operator license classification requirement will depend on the classification of the system based on Section 202 and the licensure requirements of Section 203. If the operator is provided by contract, the contract shall be submitted to the Department for review and approval. ( )

c. A sludge management plan must be submitted to and approved by the Department. The plan must include collection, treatment and disposal of the sludge. Additionally, a signed contract that provides for ultimate legal disposal of the sludge shall be submitted to the Department prior to plan and specification approval. ( )

d. The private community municipal wastewater treatment plant shall be a dual train type (or equivalent/greater) with redundant pumps and blowers from influent works to the disposal site. Standby or emergency power shall be provided to fully operate the *wastewater* treatment plant during a power outage unless the water system would also be out during a power outage. ( )

e. A compliance agreement schedule authorized by Section 39-116A, Idaho Code, shall be required for each private community municipal wastewater treatment plant approved. If a private community municipal wastewater treatment plant installation is only a temporary or interim measure in a long-term plan, a compliance agreement schedule will include a sunset clause with a date for the private community municipal wastewater treatment plant to cease operation and will require the plant owner to fund and construct the eventual hookup to the public municipal wastewater collection system when the system becomes reasonably accessible. For the purpose of Section 455, "reasonably accessible" shall mean when the public municipal wastewater collection system is located within one thousand (1,000) feet minimum of any portion of the discharge piping of the private community municipal wastewater treatment plant and the owner of the public municipal wastewater collection system provides a "will serve" letter. The Department will use its Policy for Determining Reasonable Access to Existing Public Wastewater Facilities to determine if a private community municipal wastewater treatment plant may also be found to be reasonably accessible at distances greater than one thousand (1,000) feet. If the Department determines that a proposed private community municipal wastewater treatment plant is reasonably accessible to a public municipal wastewater collection system, the use of the private community municipal wastewater treatment plant may be denied. The compliance agreement schedule shall address such things as operation and maintenance requirements and monitoring and reporting requirements. ( )

f. Operation and Maintenance. An operation and maintenance manual shall be submitted to and approved by the Department as required by Section 425. Adherence to the terms of this approved manual shall be required. The owner shall be responsible for maintaining the private community municipal wastewater treatment plant in a manner that assures its designed operation. ( )

g. Monitoring and Reporting. As a part of the compliance agreement schedule discussed in Subsection 455.04.e., the owner and the Department shall create monitoring and reporting requirements for the Department to approve. The owner shall be responsible for complying with the requirements of the compliance agreement schedule. ( )

h. A financial management plan shall be provided to show how the financial management of the system will occur. This will explain the formation of a required maintenance entity to provide continued funding, operation and maintenance of the private community municipal wastewater treatment plant and drainfields. The entity must have the authority to collect fees for operation and maintenance, including additional money for a sinking fund for replacement costs and for possible future connection to an available public municipal wastewater collection system. ( )

i. A performance bond, maintenance bond, or cash reserve (one year of operation and maintenance costs) fund is required to ensure continuous and adequate operation and maintenance. ( )

j. Minimum Size. The minimum size of a private community municipal wastewater treatment plant allowed under these rules is twenty-five thousand (25,000) gallons per day design capacity. ( )

05. Private Community Municipal Wastewater Treatment Plants with Drainfields. In addition to the applicable requirements of these rules, the subsurface sewage disposal design, construction and operation shall comply with IDAPA 58.01.03, "Individual/ Subsurface Sewage Disposal Rules." The exception to this is for Class A reclaimed wastewater reuse facilities that discharge to the subsurface. These reuse facilities are regulated by IDAPA 58.01.17,"Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater". ( )

06. Private Community Municipal Wastewater Treatment Plants Discharging to Surface Water. In addition to the applicable requirements of these rules, an NPDES permit is required for a facility discharging to surface water. ( )

07. Private Community Municipal Wastewater Treatment Plants Discharging to a Land Application or Reuse Site. ( )

a. In addition to the applicable requirements of these rules, a land application/reuse permit is required for land application or reuse of the effluent. ( )

b. For a discharge to a land application or reuse site, treatment and monitoring requirements will be established in the land application/reuse permit. See the Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater, http://www.deq.idaho.gov/water/ permits_forms/permitting/guidance.cfm. ( )

08. Private Community Municipal Wastewater Treatment Plants Discharging to a Public Municipal Wastewater Collection System. In addition to the applicable requirements of these rules, a "will-serve" letter from the public municipal wastewater collection system shall be submitted to the Department prior to plan and specification approval for private community

municipal wastewater treatment plants discharging to a public municipal wastewater collection system. ( )

456. -- 459. (RESERVED).

460. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - SCREENING AND GRIT REMOVAL.

01. Screening Devices and Comminutors. ( )

a. Screening, coarse or fine, or comminutors shall be required for all mechanical plants and shall be addressed for other types of plants. These facilities shall be designed for peak hourly flow. Multiple channels shall be provided and equipped with the necessary gates to isolate flow from any screening unit. Provisions shall also be made to facilitate dewatering each unit. The channel preceding and following the screen shall be shaped to minimize settling of solids. ( )

b. For mechanical plants with design average flow less than one million gallons per day (1 mgd), and where a single mechanically cleaned screen is used, an auxiliary manually cleaned screen shall be provided. Where two (2) or more mechanically cleaned screens are used, the design shall provide for taking any unit out of service without sacrificing the capability to screen the design peak instantaneous flows. ( )

02. Grit Removal Facilities. Grit removal and handling facilities shall be provided for all mechanical wastewater treatment plants. Consideration shall be given to possible damaging effects on pumps, comminutors, and other preceding equipment, and the need for additional storage capacity in treatment units where grit is likely to accumulate. ( )

461. -- 469. (RESERVED).

470. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - SETTLING.

01. General. ( )

a. Where settling is being used, a minimum of two (2) units capable of independent operation are desirable and shall be provided in all plants where design average flows exceed one hundred thousand (100,000) gallons/day. Plants not having multiple units shall include other provisions to assure continuity of treatment. ( )

b. The design of settling facilities shall include a minimum of two (2) units with flow splitting. Sizing shall be calculated for both design average and design peak hourly flow conditions, and the larger surface area determined shall be used. ( )

c. The plant design shall allow for isolation of each unit. The plant design shall allow for sludge and scum removal. ( )

d. Baffling shall be designed to control solids carry-over. ( )

e. The minimum side depth for primary settling facilities shall be ten (10) feet.( )

f. The minimum side depth for secondary settling facilities shall be twelve (12) feet. ( )

471. -- 479. (RESERVED)

480. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - SLUDGE PROCESSING, STORAGE, AND DISPOSAL.

01. Facilities. Facilities for processing sludge shall be provided for all mechanical wastewater treatment plants. Facilities shall be capable of processing sludge to a form suitable for ultimate disposal. Final disposal or utilization shall be in accordance with applicable permit and federal regulations. ( )

02. Design. Sludge processing, storage and disposal facility design shall comply with the sludge management plan in the Preliminary Engineering Report. ( )

03. Multiple Units. Multiple units capable of independent operation are desirable and shall be provided in all plants where design average flows exceed one hundred thousand (100,000) gallons/day. Plants not having multiple units shall include other provisions to assure continuity of treatment. The plant design shall allow for isolation of each unit. ( )

481. -- 489. (RESERVED).

490. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - BIOLOGICAL TREATMENT.
If biological treatment is used, the process shall be determined in the Preliminary Engineering Report. The choice shall be based on influent characteristics and effluent requirements. ( )

01. Trickling Filters. ( )

a. General. Trickling filters shall be preceded by effective settling tanks equipped with scum and grease collecting devices or other suitable pretreatment facilities. ( )

b. Hydraulics. The flow will be uniformly distributed across the surface of the media. The piping system, including dosing equipment and distributor, shall be designed to provide capacity for the design peak hourly flow, including recirculation. ( )

c. Media. ( )

i. Quality. The media shall be appropriate for the wastewater and shall be of sufficient strength to support itself under design loading and build up of biomass. ( )

ii. Depth. Trickling filter media shall have a minimum depth of six (6) feet above the underdrains. ( )

d. Underdrainage System. ( )

i. Arrangement. Underdrains shall be provided and the underdrainage system shall cover the entire floor of the filter. Inlet openings into the underdrains shall have an unsubmerged gross combined area equal to at least fifteen (15) percent of the surface area of the filter. ( )

ii. Ventilation. The underdrainage system, effluent channels, and effluent pipe shall be designed to permit free passage of air. ( )

e. Special Features. ( )

i. Maintenance. All distribution devices, underdrains, channels, and pipes shall be installed so that they may be properly maintained, flushed or drained. ( )

ii. Winter Protection. Covers shall be provided to maintain operation and treatment efficiencies when climatic conditions are expected to result in problems due to cold temperatures. ( )

iii. Recirculation. The piping system shall be designed for recirculation as required to achieve the design efficiency. The recirculation rate shall be variable and subject to plant operator control at the range of 0.5:1 up to 4:1 (ratio of recirculation rate versus design average flow). A minimum of two (2) recirculation pumps shall be provided. ( )

f. Rotary Distributor Seals. Mercury seals shall not be permitted. ( )

g. Unit Sizing. Required volumes of filter media shall be based upon pilot testing with the particular wastewater or any of the various empirical design equations that have been verified through actual full scale experience. Such calculations must be submitted to the Department if pilot testing is not utilized. Trickling filter sizing design shall consider peak organic load conditions including the oxygen demands due to solids and process recycle flows. ( )

02. Activated Sludge. ( )

a. Aeration. ( )

i. Capacities and Permissible Loadings. The size of the aeration tank for any particular adaptation of the process shall be determined by full scale experience, pilot plant studies, or rational calculations based mainly on solids retention time, food to microorganism ratio, and mixed liquor suspended solids levels. Other factors, such as size of treatment plant, diurnal load variations, and degree of treatment required, shall also be considered. In addition, temperature, alkalinity, pH, and reactor dissolved oxygen shall be considered when designing for nitrification. Calculations shall be submitted to the Department in the Preliminary Engineering Report to justify the basis for design of aeration tank capacity. ( )

ii. Arrangement of Aeration Tanks. ( )

(1) Dimensions. The dimensions of each aeration tank or return sludge reaeration tank shall be such as to maintain effective mixing and utilization of air. An exception is that

horizontally mixed aeration tanks shall have a depth of not less than five point five (5.5) feet. ( )

(2) Number of Units. Total aeration tank volume plus redundancy requirements shall be divided among two (2) or more equal units, capable of independent operation. ( )

(3) Inlets and Outlets. ( )

(a) Controls. Inlets and outlets for each aeration tank unit shall be designed to control flow to any unit with reasonable accuracy and to maintain reasonably constant liquid level. The properties of the system shall permit the design peak day flow to be treated with any single aeration tank unit out of service. The properties of the system shall permit the design peak hour hydraulic flow to be carried with any single aeration tank unit out of service. ( )

(b) Conduits. Channels and pipes carrying liquids with solids in suspension shall be designed to be self-cleansing. ( )

(c) Scum and Foam Control. Aeration tanks shall be designed to include adequate control or removal of scum and foam. ( )

(4) Freeboard. All aeration tanks should have a freeboard of not less than eighteen (18) inches. ( )

iii. Aeration Equipment. ( )

(1) General. Oxygen requirements generally depend on maximum diurnal organic loading, degree of treatment, and level of suspended solids concentration to be maintained in the aeration tank mixed liquor. Aeration equipment shall be capable of maintaining a minimum of two point zero (2.0) mg/L of dissolved oxygen in the mixed liquor at all times and provide thorough mixing of the mixed liquor (for a horizontally mixed aeration tank system, an average velocity of one (1) foot per second must be maintained). In the absence of experimentally determined values, the design oxygen requirements for all activated sludge processes shall be 1.1 lb 0_2 per lb of design peak hourly BOD_5 applied to the aeration tanks, with the exception of the extended aeration process, for which the value shall be one point five (1.5) to include endogenous respiration requirements. ( )

(a) Where nitrification is required or will occur, the oxygen requirement for oxidizing ammonia must be added to the above requirement for carbonaceous BOD_5 removal and endogenous respiration requirements. The nitrogenous oxygen demand (NOD) shall be taken as four point six (4.6) times the diurnal peak hourly total Kjeldahl nitrogen content of the aeration tank influent. In addition, the oxygen demands due to recycle flows must be considered due to the high concentrations of BOD_5 and total Kjeldahl nitrogen associated with such flows. ( )

(b) Meet maximum oxygen demand and maintain process performance with the largest unit out of service. Provide for varying the amount of oxygen transferred in proportion to the load demand on the plant. ( )

(2) Diffused Air Systems. Air requirements including, but not limited to, process air,

channel aeration, aerobic digestion, and miscellaneous plant air shall be submitted to the Department in the Preliminary Engineering Report. Blowers shall be provided in multiple units, so arranged and in such capacities as to meet the maximum air demand with the single largest unit out of service. The design shall also provide for varying the volume of air delivered in proportion to the load demand of the plant. Aeration equipment shall be easily adjustable in increments and shall maintain solids suspension within these limits. ( )

(3) Mechanical Aeration Systems. ( )

(a) Oxygen Transfer Performance. The mechanism and drive unit shall be designed for the expected conditions in the aeration tank in terms of the power performance. Certified testing shall be provided to verify mechanical aerator performance. Refer to applicable provisions of Subsection 490.02. In the absence of specific design information, the oxygen requirements shall be calculated for mechanical aeration systems using a transfer rate not to exceed two (2) pounds of oxygen per horsepower per hour in clean water under standard test conditions. Design transfer efficiencies shall be included in the specifications. ( )

(b) Design Requirements. Motors, gear housing, bearings, grease fittings, etc., shall be easily accessible and protected from inundation and spray as necessary for proper functioning of the unit. ( )

(c) Winter Protection. Where extended cold weather conditions occur, the aerator mechanism and associated structure shall be protected from freezing due to splashing. Due to high heat loss, subsequent treatment units shall be protected from freezing. ( )

b. Non-Aerated Tanks or Zones. Non-aerated tanks or zones within aeration tanks shall have mixing equipment adequate to fully mix the contents. Provide calculations in the Preliminary Engineering Report for sizing of this equipment. ( )

c. Return Sludge Equipment. ( )

i. Return Sludge Rate. The return sludge rate of withdrawal from the final settling tank is a function of the concentration of suspended solids in the mixed liquor entering it, the sludge volume index of these solids, and the length of time these solids are retained in the settling tank. The rate of sludge return shall be varied by means of adjustable weirs, variable speed pumps, or timers (small plants) to pump sludge. ( )

ii. Return Sludge Pumps. If a consolidated return sludge pump facility is used, the maximum return sludge capacity shall be obtained with the largest pump out of service. If individual sludge pumps are used at each settling basin, the pumps shall be designed to facilitate their rapid removal and replacement with a standby unit stored at the treatment plant site. If air lifts are used for returning sludge from each settling tank hopper, no standby unit will be required provided the design of the air lifts facilitate their rapid and easy cleaning and provided other suitable standby measures are made available. Air lifts should be at least three (3) inches in diameter. ( )

iii. Return Sludge Piping. Discharge piping should be at least four (4) inches in diameter and shall be designed to maintain a velocity of not less than two (2) feet per second

when return sludge facilities are operating at normal return sludge rates. Suitable devices for observing, sampling, and controlling return activated sludge flow from each settling tank hopper shall be provided. ( )

iv. Waste Sludge Facilities. Means for observing, measuring, sampling, and controlling waste activated sludge flow shall be provided. ( )

d. Sequencing Batch Reactors. The fill and draw mode of the activated sludge process commonly termed the Sequencing Batch Reactor may be used in Idaho. The design must be based on experience at other facilities and shall meet the applicable requirements under Sections 450, 470 and 490, except as modified in Subsection 490.02.d.i. through 490.02.d.xi. Continuity and reliability of treatment equal to that of the continuous flow through modes of the activated sludge process shall be provided. ( )

i. At least two (2) tanks *shall* be provided. ( )

ii. The decantable volume and decanter capacity of the sequencing batch reactor system with the largest basin out of service *shall* be sized to pass at least seventy-five (75) percent of the design maximum day flow without changing cycle times. A decantable volume of at least four (4) hours with the largest basin out of service based on one hundred (100) percent of the design maximum day flow is permissible. ( )

iii. System reliability with any single tank unit out of service and the instantaneous delivery of flow shall be evaluated in the design of decanter weirs and approach velocities.( )

iv. Reactor design shall provide for scum removal and prevent overflow of settled solids. ( )

v. An adequate zone of separation between the sludge blanket and the decanter(s) shall be maintained throughout the decant phase. Decanters which draw the treated effluent from near the water surface throughout the decant phase are recommended. ( )

vi. Solids management to accommodate basin dewatering shall be considered. ( )

vii. The blowers shall be provided in multiple units, so arranged and in such capacities as to meet the maximum air demand in the oxic portions of the fill/react and react phases of the cycle with the single largest unit out of service. See Subsection 490.02. ( )

viii. Mechanical mixing independent of aeration shall be provided for all systems where biological phosphorus removal or denitrification is required. ( )

ix. Flow paced composite sampling equipment and continuous turbidity metering for separately monitoring the effluent quality from each basin may be required by the regulatory agency. All twenty-four (24) hour effluent quality composite samples for compliance reporting or monitoring plant operations shall be flow-paced and include samples collected at the beginning and end of each decant phase. ( )

x. A programmable logic controller (PLC) shall be provided. Multiple PLCs shall be

provided as necessary to assure rapid process recovery or minimize the deterioration of effluent quality from the failure of a single controller. An uninterruptible power supply with electrical surge protection shall be provided for each PLC to retain program memory (i.e., process control program, last-known set points and measured process/equipment status, etc.) through a power loss. A hard-wired backup for manual override shall be provided in addition to automatic process control. Both automatic and manual controls shall allow independent operation of each tank. In addition, a fail-safe control allowing at least twenty (20) minutes of settling between the react and decant phases shall be provided. The fail-safe control shall not be adjusted by the operator.( )

xi. Provide sufficient quantity of spare parts, especially PLC module and valve operators. ( )

03. Other Biological Systems. ( )

a. General. Biological treatment processes not included in these rules shall be considered in accordance with Subsection 450.03. ( )

b. Membrane Bioreactors. Details for Membrane Bioreactor (MBR) plants shall be submitted and approved in the Preliminary Engineering Report. In addition to the requirements of Section 411, details shall include plant layout, calculations for hydraulic capacity and air required, membrane technology considered and membrane type and model selected, results from similar type MBR plants already in operation, and anticipated sludge production. ( )

491. -- 492. (RESERVED).

493. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - WASTEWATER LAGOONS.

01. General. ( )

a. These rules pertain to all new and existing municipal wastewater lagoons, including discharging or non-discharging lagoons, municipal wastewater treatment lagoons, municipal wastewater storage lagoons, and any other municipal wastewater lagoons that, if leaking, have the potential to degrade waters of the state. Lagoons are also sometimes referred to as ponds. Section 493 does not apply to industrial lagoons or mining tailings ponds, single-family dwellings utilizing a single lagoon, two (2) cell infiltrative system, those animal waste lagoons excluded from review under Section 39-118, Idaho Code, or storm water ponds. ( )

b. Lagoons utilized for equalization, percolation, evaporation, and sludge storage do not have to meet the requirements set forth in Subsections 493.05 through 493.10, but must comply with all other applicable subsections. ( )

02. Seepage Testing Requirements. All existing lagoons covered under these rules shall be seepage tested by a*n* Idaho licensed professional engineer*, an Idaho licensed professional geologist, or by individuals under their supervision* by April 15, 2012 unless otherwise specified in a current permit issued by the Director, and*, as part of the construction process,* all new lagoons must be seepage tested by a*n* Idaho licensed professional engineer*, an Idaho licensed professional geologist, or by individuals under their supervision*. All lagoons covered under these

rules must be seepage tested by a*n* Idaho licensed professional engineer*, an Idaho licensed professional geologist, or by individuals under their supervision* every five (5) years after the initial testing. The procedure for performing a seepage test or alternative analysis must be approved by the Department, and the test results must be submitted to the Department. If an existing lagoon has had seepage testing done and results submitted to the Department before April 15, 2012, the owner of that lagoon has five (5) years from the date of the testing to comply with this requirement. ( )

03. Allowable Seepage Rates. ( )

a. Design Standard. Lagoons shall be designed for a maximum leakage rate of five hundred (500) gallons per acre per day. ( )

b. Operating Standard. The leakage rate for lagoons constructed after April 15, 2007 shall be no more than zero point one hundred twenty-five (0.125) inches (1/8 inch) per day, which is approximately thirty-four hundred (3400) gallons per acre per day. The leakage rate for existing lagoons constructed prior to April 15, 2007 shall be no more than zero point twenty-five (0.25) inches (1/4 inch) per day. ( )

c. For lagoons located over sensitive aquifers or near 303d listed stream segments, the operating standard may be considerably lower than stated in Subsection 493.03.b., based on a ground water investigation considering fate and transport of contaminants to determine the effect of the seepage on the aquifer or stream segment. ( )

04. Requirements for Lagoons Leaking Above the Allowable Amount. If a lagoon is found to be leaking at a rate higher than that allowed under Subsection 493.03.b., the owner of the lagoon, in accordance with a schedule negotiated with and approved by the Director, is required to: ( )

a. Repair the leak and retest for compliance; ( )

b. Re-line the lagoon and retest for compliance; ( )

c. Drain the lagoon in an approved manner and stop using the lagoon; or ( )

d. Determine the impact of the leaking lagoon on the environment based on ground water sampling and modeling. Any impact must comply with IDAPA 58.01.11, "Ground Water Quality Rule," and IDAPA 58.01.02, "Water Quality Standards". If the impact does not comply with IDAPA 58.01.11, "Ground Water Quality Rule," and IDAPA 58.01.02, "Water Quality Standards," the owner of the lagoon must follow one (1) of the steps set out in Subsections 493.04.a. through 493.04.c. ( )

05. Location. ( )

a. Wastewater treatment lagoons shall be placed a minimum of two hundred (200) feet from residential property lines. In all cases, the design location shall consider odors, nuisances, etc. This distance is to the toe of the exterior slope of the dike or to the top of the cut for a lagoon placed into a hillside. More restrictive planning and zoning or other local

requirements shall apply. ( )

b. Ground Water Separation. A minimum separation of two (2) feet between the bottom of the pond and the maximum ground water elevation shall be maintained. ( )

c. Bedrock Separation. A minimum separation of two (2) feet between the pond bottom and any bedrock formation shall be maintained. ( )

06. Basis of Design. ( )

a. Design variables such as climatic conditions, odor, pond depth, multiple units, detention time, and additional treatment units must be considered with respect to applicable standards for BOD_5, total suspended solids (TSS), fecal coliform, dissolved oxygen (DO), pH, and other effluent requirements and limits. ( )

b. The Preliminary Engineering Report shall include all design criteria for the development of the pond design. ( )

c. The reaction rate coefficient for domestic wastewater which includes some industrial wastes, other wastes, and partially treated wastewater must be determined experimentally for various conditions which might be encountered in the lagoons or actual data from lagoons in similar climates. Conversion of the reaction rate coefficient at other temperatures shall be made based on experimental data. ( )

d. Oxygen requirements generally will depend on the design average BOD_5 loading, the degree of treatment, and the concentration of suspended solids to be maintained. If needed, aeration equipment shall be capable of maintaining a minimum dissolved oxygen level of two (2) mg/L in the ponds at all times. Suitable protection from weather shall be provided for electrical controls. Aerated cells shall be followed by a polishing cell with a detention time of a minimum of twenty-four (24) hours. ( )

e. See Subsection 490.02 for details on aeration equipment. ( )

07. Industrial Wastes as a Part of the Municipal Wastewater. ( )

a. Consideration shall be given to the type and effects of industrial wastes on the treatment process. ( )

b. Industrial wastes shall not be discharged to ponds without assessment of the effects such substances may have upon the treatment process or discharge requirements in accordance with state and federal laws. ( )

08. Number of Cells Required. ( )

a. A wastewater treatment pond system shall consist of a minimum of three (3) cells designed to facilitate both series and parallel operations. Two (2) cell systems may be utilized in very small installations of less than fifty thousand (50,000) gallons per day. ( )

b. All systems shall be designed with piping flexibility to permit isolation of any cell without affecting the transfer and discharge capabilities of the total system. ( )

09. Pond Construction Details. ( )

a. Embankments and Dikes. ( )

i. Material. Dikes shall be constructed of relatively impervious soil and compacted to at least ninety-five (95) percent Standard Proctor Density to form a stable structure. Vegetation and other unsuitable materials shall be removed from the area where the embankment is to be placed. ( )

ii. Top Width. The minimum dike width shall be ten (10) feet to permit access for maintenance vehicles. ( )

iii. Maximum Slopes. Inner and outer dike slopes shall not be steeper than one (1) vertical to three (3) horizontal (1:3). ( )

iv. Minimum Slopes. Inner slopes should not be flatter than one (1) vertical to four (4) horizontal (1:4). Flatter slopes can be specified for larger installations because of wave action but have the disadvantage of added shallow areas being conducive to emergent vegetation. Outer slopes shall be sufficient to prevent surface runoff from entering the ponds. ( )

v. Freeboard. Minimum freeboard shall be three (3) feet, except that for small systems of less than fifty thousand (50,000) gallons per day, two (2) feet may be acceptable. ( )

vi. Design Depth. The minimum operating depth shall be sufficient to prevent growth of aquatic plants and damage to the dikes, bottom, control structures, aeration equipment, and other appurtenances. In no case shall pond depths be less than two (2) feet. ( )

b. Pond Bottom. ( )

i. Soil. Soil used in constructing the pond bottom (not including the seal) and dike cores shall be relatively incompressible and tight and compacted to at least ninety-five (95) percent Standard Proctor Density. ( )

ii. Seal. Ponds shall be sealed such that seepage loss through the seal complies with Subsection 493.03. Results of a testing program which substantiates the adequacy of the proposed seal must be incorporated into and/or accompany the Preliminary Engineering Report. ( )

c. Miscellaneous. ( )

i. Fencing. The pond area shall be enclosed with an adequate fence to prevent entering of livestock and discourage trespassing. ( )

ii. Access. An all-weather access road shall be provided to the pond site to allow year-round maintenance of the facility. ( )

iii. Warning Signs. Appropriate permanent signs shall be provided along the fence around the pond to designate the nature of the facility and advise against trespassing. At least one (1) sign shall be provided on each side of the site and one (1) for every five hundred (500) feet of its perimeter. ( )

iv. Flow Measurement. Flow measurement requirements are provided in Subsection 450.06.e. Effective weather protection shall be provided for the recording equipment. ( )

v. Ground Water Monitoring. A ground water monitoring plan shall be submitted to the Department for review and approval as a part of the Preliminary Engineering Report. An approved system of wells or lysimeters shall be required around the perimeter of the pond site to facilitate ground water monitoring. ( )

10. Closure. The owner shall notify the Department at least six (6) months prior to permanently removing any wastewater lagoon facility from service, including any treatment or storage pond. Prior to commencing closure activities, the facility shall: ( )

a. Participate in a pre-closure on-site meeting with the Department; ( )

b. Develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and ( )

c. Submit the completed site closure plan to the Department for review and approval within forty-five (45) days of the pre-site closure meeting. The facility must complete the Department approved site closure plan. ( )

494. -- 499. (RESERVED).

500. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - DISINFECTION.

01. General. Disinfection of the effluent shall be provided as necessary to meet applicable standards. The design *of new municipal wastewater treatment facilities, or municipal wastewater treatment facilities undergoing material modifications,* shall consider meeting both the bacterial standards and the disinfectant residual limit in the effluent. The disinfection process shall be selected after due consideration of waste characteristics, type of treatment process provided prior to disinfection, waste flow rates, pH of waste, disinfectant demand rates, current technology application, cost of equipment and chemicals, power cost, and maintenance requirements as determined in the Preliminary Engineering Report. Where a disinfection process other than chlorination or ultraviolet disinfection is proposed, supporting data from pilot plant installations or similar full scale installations shall be required as a basis for the design of the system. ( )

02. Determining the Necessity For Disinfection of Sewage Wastewater Treatment Plant Effluent. ( )

a. Disinfection of *municipal wastewater* treatment *facility* effluent shall be required when: ( )

i. Required by an NPDES permit; or ( )

ii. The effluent is discharged to a land application/reuse facility *and is required to meet the disinfection requirements found in IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater."* ( )

iii. The effluent discharged to a land application/reuse facility, where ground water contamination has exceeded the bacterial limit found in IDAPA 58.01.11, "Ground Water Quality Rules," and it has been determined by the Department that disinfection is required. ( )

b. The need for disinfection of sewage wastewater treatment plant effluent where treatment consists of lagoons with at least thirty (30) day retention time shall be evaluated on a case by case basis. ( )

03. Chlorine Disinfection. ( )

a. Type. Chlorine is available for disinfection in gas, liquid (hypochlorite solution), and pellet (hypochlorite tablet) form. The type of chlorine should be carefully evaluated during the facility planning or preliminary engineering process. The use of chlorine gas or liquid will be most dependent on the size of the facility and the chlorine dose required. Large quantities of chlorine, such as are contained in ton cylinders and tank cars, can present a considerable hazard to plant personnel and to the surrounding area should such containers develop leaks. Both monetary cost and the potential public exposure to chlorine shall be considered when making the final determination. ( )

b. Dosage. For disinfection, the capacity shall be adequate to produce an effluent that will meet the applicable bacterial limits specified by the regulatory agency for that installation. Required disinfection capacity will vary, depending on the uses and points of application of the disinfection chemical. The chlorination system shall be designed on a rational basis and calculations justifying the equipment sizing and number of units shall be submitted for the whole operating range of flow rates for the type of control to be used. System design considerations shall include the controlling wastewater flow meter (sensitivity and location), telemetering equipment, and chlorination controls. ( )

c. Piping and Connections. Piping systems shall be as simple as practicable, specifically selected and manufactured to be suitable for chlorine service, with consideration for minimizing number of joints. Piping should be well supported and protected against temperature extremes. Venting of excess gas shall be provided. Special considerations shall be given to piping and fixture selection for hypochlorite and chlorine use. Section 008 provides a reference to guidance documents; see Subsections 008.01, 008.04 and 008.05. ( )

d. Standby Equipment and Spare Parts. Standby equipment of sufficient capacity should be available to replace the largest unit during shutdowns. Spare parts shall be available for all disinfection equipment to replace parts which are subject to wear and breakage. ( )

e. Housing. ( )

i. Feed and Storage Rooms. Gas chlorination equipment and chlorine cylinders shall be housed in a building. If this building is used for other purposes, a gas-tight room shall separate this equipment from any other portion of the building. Floor drains from the chlorine room shall not be connected to floor drains from other rooms. Doors to this room shall open only to the outside of the building and shall be equipped with panic hardware. Rooms shall permit easy access to all equipment. Section 009 provides a reference to requirements of other regulatory entities, compliance with which may be required by other law. ( )

ii. Ventilation. Section 009 provides a reference to the requirements of the National Electric Code, compliance with which may be required by other law. ( )

iii. Electrical Controls. Section 009 provides a reference to the requirements of the National Electric Code, compliance with which may be required by other law. ( )

iv. Protective and Respiratory Gear. Respiratory air-pac protection equipment shall be available where chlorine gas is handled, and shall be stored at a convenient location, but not inside any room where chlorine is used or stored. Instructions for using the equipment shall be posted. Section 008 provides a reference to guidance documents; see Subsections 008.01, 008.04 and 008.05. ( )

04. Dechlorination. ( )

a. Types. ( )

i. Dechlorination of wastewater effluent may be necessary to reduce the toxicity due to chlorine residuals. The most common dechlorination chemicals are sulfur compounds, particularly sulfur dioxide gas or aqueous solutions of sulfite or bisulfite. Pellet dechlorination systems are also available for small facilities. ( )

ii. The type of dechlorination system should be carefully selected considering criteria including the following: type of chemical storage required, amount of chemical needed, ease of operation, compatibility with existing equipment, and safety. ( )

b. Dosage. The dosage of dechlorination chemical depends on the residual chlorine in the effluent, the final residual chlorine limit, and the particular form of the dechlorinating chemical used. ( )

c. Standby Equipment and Spare Parts. The same requirements apply as for chlorination systems. See Subsection 500.04.d. ( )

d. Housing Requirements/Feed and Storage Rooms. The requirements for housing SO2 gas equipment shall follow the same guidelines as used for chlorine gas. Refer to Section 500.04.e. for specific details. When using solutions of the dechlorinating compounds, the solutions may be stored in a room that meets the safety and handling requirements set forth in Section 450.07. The mixing, storage, and solution delivery areas must be designed to contain or route solution spillage or leakage away from traffic areas to an appropriate containment unit.

( )

e. Protective and Respiratory Gear. The respiratory air-pac protection equipment is the same as for chlorine. See Subsection 500.04.e. (Refer to The Compressed Gas Association Publication CGA G-3-1995, "Sulfur Dioxide".) ( )

05. Ultraviolet (UV) Radiation. ( )

a. The following documents are recommended to be used as references for UV system sizing and facility design: ( )

i. "Wastewater Engineering, Treatment and Reuse," Metcalf and Eddy, referenced in Section 008. ( )

ii. For reuse applications, "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse," National Water Research Institute/AWWA Research Foundation, referenced in Section 008. ( )

b. For UV systems to be installed at any existing wastewater treatment facility, collection of one (1) year's worth of UV transmittance (UVT) data (four (4) times per day) prior to predesign is encouraged, especially for facilities larger than five million gallons per day (5 mgd) (design peak hourly flow), and facilities that have industries that vary discharge throughout the year. ( )

c. The Preliminary Engineering Report for all UV disinfection facilities shall include the following: ( )

i. A minimum of two (2) open channels (or justification for using a smaller system). ( )

ii. A minimum of two (2) banks of UV lamps per channel (or justification for using a smaller system). ( )

iii. Description of the redundancy provided. ( )

iv. Description of the upstream flow splitting device (which splits flow to the two (2) or more UV channels). ( )

v. Description of water level control device. ( )

vi. Description of method used to take a channel off-line for maintenance, and method to dewater a channel. ( )

vii. Type of UV system technology (low-pressure low-intensity, low-pressure high-intensity, medium pressure, etc.), with consideration given to power consumption. ( )

viii. Summary of UVT data and/or collimated beam data. ( )

ix. Description of HVAC system requirements to ensure adequate UV system performance during summer peak temperature period. ( )

x. Description of maintenance requirements including removal (cleaning) of biofilms from the channel walls upstream and downstream of the UV system. ( )

xi. General description of alarming and controls. ( )

xii. Description of procedure used for UV system sizing. ( )

xiii. Design criteria: ( )

(1) Design UVT. ( )

(2) TSS. ( )

(3) Design water temperature range. ( )

(4) Dose. ( )

(5) End of lamp life factor. ( )

(6) Fouling factor. ( )

(7) Quartz sleeve transmittance factor. ( )

(8) Design peak hourly flow. ( )

(9) Existing minimum flow. ( )

(10) Number of channels. ( )

(11) Disinfection requirements (coliform concentration). ( )

(12) Maximum head-loss from upstream of the first bank to downstream of the last bank of lamps (lamp spacing divided by two (2)). ( )

d. Use of bioassay method of UV system sizing is encouraged if all manufacturers under consideration have existing bioassays performed using identical protocol, and the bioassay was performed under conditions similar to the design application. Use of the bioassay method of UV system sizing is discouraged if the conditions of Subsection 500.05.d. cannot be met. ( )

e. Closed chamber units will be reviewed on a case by case basis in accordance with Subsection 450.03.b. ( )

501. -- 509. (RESERVED).

510. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - SUPPLEMENTAL TREATMENT PROCESSES.

01. Chemical Treatment. Many chemicals in various forms can be applied in wastewater treatment to aid in nutrient removal, pH adjustment, enhanced clarification, and sludge conditioning. Chemicals must be evaluated for each specific treatment process and must be compatible with other liquids, solids and air treatment processes. Laboratory tests such as jar tests or pilot-scale studies on actual process wastewater shall be used to select appropriate chemicals and dosage ranges. ( )

a. Phosphorus removal. Chemical phosphorus removal from wastewater involves the addition of metal salts (aluminum or iron) or lime to wastewater to form insoluble phosphate precipitates, removal of the precipitate from the wastewater, and disposal of the precipitate with the settled sludge. Many process options are available, and the designer shall select the chemical to insolubilize the phosphorus, estimate the dosage requirements, and select the point of chemical addition. ( )

b. Nitrogen Removal. Several chemical processes have been used for nitrogen removal. The three (3) major processes include breakpoint chlorination, selective ion exchange, and air stripping. Although these processes are technically feasible ways of removing nitrogen, the Department does not anticipate widespread use of chemicals for nitrogen removal, and justification to do so shall be demonstrated in the Preliminary Engineering Report. ( )

c. pH Adjustment. A common chemical process used in wastewater treatment is pH adjustment. Several methods are available to neutralize or adjust low pH wastewater. The methods used shall be mixing acid wastes with lime slurries, or adding the proper amount of concentrated caustic soda (NaOH) or soda ash (Na_2CO_3) as determined in the Preliminary Engineering Report. ( )

d. Enhanced Primary Clarification. When settling aids are used during the primary clarification process to enhance solids removal in the primary treatment process, the additional solids volume shall be accounted for in pumping, solids handling, stabilization, and disposal processes. The coagulant shall be added and mixed before the sedimentation process. Flocculants, if used, shall be added after the coagulant. The design shall provide for chemical addition points at several locations to give process personnel the opportunity to adjust for optimum performance. ( )

02. Filtration for Tertiary Treatment. Details for plants with tertiary treatment utilizing filtration shall be submitted and approved in the Preliminary Engineering Report. ( )

a. Membranes. In addition to requirements of Section 411, details shall include plant layout, calculations for hydraulic capacity and air required, membrane technology considered and membrane type and model selected, results from similar type filtration plants already in operation, and anticipated sludge production. ( )

b. Media. In addition to requirements of Section 411, details shall include plant layout, calculations for hydraulic capacity, media considered and media type selected, results

from similar type filtration plants already in operation, and anticipated sludge production. (____)

c. Cloth. In addition to requirements of Section 411, details shall include plant layout, calculations for hydraulic capacity, technology considered and type and model selected, results from similar type filtration plants already in operation, and anticipated sludge production. (____)

d. Reverse Osmosis. In addition to requirements of Section 411, details shall include plant layout, calculations for hydraulic capacity required, technology considered and type and model selected, results from similar type filtration plants already in operation, and anticipated sludge production. (____)

511. -- 519. (RESERVED).

520. FACILITY AND DESIGN STANDARDS FOR MUNICIPAL WASTEWATER TREATMENT OR DISPOSAL FACILITIES - HANDLING AND TREATMENT OF SEPTAGE AT A WASTEWATER TREATMENT PLANT.

01. General. Septage disposal at a wastewater treatment plant is at the discretion of the owner of the wastewater treatment plant, unless other conditions apply. One method of septage disposal is the discharge to a municipal wastewater treatment plant. All plants require special design considerations prior to the acceptance of septage. Prior to acceptance of septage at a wastewater treatment plant, the plan for doing so must be addressed in the Facility Plan. (____)

02. Characteristics. Tables No. 1 and No. 2 (Tables 3-4 and 3-8 from the U.S. EPA Handbook entitled "Septage Treatment and Disposal" 1984, EPA-625/6-84-009) give a comparison of some of the common parameters for septage and municipal wastewater. These tables are located at the end of Appendix A-3 of the Recommended Standards for Wastewater Facilities. See Section 008 of these rules. (____)

03. Considerations. It is essential that an adequate engineering evaluation of the existing plant and the anticipated septage loading be conducted prior to receiving septage at the plant. The wastewater treatment plant owner shall be contacted to obtain the appropriate approvals prior to the acceptance of septage. For proposed plant expansion and upgrading, the Preliminary Engineering Report and Facility Plan shall include anticipated septage loading in addressing treatment plant sizing and process selection. (____)

521. -- 599. (RESERVED).

600. LAND APPLICATION OF WASTEWATER(S) OR RECHARGE WATERS.
Land application of wastewater or recharge waters is subject to the following requirements: (4-11-06)

01. Land Application/Reuse Permit. Idaho Department of Environmental Quality Rules, IDAPA 58.01.17, "~~*Wastewater Land Application Permit*~~ Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater," require a permit prior to land application/reuse of certain types of wastewater. ~~*(4-11-06)*~~(____)

02. Applied Waters Restricted to Premises. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the U.S. Environmental Protection Agency. (4-11-06)

03. Hazard or Nuisance Prohibited. Wastewaters must not create a public health hazard or a nuisance condition. (4-11-06)

04. Monitoring. Provision must be made for monitoring the quality of the ground water in proximity of the application site. The ground water monitoring program is subject to approval by the Department. All data and reports resulting from the ground water monitoring program must be submitted to the Department upon request. The minimum frequency of monitoring and data submittal will be determined by the Department and in general will be dependent upon: (4-11-06)

a. The nature and volume of wastewater material or recharge water; (4-11-06)

b. The frequency and duration of application; and (4-11-06)

c. The characteristics of the soil mantle on and lithology underlying the application site. (4-11-06)

05. Basis for Evaluation. The evaluation for an approval to irrigate, either by sprinkling or flooding or surface spreading of wastewater material or by burying wastewater material or recharge water in the upper soil horizon as a method of treatment, must include, but will not necessarily be limited to, consideration of the following items: (4-11-06)

a. The type and quantity of wastewater(s) proposed for land application. In general, the wastewater(s) organic constituents are to be biologically degradable and inorganic constituents must be utilized by vegetation or those organisms normally present in the soil. Other wastewater(s) or recharge waters will be considered provided it can be shown that land application will not adversely affect beneficial uses of waters of the state. (4-11-06)

b. The nature of the soils and geologic formations underlying the application site. The entity proposing the activity must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water. (4-11-06)

c. The ability of the soil and vegetative cover on the application site to remove the pollutants contained in the applied waters through the combined processes of consumptive use and biological and chemical inactivation. (4-11-06)

601. -- 649. (RESERVED).

650. SLUDGE USAGE.

01. Disposal Plans Required. Sludge can be utilized as soil augmentation only in conformance with: (4-11-06)

a. A Department approved sludge disposal plan; or (4-11-06)

b. Procedures and in a manner approved by the Department on a site-by-site basis. (4-11-06)

02. Basis for Evaluation. Sludge disposal plans and sludge utilization proposals will be evaluated by the Department in regard to their protection of water quality and public health. (4-11-06)

03. Elements of Plans and Proposals. Plans and proposals must at a minimum provide: (4-11-06)

a. That only stabilized sludge will be used. (4-11-06)

b. The criteria utilized for site selection, including: (4-11-06)

i. Soil description; (4-11-06)

ii. Geological features; (4-11-06)

iii. Groundwater characteristics; (4-11-06)

iv. Surrounding land use; (4-11-06)

v. Topography; and (4-11-06)

vi. Climate. (4-11-06)

c. A description of the application process. (4-11-06)

d. A statement detailing procedures to prevent application which could result in a reduction of soil productivity or in the percolation of excess nutrients. (4-11-06)

e. Identification of potential adverse health effects in regard to the sludge and its proposed use. (4-11-06)

f. Delineation of methods or procedures to be used to alleviate or eliminate adverse health effects. (4-11-06)

04. Reference to Federal Regulations. See Code of Federal Regulations, 40 CFR, Part 503, Standards for the Use or Disposal of Sewage Sludge. ( )

ENVIRONMENT, ENERGY & TECHNOLOGY

IDAPA 58 - DEPARTMENT OF ENVIRONMENTAL QUALITY

58.01.17 - RULES FOR THE RECLAMATION AND REUSE OF MUNICIPAL AND INDUSTRIAL WASTEWATER

DOCKET NO. 58-0117-0601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the Board of Environmental Quality (Board) and is now pending review by the 2007 Idaho State Legislature for final approval. The pending rule will become final and effective immediately upon the adjournment *sine die* of the First Regular Session of the Fifty-ninth Idaho Legislature unless prior to that date the rule is rejected, amended or modified by concurrent resolution in accordance with Sections 67-5224 and 67-5291, Idaho Code.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that the Board has adopted a pending rule. The action is authorized by Title 39, Chapter 1, Idaho Code.

DESCRIPTIVE SUMMARY: A detailed summary of the reason for adopting the rule is set forth in the initial proposal published in the Idaho Administrative Bulletin, August 2, 2006, Vol. 06-8, pages 285 through 304. After consideration of public comments, the proposed rule has been revised at Sections 600 and 601. The remainder of the rule has been adopted as initially proposed. The Rulemaking and Public Comment Summary can be obtained at http://www.deq.idaho.gov/rules/waste_water/58_0117_0601_pending.cfm or by contacting the undersigned.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations. There is no federal law or regulation that is comparable to the Rules for Reclamation and Reuse of Municipal and Industrial Wastewater. Therefore, the changes to the rule are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government." This rule does regulate an activity not regulated by the federal government. The following is a summary of additional information required by Sections 39-107D(3) and (4), Idaho Code. Information relating to Section 39-107D(2) has also been provided. The requirements set forth in this rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), and national water reuse organizations that indicate the requirements are protective of human health and the environment and do not pose an unreasonable risk to the public potentially exposed. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding risk.

Section 39-107D(2)(a), Idaho Code. To the degree that a department action is based on

science the department shall utilize the best available peer reviewed science and supporting studies conducted in accordance with sound objective scientific practices.
The filtration/chorine disinfection process Class A requirements relating to virus reduction have been shown in studies supporting The State of California Department of Health Services Treatment Technology Report for Recycled Water (Treatment Technology Report for Recycled Water), http://www.dhs.ca.gov/ps/ddwem/publications/waterrecycling/treatmenttechnology.pdf, to achieve a five (5)-log reduction in virus. There have been numerous Ultra-Violet (UV) process studies by manufacturers that show that they can also meet this five (5)-log reduction in virus. The actual five (5)-log reduction in virus level now stated in the rule is the accepted norm throughout the reuse industry in the United States for Class A levels of reuse. The requirements set forth in this rule are based upon best available peer reviewed science and studies and analyses conducted by other states, EPA, and national water reuse organizations that indicate the requirements are protective of human health and the environment and do not pose an unreasonable risk to the public potentially exposed. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding risk.

Section 39-107D(2)(b), Idaho Code. To the degree that a department action is based on science the department shall utilize data collected by accepted methods or best available methods if the reliability of the method and the nature of the decision justifies use of the data.
Data were not collected or analyzed by DEQ as part of this rulemaking process. DEQ relied on information readily available to the public from federal and state government publications and articles from scientific professional journals.

Section 39-107D(3)(a), Idaho Code. Identification of each population or receptor addressed by an estimate of public health effects or environmental effects.
The limits placed on wastewater treatment in the stated modifications are for both public health and environmental effects. The population affected by these limits includes the residents and users of facilities being irrigated by this wastewater effluent and the potential users of down-gradient beneficial uses of groundwater being recharged by this wastewater effluent.

Section 39-107D(3)(b) and (c), Idaho Code. Identification of the expected risk or central estimate of risk for the specific population or receptor and identification of each appropriate upper bound or lower bound estimate of risk.
The expected risk of exposure to this quality of wastewater effluent for each of these populations is as follows.

The expected risk for nitrate contamination on ground water is low. For nitrate from the wastewater effluent entering the ground water and affecting down-gradient beneficial users for drinking water (either directly or indirectly), the limits are based on IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," and IDAPA 58.01.11, "Ground Water Quality Rule." These standards are based on past studies by EPA determining the adverse health effects on infants from nitrate in drinking water.

The expected risk for pathogen contamination for affected populations is low. For pathogens in the wastewater effluent, the coliform limits are based on IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater." For virus contamination using

Class A wastewater, the expected risk is low. The rules include additional disinfection requirements that are meant to lower virus levels such that the Class A effluent can be handled by workers and homeowners with minimal risk. Associated additional requirements regarding treatment, buffer zones, reliability and redundancy are included to give additional assurance that the limits are attained consistently.

The expected risk of cross-connections from the wastewater effluent distribution system to the drinking water distribution system is low. There are multiple requirements put on the distribution system of the wastewater effluent. These requirements provide the affected populations with safeguards against contamination of their drinking water system from parallel or crossing main lines. These requirements also protect against contamination of their wastewater effluent system by raw sewage in parallel or crossing main lines.

Section 39-107D(3)(d), Idaho Code. Identification of each significant uncertainty identified in the process of the assessment of public health effects or environmental effects and any studies that would assist in resolving the uncertainty.
The limits placed on wastewater treatment in the stated modifications are for both public health and environmental effects. The limits in these rule modifications are based on limits and standards used by other states and as promoted by national water reuse organizations. Although Idaho's wastewater land application permit program has been in affect for many years utilizing treated effluent for agricultural and municipal beneficial irrigation, the use of highly treated wastewater for higher beneficial uses is an evolving industry throughout the United States and the world. These higher uses, involving almost unrestricted use and unrestricted access by the general public, call for higher treatment and monitoring requirements to protect the affected populations. The uncertainty in assessing the health and environmental effects is believed to be minimal, but not zero.

Section 39-107D(3)(e), Idaho Code. Identification of studies known to the department that support, are directly relevant to, or fail to support any estimate of public health effects or environmental effects and the methodology used to reconcile inconsistencies in the data. The use of the 10 mg/l for nitrate is based on the existing Ground Water Quality Rule and the existing Idaho Rules for Public Drinking Water Systems. The use of the 2.2 total coliform limit is currently in the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater. The filtration/chorine disinfection process Class A requirements relating to virus reduction have been shown in studies supporting the Treatment Technology Report for Recycled Water to achieve a five (5)-log reduction in virus. There have been numerous ultra-violet (UV) process studies by manufacturers that show that they can also meet this five (5)-log reduction in virus. The actual five (5)-log reduction in virus level now stated in the rule is the accepted norm throughout the reuse industry in the United States for Class A levels of Reuse.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on questions concerning this rulemaking, contact Mark Mason, mark.mason@deq.idaho.gov, (208) 373-0266.

Dated this 16th day of November, 2006.

DEPARTMENT OF ENVIRONMENTAL QUALITY **Docket No. 58-0117-0601**
Reclamation & Reuse of Municipal & Industrial Wastewater **PENDING RULE**

THIS NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has proposed rulemaking. This action is authorized by Title 39, Chapter 1, Idaho Code.

PUBLIC HEARING SCHEDULE: No hearings have been scheduled. Pursuant to Section 67-5222(2), Idaho Code, a public hearing will be held if requested in writing by twenty-five (25) persons, a political subdivision, or an agency. Written requests for a hearing must be received by the undersigned on or before August 16, 2006. If no such written request is received, a public hearing will not be held.

DESCRIPTIVE SUMMARY: The Department of Environmental Quality (DEQ) has initiated this rulemaking to address the following issues:

1. Add the ability for DEQ to issue some permits for up to 5 years without a complete application package or staff analysis. This would be for permits where little change is needed in the existing permit and application content from the previous permit application is already available. Summary information for the last permit cycle and anticipated impacts would still be necessary.
2. Add more extensive disinfection requirements for Class A effluent, including concentration/contact time (CT) requirements for chlorine disinfection and other requirements for Class A UV disinfection. This is to control virus levels in the effluent.
3. Add other uses for Class A effluent including subsurface distribution for groundwater recharge, fire suppression, dust suppression, and commercial toilet flushing. Use only for commercial toilet flushing could allow for lower levels of treatment if the engineering report showed proof of protection of public health.
4. Add requirements for mixing Class A effluent with other irrigation waters.
5. Change the effluent turbidity limit for membrane filters from 2 NTU to 0.2 NTU.
6. Add Class A granular media filter loading limits up to 5 gpm/ft2.
7. Add clarification for peak flow meaning peak day flow.
8. Add clarification for reliability and redundancy.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. Idaho Association of Commerce and Industry, Idaho Association of Cities, consulting engineers, existing and potential permittees, and the development community may be interested in participating in this rulemaking.

After consideration of public comments, DEQ intends to present the final proposal to the Board of Environmental Quality in November 2006 for adoption of a pending and temporary rule. If adopted by the Board, the temporary rule will become effective on November 17, 2006. The pending rule is expected to be final upon the adjournment of the

2007 legislative session if approved by the Legislature.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A

IDAHO CODE SECTION 39-107D STATEMENT: Section 39-107D, Idaho Code, provides that DEQ must meet certain requirements when it formulates and recommends rules which are broader in scope or more stringent than federal law or regulations. There is no federal law or regulation that is comparable to the Rules for Reclamation and Reuse of Municipal and Industrial Wastewater. Therefore, the proposed changes to the rule are not broader in scope or more stringent than federal law or regulations.

Section 39-107D, Idaho Code, also applies to a rule which "proposes to regulate an activity not regulated by the federal government".
This rule does regulate an activity not regulated by the federal government. The following is a summary of additional information required by Sections 39-107D(3) and (4), Idaho Code. Information relating to Section 39-107D(2) has also been provided. The requirements set forth in this proposed rule are based upon best available peer reviewed science and studies and analyses conducted by other states, the U.S. Environmental Protection Agency (EPA), and national water reuse organizations that indicate the requirements are protective of human health and the environment and do not pose an unreasonable risk to the public potentially exposed. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding risk.

Section 39-107D(2)(a), Idaho Code. To the degree that a department action is based on science the department shall utilize the best available peer reviewed science and supporting studies conducted in accordance with sound objective scientific practices.
The proposed filtration/chorine disinfection process Class A requirements relating to virus reduction have been shown in studies supporting The State of California Department of Health Services Treatment Technology Report for Recycled Water (Treatment Technology Report for Recycled Water), http://www.dhs.ca.gov/ps/ddwem/publications/waterrecycling/treatmenttechnology.pdf, to achieve a five (5)-log reduction in virus. There have been numerous Ultra-Violet (UV) process studies by manufacturers that show that they can also meet this five (5)-log reduction in virus. The actual five (5)-log reduction in virus level now stated in the rule is the accepted norm throughout the reuse industry in the United States for Class A levels of reuse. The requirements set forth in this proposed rule are based upon best available peer reviewed science and studies and analyses conducted by other states, EPA, and national water reuse organizations that indicate the requirements are protective of human health and the environment and do not pose an unreasonable risk to the public potentially exposed. The referenced studies and analyses will be included in the rulemaking record and can be reviewed during the public comment period for further detailed information regarding risk.

Section 39-107D(2)(b), Idaho Code. To the degree that a department action is based on science the department shall utilize data collected by accepted methods or best available methods if the reliability of the method and the nature of the decision justifies use of the data.
Data were not collected or analyzed by DEQ as part of this rulemaking process. DEQ relied on

information readily available to the public from federal and state government publications and articles from scientific professional journals.

Section 39-107D(3)(a), Idaho Code. Identification of each population or receptor addressed by an estimate of public health effects or environmental effects.
The limits placed on wastewater treatment in the stated modifications are proposed for both public health and environmental effects. The population affected by these limits includes the residents and users of facilities being irrigated by this wastewater effluent and the potential users of down-gradient beneficial uses of groundwater being recharged by this wastewater effluent.

Section 39-107D(3)(b) and (c), Idaho Code. Identification of the expected risk or central estimate of risk for the specific population or receptor and identification of each appropriate upper bound or lower bound estimate of risk.
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The expected risk for nitrate contamination on ground water is low. For nitrate from the wastewater effluent entering the ground water and affecting down-gradient beneficial users for drinking water (either directly or indirectly), the limits are based on IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," and IDAPA 58.01.11, "Ground Water Quality Rule." These standards are based on past studies by EPA determining the adverse health effects on infants from nitrate in drinking water.

The expected risk for pathogen contamination for affected populations is low. For pathogens in the wastewater effluent, the coliform limits are based on IDAPA 58.01.17, "Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater." For virus contamination using Class A wastewater, the expected risk is low. The proposed rules include additional disinfection requirements that are meant to lower virus levels such that the Class A effluent can be handled by workers and homeowners with minimal risk. Associated additional requirements regarding treatment, buffer zones, reliability and redundancy are included to give additional assurance that the limits are attained consistently.

The expected risk of cross-connections from the wastewater effluent distribution system to the drinking water distribution system is low. There are multiple requirements put on the distribution system of the wastewater effluent. These requirements provide the affected populations with safeguards against contamination of their drinking water system from parallel or crossing main lines. These requirements also protect against contamination of their wastewater effluent system by raw sewage in parallel or crossing main lines.

Section 39-107D(3)(d), Idaho Code. Identification of each significant uncertainty identified in the process of the assessment of public health effects or environmental effects and any studies that would assist in resolving the uncertainty.
The limits placed on wastewater treatment in the stated modifications are proposed for both public health and environmental effects. The limits in these rule modifications are based on limits and standards used by other states and as promoted by national water reuse organizations. Although Idaho's wastewater land application permit program has been in affect for many years utilizing treated effluent for agricultural and municipal beneficial irrigation, the use of highly treated wastewater for higher beneficial uses is an evolving industry throughout the United States

and the world. These higher uses, involving almost unrestricted use and unrestricted access by the general public, call for higher treatment and monitoring requirements to protect the affected populations. The uncertainty in assessing the health and environmental effects is believed to be minimal, but not zero.

Section 39-107D(3)(e), Idaho Code. Identification of studies known to the department that support, are directly relevant to, or fail to support any estimate of public health effects or environmental effects and the methodology used to reconcile inconsistencies in the data. The use of the 10 mg/l for nitrate is based on the existing Ground Water Quality Rule and the existing Idaho Rules for Public Drinking Water Systems. The use of the 2.2 total coliform limit is currently in the Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater. The proposed filtration/chorine disinfection process Class A requirements relating to virus reduction have been shown in studies supporting the Treatment Technology Report for Recycled Water to achieve a five (5)-log reduction in virus. There have been numerous ultra-violet (UV) process studies by manufacturers that show that they can also meet this five (5)-log reduction in virus. The actual five (5)-log reduction in virus level now stated in the rule is the accepted norm throughout the reuse industry in the United States for Class A levels of Reuse.

NEGOTIATED RULEMAKING: The text of the proposed rule has been drafted based on discussions held and concerns raised during negotiations conducted pursuant to Idaho Code Section 67-5220 and IDAPA 04.11.01.812-815. The Notice of Negotiated Rulemaking was published in the Idaho Administrative Bulletin, April 5, 2006, Vol. 06-4, page 105.

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning this rulemaking, contact Mark Mason, mark.mason@deq.idaho.gov, (208) 373-0266.

Anyone may submit written comments on the proposed rule by mail, fax or e-mail at the address below. DEQ will consider all written comments received by the undersigned on or before August 30, 2006.

Dated this 30th day of June, 2006.

THIS NOTICE WAS PUBLISHED WITH THE NEGOTIATED RULE

AUTHORITY: In compliance with Section 67-5220, Idaho Code, and IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality," Sections 810 through 815, notice is hereby given that this agency intends to promulgate a rule and desires public participation before publishing a proposed rule. This rulemaking action is authorized by Title 39, Chapter 1, Idaho Code.

DESCRIPTIVE SUMMARY: The Department of Environmental Quality (DEQ) has initiated this rulemaking to address the following issues:

1. Add the ability for DEQ to issue some permits for up to 5 years without a complete application package or staff analysis. This would be for permits where little change is needed in the existing permit and application content from the previous permit application is already available. Summary information for the last permit cycle and anticipated impacts would still be necessary.

2. Add more extensive disinfection requirements for Class A effluent, including concentration/contact time (CT) requirements for chlorine disinfection and other requirements for Class A UV disinfection. This is to control virus levels in the effluent.

3. Add other uses for Class A effluent including fire suppression, dust suppression, and commercial toilet flushing. Use only for commercial toilet flushing could allow for lower levels of treatment if the engineering report showed proof of protection of public health.

4. Add requirements for mixing Class A effluent with other irrigation waters. No pipe to pipe mixing without similar disinfection of other waters. Can mix in unlined or lined ponds depending on the use of effluent and limits in the reuse permit.

5. Change the effluent turbidity limit for membrane filters from 2 NTU to 0.2 NTU. The current limit is the same as for sand filters; however, DEQ realized that 2 NTU for membranes meant that the membrane had already failed.

6. Add Class A granular media filter loading limits up to 5 gpm/ft2.

Idaho Association of Commerce and Industry, Idaho Association of Cities, consulting engineers, existing and potential permittees, and the development community may be interested in this rulemaking.

Upon conclusion of negotiations, DEQ intends to publish a proposed rule for public comment in the summer of 2007 and then present the final proposal to the Board of Environmental Quality for adoption of a temporary/pending rule in the fall of 2007. If adopted, the temporary/pending rule will be reviewed by the 2007 Idaho Legislature.

PRELIMINARY DRAFT: By April 12, 2006, the preliminary draft rule can be obtained at http://www.deq.idaho.gov/rules/waste_water/58_0117_0601_negotiated.cfm or by contacting Paula Wilson at paula.wilson@deq.idaho.gov, (208) 373-0418.

MEETING SCHEDULE: Those interested in participating in the negotiated rulemaking process are encouraged to attend one of the following meetings. The meetings will take place simultaneously and will be connected by telephone. Additional meetings may be scheduled if necessary. For information regarding additional meetings, contact Mark Mason at mark.mason@deq.idaho.gov, (208)373-0266.

April 26, 2006, 9 a.m. to 5 p.m. Mountain Time
Department of Environmental Quality, Conference Room C

1410 N. Hilton, Boise, Idaho

Department of Environmental Quality
900 N. Skyline, Suite B, Idaho Falls, Idaho

Department of Environmental Quality
2110 Ironwood Parkway, Coeur d'Alene, Idaho

GENERAL INFORMATION: For more information about DEQ's programs and activities, visit DEQ's web site at www.deq.idaho.gov.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on questions concerning the negotiated rulemaking, contact Mark Mason at (208) 373-0266 or mark.mason@deq.idaho.gov.

Anyone may submit written comments during this negotiated rulemaking by mail, fax or e-mail at the address below. Written comments on the preliminary draft must be received by May 5, 2006. For information regarding submission of written comments on subsequent drafts of the negotiated rule, and to receive the most recent version of the draft negotiated rule, contact the undersigned.

Dated this 14th day of March 2006.

Paula J. Wilson
Environmental Quality Section
Attorney General's Office
1410 N. Hilton
Boise, Idaho 83706-1255
(208) 373-0418/Fax No. (208) 373-0481
paula.wilson@deq.idaho.gov

THE FOLLOWING IS THE TEXT OF THE PENDING RULE

003. INCORPORATION BY REFERENCE.

01. General. Unless expressly provided otherwise, any reference in these rules to any document identified in Subsection 003.02 shall constitute the full adoption by reference. (4-6-05)

02. Documents Incorporated by Reference. The following documents are incorporated by reference into these rules: (4-6-05)

a. IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," S~~*ubs*~~ection ~~*550.06*~~ 542, as codified in the 200~~*5*~~7 Idaho Administrative Code. ~~*(4-11-06)*~~(____)

b. IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," S~~*ubs*~~ection

~~550.06~~ 543, as codified in the 200~~5~~7 Idaho Administrative Code. ~~(4-11-06)~~(____)

03. Availability of Documents Incorporated by Reference. Copies of the documents incorporated by reference are available at the following locations. (4-6-05)

a. Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, www.deq.idaho.gov. (4-11-06)

b. Idaho Administrative Rules website, http://www.state.id.us/adm/adminrules/agyindex.htm. (4-6-05)

(BREAK IN CONTINUITY OF SECTIONS)

008. REFERENCED MATERIALS.

01. Idaho Guidance for the Reclamation and Reuse of Municipal and Industrial Wastewater. This document, and subsequent revisions of this document, provides assistance in applying and interpreting these rules relating to permitting and operations of reclamation and reuse facilities. Copies of the document are available at the Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm. (____)

02. Idaho Wastewater Rules, IDAPA 58.01.16. The Idaho Wastewater Rules are available at http://adm.idaho.gov/adminrules/rules/idapa58/0116.pdf. (____)

03. Treatment Technology Report for Recycled Water. The State of California Department of Health Services Treatment Technology Report for Recycled Water, http://www.dhs.ca.gov/ps/ddwem/publications/waterrecycling/treatmenttechnology.pdf. (____)

(BREAK IN CONTINUITY OF SECTIONS)

200. DEFINITIONS.
For the purpose of these rules the following definitions apply unless another meaning is clearly indicated by context: (4-1-88)

01. Applicant. The person applying for a reclamation and reuse permit. (4-11-06)

02. Applicable Requirements. Any state, local or federal statutes, regulations or ordinances to which the facility is subject. (4-1-88)

03. Board. The Idaho State Board of Environmental Quality. (12-31-91)

04. Buffer Distances. (4-11-06)

a. The distances between the actual point of reuse of reclaimed wastewater and other uses such as wells, adjoining property, inhabited dwellings, and other features. Buffer distances are set to: (4-11-06)

i. Protect public health by limiting exposure to wastewater and conditions associated with reuse facilities; (4-11-06)

ii. Protect waters of the state, including surface water, ground water and drinking water supplies; and (4-11-06)

iii. Help ensure that wastewater is restricted to the reuse facilities. (4-11-06)

b. In determining buffer distances, the Department will consider, as applicable, the degree of treatment or pretreatment of wastewater; the method of irrigation; physical or vegetative barriers; studies of the content of the wastewater, such as pathogen studies; best management practices; environmental conditions, such as wind speed and direction; and other information relevant to protecting public health and the environment. Further information regarding buffer distances is set forth in The Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater. (4-11-06)

05. Class A Capacity. The capabilities required of a Class A effluent treatment and distribution system in order to achieve and maintain compliance with these rules. (4-6-05)

06. Class A Effluent Distribution System. The distribution system for Class A effluent as described in these rules. The distribution system does not include any of the collection or treatment portions of the wastewater facility and is not subject to operator licensing requirements of IDAPA 58.01.16, "Wastewater Rules". (4-11-06)

07. Department. The Idaho Department of Environmental Quality. (4-1-88)

08. Director. The Director of the Department of Environmental Quality or the Director's designee. (4-1-88)

09. Idaho Guidance for the Reclamation and Reuse of Municipal and Industrial Wastewater. This document, and subsequent revisions of this document, provides assistance in applying and interpreting these rules relating to for permitting and operating reclamation and reuse facilities. Copies of the document are available at the Idaho Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255 and www.deq.idaho.gov. (4-11-06)

10. Industrial Wastewater. Wastewater that is the by-product of any industrial processes including, but not limited to, food processing or food washing wastewater. (4-11-06)

11. Land Application. The application of municipal or industrial wastewater to land for the purpose of land treatment. (4-11-06)

12. Land Treatment. The use of land, soil, and crops for treatment of municipal or

industrial wastewater. (4-11-06)

13. **Modal Contact Time**. The amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber. (____)

1~~3~~4. **Municipal Wastewater**. Waste water that contains sewage. (4-1-88)

1~~4~~5. **New Activity**. Any significant change in operation or construction of the wastewater treatment system which may impact the waters of the state. (4-1-88)

1~~5~~6. **Non-Contact Cooling Water**. Water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat) or finished product. (4-1-88)

1~~6~~7. **NTU~~:~~ (Nephelometric Turbidity Unit).** ~~- *a unit of measurement of the level of turbidity.*~~ A measure of turbidity based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of the light scattered by a standard reference suspension under the same conditions. ~~*(4-6-05)*~~(____)

1~~7~~8. **Permit**. Written authorization by the Director to modify, operate, construct or discharge to a reclamation and reuse facility. (4-11-06)

1~~8~~9~~9~~9. **Permittee**. The person to whom the reclamation and reuse permit is issued. (4-11-06)

~~19~~20. **Person**. An individual, corporation, partnership, association, state, municipality, commission, political subdivision of the state, state agency, federal agency, special district, or interstate body. (4-1-88)

2~~0~~1. **Point of Compliance**. That point in the reclamation and reuse facility where the reclaimed wastewater must meet the requirements of the permit. There may be more than one (1) point of compliance within the facility depending on the constituents to be monitored. (4-11-06)

2~~1~~2. **Primary Effluent**. Raw wastewater that has been mechanically treated by screening, degritting, sedimentation and/or skimming processes to remove substantially all floatable and settleable solids. (4-1-88)

2~~2~~3. **Processed Food Crop**. Any crop intended for human consumption that has been changed from its original form and further disinfection occurs. (4-1-88)

2~~3~~4. **Rapid Infiltration System**. A wastewater treatment method by which wastewater is applied to land in an amount of twenty (20) to six hundred (600) feet per year for percolation through the soil. Vegetation is not generally utilized by this method. (4-1-88)

2~~4~~5. **Raw Food Crop**. Any crop intended for human consumption which is to be used in its original form. (4-1-88)

2~~5~~6. Reclaimed Wastewater. For the purpose of these rules, the term reclaimed wastewater shall mean wastewater that is used in accordance with these rules. (4-11-06)

2~~6~~7. Restricted Public Access. Preventing public entry within the area or point of reuse of a facility and the buffer distance around the area by site location or physical structures such as fencing. A lesser buffer distance may be accepted if aerosol drift is reduced. (4-11-06)

2~~7~~8. Reclamation. The treatment of municipal or industrial wastewater that allows it to be reused for beneficial uses. Reclamation also includes land treatment for wastewater that utilizes soil or crops for partial treatment. (4-11-06)

2~~8~~9. Reuse. The use of reclaimed wastewater for beneficial uses including, but not limited to, land treatment, irrigation, aquifer recharge, use in surface water features, toilet flushing in commercial buildings, dust control, and other uses. (4-11-06)

~~29~~30. Reclamation and Reuse Facility or Facility. Any structure or system designed or used for reclamation or reuse of municipal or industrial wastewater including, but not limited to, industrial and municipal wastewater treatment facilities, pumping and storage facilities, pipeline and distribution facilities, and the property to which the reclaimed wastewater is applied. This does not include industrial in-plant processes and reuse of process waters within the plant. (4-11-06)

3~~0~~1. Sewage. The water-carried human wastes from residences, buildings, industrial establishments and other places. (4-1-88)

3~~1~~2. Sludge. The semi-liquid mass produced by treatment of water or wastewater. (4-1-88)

3~~2~~3. Time Distribution of Flows. A measurement of the volume of wastewater distributed over a specified area during a specified time period. Typical unit of measure is inches per acre per week. (4-1-88)

34. Turbidity. A measure of the interference of light passage through water, or visual depth restriction due to the presence of suspended matter such as clay, silt, nonliving organic particulates, plankton and other microscopic organisms. Operationally, turbidity measurements are expressions of certain light scattering and absorbing properties of a water sample. Turbidity is measured by the Nephelometric method. (____)

3~~3~~5. Wastewater. Unless otherwise specified, industrial waste, municipal waste, agricultural waste, and associated solids or combinations of these, whether treated or untreated, together with such water as is present but not including sludge, or non-contact cooling water. (4-1-88)

3~~4~~6. Waters and Waters of the State. All the accumulations of water, surface and underground, natural and artificial, public and private, or parts thereof which are wholly or partially within, which flow through or border upon the state. (4-1-88)

201. -- 299. (RESERVED).

300. PERMIT REQUIREMENTS AND APPLICATION.

01. Permit Required. No person shall construct, modify, operate, or continue to operate a reclamation and reuse facility without a valid permit issued by the Director as provided in these rules. (4-11-06)

02. Dischargers. No person shall discharge to a reclamation and reuse facility without a valid permit issued by the Director as provided in these rules. (4-11-06)

03. Pre-Application Conference. Prospective applicants are encouraged to meet with the Department to discuss application procedure and anticipated application requirements. (4-1-88)

04. Application Required. Every person requiring a permit under these rules shall submit a permit application to the Department: (4-1-88)

a. At least one hundred eighty (180) days prior to the day on which a new activity is to begin; or (4-11-06)

b. At least one hundred eighty (180) days prior to the expiration of any permit issued pursuant to these rules. (4-11-06)

05. Application Contents. Application shall be made on a form prescribed by the Director and available from the Department. ~~*and*~~ Except as provided in Subsection 300.05.l., the application shall include, but not be limited to, the following information: ~~*(4-1-88)*~~( )

a. Name, location, and mailing address of the facility; (4-1-88)

b. Name, mailing address, and phone number of the facility owner and signature of the owner or authorized agent; (4-1-88)

c. The nature of the entity owning the facility (federal, state, private, or public entity); (4-1-88)

d. A list of local, state, and federal permits, licenses and approvals related to the activity which have been applied for and which have been received and the dates of application or approval; (4-1-88)

e. A topographic map of the facility site identifying and showing the location and extent of: (4-1-88)

i. Wastewater inlets, outlets, and storage structures and facilities; (4-1-88)

ii. Wells, springs, wetlands, and surface waters; (4-1-88)

iii. Twenty-five (25), fifty (50), and one hundred (100) year flood plains, as available through the Federal Insurance Administration of the Federal Emergency Management Agency;

(4-1-88)

iv. Service roads; (4-1-88)

v. Natural or man-made features necessary for treatment; (4-1-88)

vi. Buildings and structures; and (4-1-88)

vii. Process chemicals and residue storage facilities. (4-1-88)

f. A topographic map which may be separate from or combined with the facility site map, extending one quarter (1/4) mile beyond the outer limits of the facility site. The map shall identify and show the location and extent of the following: (4-1-88)

i. Wells, springs, wetlands, and surface waters; (4-6-05)

ii. Public and private drinking water supply sources and source water assessment areas (public water system protection area information); (4-6-05)

iii. Public roads; and (4-1-88)

iv. Dwellings and private and public gathering places. (4-1-88)

g. If the facility site or any portion thereof is leased or rented, a copy of that lease or rental agreement; (4-1-88)

h. The volume of wastewaters to be treated and the time distribution of flows; (4-1-88)

i. The physical, chemical, and biological characteristics of the wastewater; (4-1-88)

j. The climatic, hydrogeologic, and soil characteristics of the facility site. (4-1-88)

k. Other information may also be required. The Idaho Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater is intended to provide assistance to permit applicants in obtaining a reclamation and reuse permit and may be considered in determining the need for other information. (4-11-06)

l. Under certain circumstances for permit reissuances, some information required in Subsections 300.05.a. through k. may not be necessary for evaluation and will not be required. Application content requirements will be clarified at the pre-application conference. ( )

06. Existing Reclamation and Reuse Facility Plan of Operation. Any existing reclamation and reuse facility shall be required to have a plan of operation which describes in detail the operation, maintenance, and management of the wastewater treatment system.(4-11-06)

07. New Reclamation and Reuse Facility Plan of Operation. Any new proposed reclamation and reuse facility shall be required to have a detailed plan of operation at the fifty

percent (50%) completion point of construction. In addition, after one (1) year of operation the plan must be updated to reflect actual operating procedures. A general outline of the plan of operation must be provided with the permit application which will satisfy the intent of these rules. (4-11-06)

(BREAK IN CONTINUITY OF SECTIONS)

600. SPECIFIC PERMIT CONDITIONS.

01. Basis for Specific Permit Conditions. Conditions necessary for the protection of the environment and the public health may differ from facility to facility because of varying environmental conditions and wastewater compositions. The Director may establish, on a case-by-case basis, specific permit conditions. Specific conditions shall be established in consideration of characteristics specific to a facility and inherent hazards of those characteristics. Such characteristics include, but are not limited to: (4-1-88)

a. Chemical, biological, physical, and volumetric characteristics of the wastewater; (4-1-88)

b. Geological and climatic nature of the facility site; (4-1-88)

c. Size of the site and its proximity to population centers and to ground and surface water; (4-1-88)

d. Legal considerations relative to land use and water rights; (4-1-88)

e. Techniques used in wastewater distribution and the disposition of that vegetation exposed to wastewaters; (4-1-88)

f. Abilities of the soils and vegetative covers to treat the wastewater without undue hazard to the environment or to the public health; and (4-1-88)

g. The need for monitoring and record keeping to determine if the facility is being operated in conformance with its design and if its design is adequate to protect the environment and the public health. (4-1-88)

02. Duration of Permit. The permit shall be effective for a fixed term of not more than five (5) years. (4-1-88)

03. Limitations to Operation. Conditions of the permit may specify or limit: (4-1-88)

a. Wastewater composition; (4-1-88)

b. Method, manner, and frequency of wastewater treatment; (4-1-88)

c. Wastewater pretreatment requirements; (4-1-88)

d. Physical, chemical, and biological characteristics of a land treatment facility; and (4-11-06)

e. Any other condition the Director finds necessary to protect public health or environment. (4-1-88)

04. Compliance Schedules. The Director may establish a compliance schedule for existing facilities as part of the permit conditions including: (4-1-88)

a. Specific steps or actions to be taken by the permittee to achieve compliance with applicable requirements or final permit conditions; (4-1-88)

b. Dates by which those steps or actions are to be taken; and (4-1-88)

c. In any case where the period of time for compliance exceeds one (1) year the schedule may also establish interim requirements and the dates for their achievements. (4-1-88)

05. Monitoring Requirements. Any facility may be subject to monitoring requirements including, but not limited to: (4-1-88)

a. The installation, use, and maintenance of monitoring equipment; (4-1-88)

b. Monitoring or sampling methodology, frequency, and locations; (4-1-88)

c. Monitored substances or parameters; (4-1-88)

d. Testing and analytical procedures; and (4-1-88)

e. Reporting requirements including both frequency and form. (4-1-88)

06. Rapid Infiltration Systems. The following minimum treatment requirements are established for land application of wastewater using rapid infiltration methods and systems. (4-11-06)

a. Suspended solids content of wastewater which includes organic and inorganic particulate matter shall not exceed a thirty (30) day average concentration of one hundred (100) mg/l. (4-1-88)

b. Nitrogen (total as N) content of wastewater shall not exceed a thirty (30) day average concentration of twenty (20) mg/l. (4-1-88)

07. Direct Use of Municipal Reclaimed Wastewater. Treatment requirements for reuse facilities applicable to direct use of municipal reclaimed wastewater include, but are not limited to, the following. The applicable treatment requirements, buffer zones, access restrictions, disinfection requirements, uses, and other requirements are further described in the Classification Table in Subsection 600.08. ~~(4-6-05)~~(____)

a. Class A effluent is municipal reclaimed wastewater that may be used under particular circumstances for irrigation, including residential irrigation at individual homes~~,~~; ground water recharge using surface spreading, seepage ponds, or other unlined surface water features~~,~~; ~~*and*~~ ground water recharge using subsurface distribution; fire suppression from dedicated, marked hydrants and only by trained fire personnel, and not to be used in building sprinkler systems; dust suppression at construction sites; toilet flushing at industrial and commercial sites where only trained maintenance personnel have access to the plumbing for repair; or other uses acceptable to the Department. Class A effluent shall be oxidized, coagulated, clarified, and filtered, or treated by an equivalent process and adequately disinfected. Filtration approval requirements, nutrient removal requirements, turbidity limits requirements, monitoring requirements, reliability and redundancy requirements, and distribution system requirements also apply. Class A treatment systems are required to be pilot tested or otherwise approved by the Department per Subsection 601.04 of these rules. Class A effluent shall be considered adequately disinfected if, at the point of compliance, the median number of total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters, and does not exceed twenty-three (23) per one hundred (100) milliliters in any confirmed sample, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed. For ground water recharge using surface spreading, seepage ponds, and other unlined surface water features, IDAPA 58.01.11, "Ground Water Quality Rule," requirements apply. For Class A effluent, analysis shall be based on daily sampling during periods of use. The point of compliance for Class A effluent for total coliform shall be at any point in the system following final treatment and disinfection contact time. It is recommended but not required that the effluent also be disinfected following storage. Class A effluent for residential irrigation shall be applied only during periods of non-use. ~~*(4-11-06)*~~(____)

b. Class B effluent is municipal reclaimed wastewater that may contact any edible portion of raw food crops; ~~*or is*~~ may be used to irrigate golf courses, parks, playgrounds, schoolyards and other areas where children are ~~*more*~~ likely to have access or exposure; or may be used for toilet flushing at industrial and commercial sites where only trained maintenance personnel have access to the plumbing for repair. Class B effluent shall be oxidized, coagulated, clarified, and filtered, or treated by an equivalent process and adequately disinfected. New Class B treatment systems are required to be pilot tested and approved by the Department prior to start-up. Class B effluent shall meet the following turbidity limits. The daily arithmetic mean of all daily measurements of turbidity shall not exceed two (2) NTU, and turbidity shall not exceed five (5) NTU at any time. Turbidity shall be measured continuously. The turbidity standard shall be met prior to disinfection. For those systems that have in-line turbidimeters that are operating full-time, no additional monitoring for total suspended solids (TSS) is required. Class B effluent shall be considered adequately disinfected if, at the point of compliance, the median number of total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters, and does not exceed twenty-three (23) per one hundred (100) milliliters in any confirmed sample, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed. For Class B effluent, analysis shall be based on daily sampling during periods of application. The point of compliance for Class B effluent for total coliform shall be at any point in the system following final treatment and disinfection contact time. It is recommended but not required that the effluent also be disinfected following storage. Residual chlorine at the point of compliance shall be not less than one (1) mg/L free chlorine after a contact time of thirty (30) minutes at peak flow. If an alternative disinfection process is used, it must be demonstrated to the

satisfaction of the Department that the alternative process is comparable to that achieved by chlorination with one (1) mg/L free chlorine after thirty (30) minutes contact time. Class B effluent shall be applied only during periods of non-use by the public. ~~(4-11-06)~~(____)

c. Class C effluent is municipal reclaimed wastewater that ~~will~~ may only contact the inedible portion of raw food crops~~,~~; ~~or is~~ may be used to irrigate orchards and vineyards during the fruiting season, if no fruit harvested for raw use comes in contact with the irrigation water or ground or will only contact the inedible portion of raw food crops~~,~~; ~~or is~~ may be used to irrigate cemeteries, vegetation on sides and medians of highways, and other areas where individuals have access or exposure; or may be used for toilet flushing at industrial and commercial sites where only trained maintenance personnel have access to the plumbing for repair. Class C effluent shall be oxidized and adequately disinfected. Class C effluent shall be considered adequately disinfected if, at the point of compliance, the median number of total coliform organisms does not exceed twenty-three (23) per one hundred (100) milliliters, and does not exceed two hundred thirty (230) per one hundred (100) milliliters in any confirmed sample as determined from the bacteriological results of the last five (5) days for which analyses have been completed. For Class C effluent, analysis shall be based on weekly sampling during periods of application. The point of compliance for Class C effluent for total coliform shall be at any point in the system following final treatment and disinfection contact time. Class C effluent shall be applied only during periods of non-use by the public. ~~(4-11-06)~~(____)

d. Class D effluent is municipal reclaimed wastewater that is used to irrigate fodder, seed, or processed food crops and is oxidized and adequately disinfected. Class D effluent shall be considered adequately disinfected if, at some location in the treatment process, the median number of total coliform organisms does not exceed two hundred thirty (230) per one hundred (100) milliliters, not to exceed two thousand three hundred (2300) per one hundred (100) milliliters in any confirmed sample, as determined from the bacteriological results of the last three (3) days for which analyses have been completed. For Class D effluent, analysis shall be based on monthly sampling during periods of application. The point of compliance for Class D effluent for total coliform shall be at any point in the system following final treatment and disinfection contact time. Animals shall not be grazed on land where Class D municipal wastewater is applied, and animals shall not be fed harvested vegetation irrigated in this manner within two (2) weeks of application. (4-11-06)

e. Class E effluent is municipal reclaimed wastewater that is used to irrigate forested sites where public access is restricted and the municipal wastewater shall be of at least primary effluent quality. Animals shall not be grazed on land where Class E municipal wastewater is applied, and animals shall not be fed harvested vegetation irrigated in this manner within four (4) weeks of application. (4-11-06)

08. Direct Use of Municipal Reclaimed Wastewater -- Classification Table. The following table ~~*further describes*~~ *provides a brief summary of* the requirements for direct use of municipal reclaimed wastewater outlined in Subsection 600.07. *If there are discrepancies between Subsections 600.07 and 600.08, the requirements of Subsection 600.07 prevail.*

Classification Table					
Classification	**Class A**	**Class B**	**Class C**	**Class D**	**Class E**
Treatment	This is a partial list - see Section 601 for more detail: Oxidized, clarified, and coagulated, with filtration approval requirements or treated by an equivalent process, plus nutrient removal requirements, turbidity limits requirements, adequately disinfected and tested.	Oxidized, coagulated, clarified, and filtered, or treated by an equivalent process, turbidity limits requirements, and adequately disinfected and tested.	Oxidized and adequately disinfected	Oxidized and adequately disinfected	At least primary effluent quality
Disinfection	Total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters	Total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters	Total coliform organisms does not exceed twenty three (23) per one hundred (100) milliliters	Total coliform organisms does not exceed two hundred thirty (230) per one hundred (100) milliliters	Total coliform organisms up to “too numerous to count”

Classification Table					
Classification	**Class A**	**Class B**	**Class C**	**Class D**	**Class E**
Uses	May be used for residential irrigation at individual homes~~,~~; ground water recharge using surface spreading, seepage ponds~~,~~ or other unlined surface water features~~,~~; ground water recharge using subsurface distribution; fire suppression from dedicated, marked hydrants; dust suppression at construction sites; toilet flushing at industrial and commercial sites; or Class B, C, D, or E uses. Other requirements apply for ground water uses. See Subsection 600.07.a.	May contact any edible portion of raw food crops~~,~~; ~~or is~~ may be used to irrigate golf courses, parks, playgrounds, schoolyards; may be used for toilet flushing at industrial and commercial sites; or Class C, D, or E uses. See Subsection 600.07.b.	May be used to irrigate orchards and vineyards during the fruiting season, if no fruit harvested for raw use comes in contact with the irrigation water or ground, or will only contact the unedible portion of raw food crops~~,~~; ~~or is~~ may be used to irrigate cemeteries~~,~~ or roadside vegetation; may be used for toilet flushing at industrial and commercial sites; or Class D or E uses. See Subsection 600.07.c.	May be used to irrigate fodder, seed, or processed food crops; or Class E uses. See Subsection 600.07.d.	May be used to irrigate forested sites. See Subsection 600.07.e.
Access Restriction	Irrigated during periods of non-use.	Irrigated during periods of non-use by the public.	Irrigated during periods of non-use by the public.	Public access restricted.	Public access restricted.
Signing and Posting	See Subsection 601.02	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater

Classification Table					
Classification	**Class A**	**Class B**	**Class C**	**Class D**	**Class E**
Buffer Distances	No effluent is allowed to be applied to surface waters in those circumstances when an NPDES Permit is required. One hundred (100) feet minimum to drinking water wells.	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater. No effluent is allowed to be applied to surface waters in those circumstances when an NPDES Permit is required.	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater. No effluent is allowed to be applied to surface waters in those circumstances when an NPDES Permit is required.	Site specific - See Idaho Guidance for The Reclamation and Reuse of Municipal and Industrial Wastewater. No effluent is allowed to be applied to surface waters in those circumstances when an NPDES Permit is required.	1000 ft. to inhabited dwellings and areas accessible to the public. No effluent is allowed to be applied to surface waters in those circumstances when an NPDES Permit is required.
Grazing	Grazing allowed only with approved grazing management plan.	Grazing allowed only with approved grazing management plan.	Grazing allowed only with approved grazing management plan.	Grazing not allowed.	Grazing not allowed.

~~(4-11-06)~~(_____)

601. CLASS A EFFLUENT MUNICIPAL RECLAIMED WASTEWATER -- ADDITIONAL REQUIREMENTS.

01. Engineering Report. Engineering reports and application materials for new Class A effluent municipal reclaimed wastewater systems or major upgrades to Class A effluent municipal reclaimed wastewater systems shall be submitted to the Department with the application and must be approved by the Department prior to permit issuance. The engineering report shall include, but not be limited to, the following items as applicable: purpose; approach; development of alternatives; technical, financial, managerial, and legal issues; emergency response and security; operation and maintenance; consideration of alternatives for disposal of unanticipated excess effluent that does not meet Class specifications; pilot testing; client use issues; potential markets for reclaimed wastewater; potential sources of wastewater; public involvement and perception; targeted markets for reclaimed wastewater; allocation of reclaimed wastewater; preliminary investigations; staff development; treatment system upgrades to meet Class A requirements; distribution system development and schedule; new development infrastructure; reservoir or booster capacity; water balance calculations; costs; applicable regulations; and potential funding sources. This engineering report shall be stamped, dated and signed in accordance with Idaho Board of Registration of Professional Engineers and Professional

Land Surveyors, IDAPA 10.01.02, "Rules of Professional Responsibility". ~~(4-11-06)~~(____)

02. Distribution System Requirements. Class A distribution systems and the continued distribution systems of all of its customers shall have specific requirements including, but not limited to: (4-6-05)

a. Any person or agency that is planning to construct all or part of the distribution system must obtain a plan and specification approval from the Department prior to beginning construction. Where Class A effluent is to be provided by pressure pipeline, the following applicable standards shall be used as guidance: the current edition of "Recommended Standards for Wastewater Facilities - Great Lakes-Upper Mississippi River Board of State Sanitary Engineers," the "AWWA Manual M24" Chapter 4 for dual water systems, and the current edition of "Idaho Standards for Public Works Construction". The above guidance documents shall be used for all new systems constructed after April 1, 2005. Requirements for irrigation systems proposed for conversion from use of non-Class A effluent water to use with Class A effluent will be considered on a case-by-case basis considering protection of public health and the environment. (4-6-05)

b. Distribution Lines. (4-6-05)

i. Minimum Separation. (4-6-05)

(1) Horizontal Separation. Class A effluent distribution mains parallel to potable (culinary) water mains shall be installed in accordance with IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," Subsection ~~550.06~~ 542.07. Class A effluent distribution mains parallel to sanitary sewer mains shall be installed at least five (5) feet horizontally from the sanitary sewer main if the sanitary sewer main is located above the Class A effluent main, and three (3) feet horizontally from the sanitary sewer main if the sanitary sewer main is located below the Class A effluent main. ~~(4-6-05)~~(____)

(2) Vertical Separation. At crossings of Class A effluent distribution mains with potable water mains and sanitary sewer mains, the order of the mains from lowest in elevation to highest should be: sanitary sewer main, Class A effluent main, and potable water main. A minimum of eighteen (18) inches vertical separation between each of these utilities shall be provided as measured from outside of pipe to outside of pipe. The crossings shall be arranged so that the Class A effluent main joints will be equidistant and as far as possible from the potable water main joints and the sanitary sewer main joints. If the Class A effluent water main must cross above the potable water main, the vertical separation shall be a minimum eighteen (18) inches, the Class A effluent main shall be supported to prevent settling, and the Class A effluent main shall be encased in a continuous pipe sleeve to a distance on each side of the crossing equal to ten (10) feet. If the Class A effluent main must cross below the sanitary sewer main, the vertical separation shall be a minimum eighteen (18) inches and the Class A effluent main shall be encased in a continuous pipe sleeve to a distance on each side of the crossing equal to ten (10) feet. ~~(4-6-05)~~(____)

(3) Special Provisions. Where the horizontal and/or vertical separation as required above cannot be maintained, special construction requirements shall be provided in accordance with requirements in IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems,"

S~~ubs~~ection ~~550.06~~ 542, for protection of potable water mains. ~~(4-6-05)~~(____)

ii. Class A Effluent Pipe Identification. (4-6-05)

(1) General. All new buried pipe, including service lines, valves, and other appurtenances, shall be colored purple, Pantone 512 or equivalent. If fading or discoloration of the purple pipe is experienced during construction, identification tape or locating wire along the pipe is required. Label piping every ten (10) feet "Caution: Reclaimed W*astew*ater - Do Not Drink" *in both Spanish and English lettering*. ~~(4-6-05)~~(10-17-06)T

(2) Identification Tape. If identification tape is installed along with the purple pipe, it shall be prepared with white or black printing on a purple field, color Pantone 512 or equivalent, having the words, "Caution: Reclaimed W*astew*ater - Do Not Drink" *in both Spanish and English lettering*. The overall width of the tape shall be at least three (3) inches. Identification tape shall be installed eighteen (18) inches above the transmission pipe longitudinally, shall be centered over the pipe, and shall run continuously along the length of the pipe. ~~(4-6-05)~~(10-17-06)T

iii. Conversion of Existing Drinking Water or Irrigation Water Lines. Existing water lines that are being converted to use with Class A effluent or a combination of Class A effluent and irrigation water shall first be accurately located and comply with leak test standards in accordance with IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," S~~ubs~~ection ~~550.06~~ 542, and in coordination with the Department. The pipeline must be physically disconnected from any potable water lines and brought into compliance with current state cross connection rules and requirements (IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," S~~ubs~~ection ~~550.07~~ 543), and must meet minimum separation requirements set forth in ~~*Subsection 601.02.b. of*~~ these rules. If the existing lines meet approval of the water supplier and the Department based upon the requirements set forth in ~~*Subsection 601.02.b.iii. of*~~ these rules, the lines shall be approved for Class A effluent distribution. If regulatory compliance of the system (accurate location, pressure testing, and verification of no cross connections) cannot be verified with record drawings, testing, televising, or otherwise, the lines shall be uncovered, inspected, and identified or otherwise verified to the Department's satisfaction prior to use. All accessible portions of the system must be retrofitted to meet the requirements of these rules. After conversion of the water or irrigation line to a Class A wastewater effluent line, the lines shall be marked as stated in Subsection 601.02.b.ii.(2) of these rules. ~~(4-6-05)~~(____)

iv. Valve Boxes and Other Surface Identification. All valves shall have locking valve covers that are non-interchangeable with potable water valve covers, and shall have an inscription cast on the top surface stating "Reclaimed Wastewater". Valve boxes shall meet the requirements of IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," S~~ubs~~ection ~~550.06~~ 542. All above ground pipes and pumps shall be consistently color coded (purple, Pantone 512) and marked to differentiate Class A effluent facilities from potable water facilities. ~~(4-11-06)~~(____)

v. Blow-off Assemblies. If either an in-line type or end-of-line type blow-off or drain assembly is installed in the system, a plan for proposed discharge or runoff locations shall be submitted to the Department for review and approval. (4-6-05)

c. Storage. If storage or impoundment of Class A effluent is provided, the following requirements apply: (4-6-05)

i. Fencing. No fencing is required by these rules, but may be required by local laws or ordinances. (4-6-05)

ii. Identification. All storage facilities shall be identified by signs prepared according to the requirements of Subsection 601.02.e.v. of these rules. Signs shall be posted on the surrounding fence at minimum five hundred (500) foot intervals and at the entrance of each facility. If there is no fence, signs shall be located at a minimum on each side of the facility or at minimum two hundred fifty (250) foot intervals or at all accessible points. (4-6-05)

iii. For systems supplying irrigation water for residential lawn irrigation, minimum storage requirements shall include sufficient volume for daily use patterns, precipitation events, etc., and an alternate disposal point during non-irrigation season. (4-6-05)

d. Pumping Facilities. (4-6-05)

i. Marking. All exposed and above ground piping, risers, fittings, pumps, valves, etc., shall be painted purple, Pantone 512. In addition, all piping shall be identified using an accepted means of labeling reading "Warning: Reclaimed W*astew*ater - Do Not Drink" *in both Spanish and English lettering*. In a fenced pump station area, signs shall be posted on the fence on all sides. ~~*(4-6-05)*~~(10-17-06)T

ii. Seal Water. Any potable water used as seal water for reclaimed water pump seals shall be protected from backflow with a Department approved backflow prevention device or air gap. (4-6-05)

e. Other Requirements. (4-6-05)

i. Backflow Protection. In no case shall a direct connection be made between the potable and Class A effluent system. If it is necessary to put potable water into the Class A effluent distribution system, a Department approved reduced pressure principal device or air gap must be provided to protect the potable water system. (4-6-05)

ii. Drinking fountains, picnic tables, food establishments, and other public eating facilities shall be placed out of any spray irrigation area in which Class A effluent is used, or shall be otherwise protected from contact with the Class A effluent. Exterior drinking fountains, picnic tables, food establishments, and other public eating facilities shall be shown and called out on the construction plans. If no exterior drinking fountains, picnic tables, food establishments, or other public eating facilities are present in the design area, then it shall be specifically stated on the plans that none are to exist. (4-6-05)

iii. Equipment and Facilities. Any equipment or facilities such as tanks, temporary piping or valves, and portable pumps that have been or may be used with Class A effluent shall not be used with potable water or sewage. Any equipment or facilities such as tanks, temporary piping or valves, and portable pumps that have been or may be used with sewage shall not be used with Class A effluent or potable water. (4-6-05)

iv. Warning Labels. Warning labels shall be installed on designated facilities such as,

but not limited to, controller panels and washdown or blow-off hydrants on water trucks, hose bibs, and temporary construction services. The labels shall read, "Warning: Reclaimed Wastewater - Do Not Drink" *in both Spanish and English lettering*. ~~(4-6-05)~~(10-17-06)T

v. Warning signs. Where reclaimed water is stored or impounded, or used for irrigation in public areas, warning signs shall be installed and contain, at a minimum, one (1) inch purple letters (Pantone 512 or equivalent) on a white or other high contrast background notifying the public that the water is unsafe to drink. Signs may also have a purple background with white or other high contrast lettering. Warning signs and labels shall read, "Warning: Reclaimed Wastewater - Do Not Drink" *in both Spanish and English lettering*. ~~*The signs shall include the international symbol for Do Not Drink.*~~ ~~(4-6-05)~~(10-17-06)T

03. Other Permits Addressed as Necessary. The following other permits may be necessary for a particular facility but are not regulated under these rules: (4-6-05)

a. NPDES permits from the Environmental Protection Agency for surface water discharge. (4-6-05)

b. Injection well permits from Idaho Department of Water Resources. (4-6-05)

04. Filtration Technology. ( )

~~**04**~~**a. Filtration Technology** ~~*Approval*~~ Acceptance **Requirements**. All Class A effluent projects in Idaho must have written ~~*approval*~~ acceptance from the Department for their proposed filtration technology prior to submitting plans and specifications for approval. Except as provided in Subsections 601.04.b.i and 601.04.b.ii., the following approaches are methods by which this written ~~*approval*~~ acceptance may be obtained from the Department. Consultants and vendors shall submit written requests with accompanying product information to the Department's State Office Wastewater Program. ~~(4-6-05)~~( )

~~**a**~~**i.** Department ~~*approval*~~ acceptance based on previous similar projects in Idaho. ~~(4-6-05)~~( )

~~**b**~~**ii.** National approval by National Reuse Association, Water Environment Federation Research Foundation, NSF International, or other organization ~~*approved*~~ accepted by the Department. ~~(4-6-05)~~( )

~~**c**~~**iii.** The State of California Department of Health Services Treatment Technology Report for Recycled Water, http://www.dhs.ca.gov/ps/ddwem/publications/waterrecycling/treatmenttechnology.pdf. ~~(4-6-05)~~( )

~~**d**~~**iv.** Other methods ~~*approved*~~ accepted by the Department, including pilot testing. ~~(4-11-06)~~( )

b. Filter Loading, Coagulation, and Acceptance Requirements. ( )

i. For mono, dual or mixed media gravity or pressure filtration systems, influent shall be coagulated, clarified and passed through an undisturbed bed of soils or filter media at a

rate not to exceed five (5) gallons per minute per square foot. For traveling bridge automatic backwash filters, influent shall be coagulated, clarified and passed through an undisturbed bed of soils or filter media at a rate not to exceed two (2) gallons per minute per square foot. Coagulation may be waived if all of following are met: the filter effluent does not exceed two (2) NTU, the filter influent is continuously measured, the filter influent turbidity does not exceed five (5) NTU, and automatically activated chemical addition or diversion facilities are provided in the event filter effluent turbidity exceeds five (5) NTU. ( )

ii. Gravity or pressure filters as described in Subsection 601.04.b.i. are recognized as being acceptable filtration processes under these rules. ( )

iii. Other granular media filters that have a continuous backwash feature, pulsed bed feature, or other feature that, in the determination of the Department, does not comply with Subsection 601.04.b.i.; membrane filters; or cloth filters must obtain acceptance in accordance with Subsection 601.04.a. ( )

05. Nutrient Removal Requirements. Total nitrogen at the point of compliance shall not exceed ten (10) mg/L for ground water recharge systems, and thirty (30) mg/L for residential irrigation and other non-recharge systems, based on a monthly arithmetic mean as determined from weekly composite sampling. These limits may be much lower depending on the results of any applicable nutrient-pathogen studies that may be required. (4-11-06)

06. Turbidity ~~*Limits and Monitoring*~~ Requirements and Disinfection Requirements. ~~*(4-6-05)*~~( )

a. One (1) in-line, continuously monitoring, recording turbidimeter is required for each treatment train after filtration and prior to disinfection. ~~*(4-6-05)*~~( )

b. Class A effluent shall meet the following turbidity limits. For systems utilizing sand or other granular media or cloth media, the daily arithmetic mean of all daily measurements of turbidity shall not exceed two (2) NTU, and turbidity shall not exceed five (5) NTU at any time. ~~*Turbidity shall be measured continuously. The turbidity standard shall be met prior to disinfection.*~~ For systems utilizing membrane filtration, the daily arithmetic mean of all daily measurements of turbidity shall not exceed zero point two (0.2) NTU, and turbidity shall not exceed zero point five (0.5) NTU at any time. ~~*(4-6-05)*~~( )

c. Class A effluent shall be disinfected by either: ( )

i. A chlorine disinfection process that provides a concentration/contact time (CT) of four hundred and fifty (450) milligram-minutes per liter (mg-min/L) measured at the end of the contact time with a modal contact time of not less than ninety (90) minutes based on peak day dry weather flow; or ( )

ii. A disinfection process that, when combined with filtration, has been demonstrated to achieve 5-log inactivation of virus. Acceptance by the State of California Department of Health Services as published in their Treatment Technology Report for Recycled Water is one method to constitute such a demonstration. ( )

07. Reliability and Redundancy Requirements. (4-6-05)

a. Redundant Treatment Capabilities. (____)

~~a~~**i.** Class A treatment systems shall have redundant treatment capabilities able to treat peak day flow, ~~*and*~~ Class A treatment systems shall also provide for: (____)

(1) An alternative disposal option; or (____)

(2) Diversion to adequate lined storage capable of storing seven (7) days of effluent; or (____)

(3) Equivalent back-up system. (____)

ii. Each of these three (3) alternatives must be automatically activated if turbidity exceeds or chlorine residual drops below the instantaneous required value for more than five (5) minutes, or if the alternative filtration/ disinfection system is not achieving its required 5-log removal/inactivation of virus for more than five (5) minutes. Peak flow is defined for the purpose of ~~*this rule*~~ Subsection 601.07 to mean the peak day flow of the plant anticipated for the season in which Class A effluent is being produced. The maximum number of times a facility could exceed on this basis is twice in one (1) week, both of which times are required to be immediately reported. Failure to report or exceeding more than twice in one (1) week are sufficient grounds for the Department to require the system to be shut down for inspection and repair. ~~*(4-11-06)*~~(____)

b. Redundant facilities, including, but not limited to, monitoring equipment and treatment trains shall be required. (4-6-05)

c. Standby Power sufficient to maintain all treatment and distribution works shall be required for the Class A effluent use. An alternative to this is to provide standby power sufficient for basic treatment and for automatic by-pass of filtration directly to an alternative *permitted* disposal option ~~*or diversion to lined storage*~~. ~~*(4-6-05)*~~(____)

d. Standby treatment filter units in fully operable condition capable of treating peak flow, with the largest filter unit out of service, shall be plumbed and wired in place for immediate use. Peak flow is defined for the purpose of this rule to mean the peak day flow of the plant anticipated for the season in which Class A effluent is being produced. An alternative to this is automatic by-pass of filtration directly to an alternative *permitted* disposal option ~~*or diversion to lined storage*~~. ~~*(4-11-06)*~~(____)

08. Other Class A Effluent Requirements. (4-6-05)

a. Minimum treatment system size shall be ten thousand (10,000) gallons per day of wastewater flow being treated. (4-11-06)

b. Five (5) Day Biochemical Oxygen Demand (BOD5) shall not exceed five (5) mg/L ~~*shall not exceed five (5) mg/L*~~ for ground water recharge systems, and ten (10) mg/L each for residential irrigation and other non-recharge systems, based on a monthly arithmetic mean as determined from weekly composite sampling. ~~*(4-11-06)*~~(____)

c. The pH as determined by daily grab samples or continuous monitoring shall be between six point zero (6.0) and nine point zero (9.0) inclusive. (4-11-06)

~~**d.** *Residual Chlorine at the point of compliance shall be not less than one (1) mg/L free chlorine after a contact time of thirty (30) minutes at peak flow. If an alternate disinfection process is used, it must be demonstrated to the satisfaction of the Department that the alternative process is comparable to that achieved by chlorination with a one (1) mg/L free chlorine residual after thirty (30) minutes contact time.* (4-6-05)~~

~~**e**~~**d.** For any type of ground water recharge system, the Class A effluent must also meet ground water quality standards per IDAPA 58.01.11, "Ground Water Quality Rule," at the point of compliance, and comply with the remaining sections of the "Ground Water Quality Rule". For these types of ground water recharge systems utilizing Class A effluent municipal reclaimed wastewater, the applicant shall propose to the Department for review and approval, the applicable testing requirements for the effluent as it relates to the primary and secondary ground water standards, as well as background ground water quality. Ground water recharge site locations shall be a minimum of one thousand (1000) feet from any down gradient drinking water extraction well and shall also provide for a minimum of six (6) months time of travel in the aquifer prior to withdrawal. The minimum requirements for site location and aquifer storage time may also be greater depending on any source water assessment zone studies for public drinking water wells in the area. The owners of these systems must control the ownership of this down gradient area to prohibit future wells from being drilled in the impact zone of the ground water recharge system. The Idaho Department of Water Resources requires additional permits for ground water injection wells. (4-11-06)

~~**f**~~**e.** A filter to waste operational criteria is required for all Class A effluent filtration facilities for each time a filter starts up. The filter will automatically filter to waste until the effluent meets the required turbidity standard. (4-6-05)

~~**g**~~**f.** Additional information in the form of reports by qualified soil scientists, professional geologists, professional engineers, or other qualified individuals relating to environmental assessments, nutrient management plans, or water rights issues shall be submitted to the Department at the pre-application conference or with the application and must be approved by the Department prior to permit issuance. (4-6-05)

~~**h**~~**g.** Requirements for Class A effluent distribution system operators. All operators of Class A effluent distribution systems, including operators of distribution systems that utilize a combination of Class A effluent and other irrigation waters, operators of the distribution system from the wastewater treatment plant to the point of compliance or point of use or point of sale, as applicable, and those operators that are employed by buyers of the Class A effluent for subsequent use, including home occupants, shall be required to sign a utility user agreement provided by the utility providing the Class A effluent that states that the user acknowledges that the user understands the origin of the effluent and the concept of agronomic rate for applying the Class A effluent. Contracts for sale of Class A effluent for subsequent use shall also include these requirements. Individual homeowners are allowed to operate or maintain Class A effluent distribution systems. Providers of the Class A effluent shall undertake a public education program within its service area to teach potential customers the benefits and responsibilities of using Class

A effluent ~~(4-11-06)~~(____)

h. Requirements for mixing Class A effluent with other irrigation waters. Mixing Class A effluent with other irrigation waters may be conducted in a pipe to pipe manner if both the other irrigation water source and the Class A source are protected by Department approved backflow devices. Class A effluent may be mixed with other irrigation water in an unlined pond if the Class A effluent is permitted for aquifer recharge. Class A effluent that is permitted for irrigation only and not aquifer recharge may be mixed with other irrigation water only in a lined pond. *Water* from these *mixed* ponds may then be *used for permitted* Class A *uses*. *If any of the water from these mixed ponds ultimately discharges to a canal, drain or other surface water, an NPDES permit may be required due to the presence of effluent in the mixed water. A downstream water user does not need a permit under these rules when mixed effluent/irrigation water is used after it is discharged, in accordance with these rules, to a canal, drain or other surface water.* (____)