Water Quality Standards

and

Wastewater Treatment Requirements

June, 1973

Idaho Department of Environmental and Community Services

ATTACHMENT 8

research #6

These Rules and Regulations for the Establishment of Standards of Water Quality and for Wastewater Treatment Requirements for Waters of the State of Idaho shall be in full force and effect on the twenty-eighth day of June, 1973.

Adopted by Resolution of the Board of Environmental and Community Services of the State of Idaho at a regular meeting of that Board on the twenty-eighth day of June at Boise, Idaho.

Attest: James A. Bax

James A. Bax
Administrator
Department of Environmental
and Community Services

RULES AND REGULATIONS FOR
THE ESTABLISHMENT OF STANDARDS OF WATER QUALITY
AND FOR WASTEWATER TREATMENT REQUIREMENTS FOR WATERS OF THE STATE OF IDAHO

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X. REGULATIONS GOVERNING WASTEWATER DISCHARGES

A. Any person or persons, corporation, officers of any municipality, sewer district or association which owns or operates any facility or carries out any operation which results in the discharge of wastewater shall furnish to the Department such information concerning quality and quantity of discharged wastewaters and maintain such treatment records as the Department may require to evaluate the effects of any receiving waters.

B. For the purpose of these regulations, determination of adequate treatment for wastewater shall be equivalent of 85 percent removal of the biochemical oxygen demand and suspended solids, or conform with any more stringent limitations necessary to meet the water quality standards contained herein. Adequate treatment includes disinfection of any waste which may contain organisms that produce disease in man or animal. Exceptions to treatment requirements may be granted by the Department when it can be demonstrated that such exceptions will not adversely affect classified water quality and uses are adequately protected. Failure to provide adequate treatment shall be considered a violation of these regulations.

C. Any person, persons, corporation or officials of a municipality sewer district who owns or operates any sewage or other water-borne wastewater treatment facility shall at all times operate such facility under competent supervision and with the highest efficiency that can reasonably be expected, and shall maintain such facility in good repair.

D. Notwithstanding the water quality standards contained herein, the quality of discharges to lakes and impoundments as defined by its various physical and chemical properties shall not exceed the values obtained for the same properties of the receiving water except where an effluent is currently discharged to a flowing stream which subsequently becomes an impoundment; where, at the time of adoption of these regulations, a municipality or sewer district discharges a treated effluent; or where an industry currently discharges an effluent which is lower in quality than the receiving water only in terms of temperature. In these cases the minimum level of treatment shall conform with the requirements of paragraph B, Section X, Regulations Governing Wastewater Discharges contained herein. Effluents subject to treatment failure may be allowed to discharge to lakes and impoundments if the quality of the effluent meets the above cited requirement and secondary reliability is provided.

E. In cases of subsurface sewage or waste disposal, such disposal facilities shall be so designed and located that such sources of water pollution including bacteriological, organic and/or inorganic nutrients will not enter adjacent waters. Disposal systems shall

not be located within 300 feet of the shores of lakes and impoundments, including tributary streams, used for domestic, recreational or aesthetic purposes, as determined from the known highest water level of such water course, lake or reservoir. A variance may be granted on an individual basis provided that the proposed variance does not alter the intended results obtained by the requirement.

Improperly and/or inadequately treated sewage shall not be allowed to accumulate on the ground surface in such a manner that it may create a health hazard and/or a nuisance condition.

F. It shall be a violation of these regulations to store, dispose of, or allow to accumulate any deleterious material adjacent to or in the immediate vicinity of any portions of the waters of the State in such a manner that such material will or is likely to enter the stream at times of high water or runoff or where drainage from such materials or accidental failure of storage facilities may transport or allow deleterious material into the water course. Such material shall include, but not be limited to, trash, rubbish, garbage, oil, gasoline, chemicals, sawdust and accumulations of manure.

G. In case of accidental spills of deleterious materials, persons in responsible charge shall make every reasonable effort to contain spilled material in such a manner that it will not contaminate or pollute any waters of the State, and shall immediately notify the Department of any such spills.

H. Sewage sludge which may contain disease-producing organisms, when applied to lawns, root crop fields or fields producing foods which may be consumed raw, or otherwise used in such a manner that exposure to persons may be a health hazard, shall be heated to 135°F or higher for a period of one hour or any equivalent combination of time and temperature approved by the Department before such use.

I. Wastewater discharged to disposal wells for underground disposal shall receive, prior to discharge of such wastewaters, such treatment as is necessary to render them equal in quality to existing underground waters or such treatment as is necessary to bring such discharge into conformance with the Idaho Drinking Water Standards. The provisions of Paragraph X (I) will not be considered as strictly applicable to the existing sink wells used exclusively for irrigation wastewater disposal where such disposal does not adversely affect domestic water sources. However, it should be recognized that the long-term preservation of Idaho's vast underground water resources is of great importance and that every reasonable effort should be made to restrict pollutants from entering underground waters and that a long-term research and development program should be established that will lead to the total elimination of disposal wells that directly affect underground aquifers that are not subject to adequate filtration and percolation to eliminate significant pollutants.

J. The total area and/or volume of a receiving stream assigned to mixing zones shall be as described in valid discharge permits and limited to that which will

1. Not interfere with biological communities or populations of important species to a degree which is damaging to the ecosystem.

2. Not diminish other beneficial uses disproportionately.

K. Sewage Treatment Design Standards and Subsurface Sewage Disposal Standards, as adopted by the Department, shall be revised from time to time and shall be used as a guide in the review of plans and specifications for waste treatment facilities.

XI. REGULATIONS GOVERNING SPECIFIC ACTIVITIES

A. Disinfection of Municipal Wastewater Treatment Plant Effluents

Municipal wastewater treatment plant effluents shall receive adequate disinfection prior to discharge to any receiving water course. Adequate disinfection is defined as any disinfection process which satisfies the following applicable criteria.1/

1. Total coliform concentrations in secondary treated effluents (as determined by multiple-tube fermentation or membrane filter procedures) shall not exceed a geometric mean of 1000/100 ml. with no more than one sample per week exceeding 2400/100 ml.2/

2. Fecal coliform concentrations in secondary treated effluents (as determined by multiple-tube fermentation or membrane filter procedures) shall not exceed a geometric mean of 200/100 ml.2/

3. On an interim basis, pending the addition of secondary treatment, primary effluents shall meet the following total coliform limitations: "total coliform concentrations (as determined by multiple-tube fermentation or membrane filter procedures) shall not exceed a geometric mean of 2400/100 ml. with no more than one sample per week exceeding 10,000/100 ml."2/ (This discharge coliform level will not be permitted even on an interim basis where coliform receiving water quality standard is not being met.)

1/ More strict effluent coliform limitations may be necessary for discharges to receiving waters where existing or potential water uses dictate a higher quality water.

2/ Based on no more than one week's data and a minimum of 5 samples. The samples must be representative of all samples collected during the week. Geometric mean computations shall be calculated and recorded weekly.

4. The total suspended solids concentrations of secondary effluent shall not exceed a 30-day average of 30 mg/l. (Exceptions on this requirement for primary effluents is given on an interim basis pending the addition of secondary treatment. During this interim period all primary treatment plants shall be continuously operated at maximum efficiency.)

5. In all cases where chlorination is the selected means of disinfection, a properly designed and functioning chlorine contact basin shall be used.3/ Discharge from chlorine contact basins are subject to the following additional limitations:

   a. Chlorine contact tanks or basins shall achieve 60-minutes contact time at design flow, or 20-minutes contact time at peak hourly flow or maximum rate of pumping, whichever is greater.4/

   b. Total chlorine residual in the treated effluent after chlorine contact shall be maintained at a level demonstrated to consistently achieve the required coliform effluent limitation.

   c. Dechlorination of chlorinated effluent may be required for discharges to biologically sensitive receiving waters and/or to meet established chlorine receiving water quality criteria.

6. Primary treatment plant effluents shall be monitored daily for total and fecal coliform concentrations. It is required that

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3/ A considerable amount of research has been completed and is currently underway on the use of other methods of disinfecting municipal effluents. Chlorination is not the only method of disinfection. However, it appears to be the most economical and practicable method available at the present time. When other reliable methods are better developed and proven or when receiving water quality conditions dictate their use, they will be used.

4/ Chlorine contact tanks shall be constructed to minimize short circuiting. Thorough mixing of chlorine and waste flow is necessary to achieve maximum disinfection efficiency. This may be accomplished hydraulically or by use of mechanical rapid-mix facilities ahead of the contact tanks or basins. Provisions shall be made for removal of floatable and settleable solids from chlorine contact tanks without discharging unchlorinated effluent. To accomplish continuous disinfection, chlorine contact tanks shall be designed with duplicate compartments to permit draining and cleaning of individual compartments. A sump or drain within each compartment with the drainage flowing to a raw sewage wet well is necessary for dewatering, sludge removal, and maintenance. Unit drains must not discharge into the outfall sewer. Baffles shall be provided to prevent the discharge of floating material.