

REGULATION NO. 62

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL COMMISSION

REGULATIONS FOR EFFLUENT LIMITATIONS

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REGULATION NO. 62

REGULATIONS FOR EFFLUENT LIMITATIONS

62.1 AUTHORITY

The Water Quality Control Commission is directed by section 25-8-205 C.R.S., to promulgate control regulations to describe prohibitions, standards, concentrations, and effluent limitations on the extent of specifically identified pollutants that any person may discharge into any specific class of state waters.

Materials incorporated by reference are available for public inspection during normal business hours, or copies may be obtained at a reasonable cost, from the Administrator, Water Quality Control Commission, 4300 Cherry Creek Drive South, Denver, Colorado 80222. Unless expressly stated otherwise, materials incorporated by reference are those editions in existence as of the date this regulation is promulgated or revised by the Water Quality Control Commission and references do not include later amendments to or editions of the incorporated. All material incorporated by reference may be examined at any state publications depository library.

62.2 DEFINITIONS

See the Colorado Water Quality Control Act and the Water Quality Control Commission codified regulations for additional definitions.

- (1) "STATE WATERS" - means any and all surface or subsurface waters which are contained in or flow in or through this state, except waters in sewage systems, water in treatment works of disposal systems, water in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

62.3 REGULATIONS

- (1) These effluent limitations for the discharge of wastewaters shall pertain to all wastewater discharges, except storm runoff waters and agricultural return flows, into any state waters.
- (2) No person (except as provided in subparagraph (3) below) shall discharge any wastewaters into any state waters if such wastewaters violate any of the specific limitations contained in paragraph 62.4 below, applicable to such wastewaters, unless the discharge is covered by a discharge permit providing for compliance with the effluent limitations, according to a planned schedule. Violations occur when measured parameters exceed those limits indicated in 62.4(1).

- (3) At such time as effluent limitation guidelines are promulgated by the commission for any industry pursuant to section 25-8-205(2)(d) C.R.S., such industry shall be subject to those guidelines and shall not be subject to effluent limitations set forth below in paragraph 62.4. If the Commission has not so promulgated effluent limitation guidelines for any particular industry, but that industry is subject to effluent limitation guidelines promulgated by the United States Environmental Protection Agency pursuant to the Federal Water Pollution Control Act of 1972, the effluent from these industries shall be subject to the applicable EPA guidelines and shall not be subject to the effluent limitations of paragraph 62.4 below.
- (4) The effluent limitation set forth below, or promulgated according to subparagraph (3) above, are also subject to being superseded if augmented when it is found that stricter limitations are required in order to insure that water quality standards are maintained.

62.4 SPECIFIC LIMITATIONS FOR THE DISCHARGE OF WASTES

(1) Numeric Limitations

PARAMETER	PARAMETER LIMITATIONS		
	7-Day Average <u>1/</u>	30-Day Average <u>2/</u>	Instantaneous Maximum <u>3/</u>
(a) BOD ₅	45 mg/l	30 mg/l	N/A
(b) Total Suspended Solids (TSS)	45 mg/l	30 mg/l	N/A
(c) CBOD ₅	40 mg/l	25 mg/l	N/A
(d) Residual Chlorine			0.5 mg/l <u>3/</u> , <u>6/</u>
(e) pH			6.0 - 9.0 s.u. <u>3/</u> , <u>4/</u>
(f) Oil and Grease			10 mg/l <u>3/</u> , <u>5/</u>

- 1/ 7-Day Average: The arithmetic mean of all samples taken in a 7-day period.
- 2/ 30 Day-Average: The arithmetic mean of all samples taken in a 30-day period.
- 3/ As determined by the results of any single grab sample.
- 4/ The pH shall remain at or between these values.

5/ A numeric effluent limit will be assigned in permits for discharges to surface waters, however, monitoring for a "visual sheen" will generally be required. Where a visual sheen is detected, the discharger will be required to collect a grab sample and have it analyzed for oil and grease. Monitoring for oil and grease may be required where there is a reasonable potential that oil and grease will be present in the effluent at concentrations at or above 10 mg/l.

6/ This limitation shall not apply to discharges to irrigation ditches.

Numeric limitations for fecal coliform shall be determined by the Division of Administration of the State Department of Public Health and Environment to protect public health in the state water to which the discharge occurs.

These numeric limits and sampling requirements have been set with the inherent variability of the analytical procedures taken into consideration.

(2) In addition to the above effluent limitations, the arithmetic mean of the values for effluent samples for CBOD₅, BOD₅ and TSS collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same time during the same period (85 percent removal). Where the permittee has demonstrated that the treatment facility is unable to meet the 85% removal requirement for a parameter and the inability to meet the requirement is not caused by excessive infiltration, as defined in 40-CFR 35.2005(b)(16), a lower percent removal requirement or a mass loading limit may be substituted provided that the permittee can demonstrate that the provisions of 40 CFR 33.103(d) can be met.

(3) The numeric limitations for TSS (62.4(1)(b)) may be adjusted for waste stabilization ponds which treat domestic waste provided that (1) the waste stabilization ponds are the principal process used for secondary treatment; and (2) the facility is designed to achieve the solids removal possible with best waste stabilization pond technology. Best waste stabilization pond technology is defined as that design criteria for ponds currently in effect as adopted by the Water Quality Control Commission. Since this criteria will be upgraded periodically, any municipality not in conformance with the approved design criteria will be given an opportunity to establish a reasonable implementation schedule given due consideration to design, construction, and financial capability of municipality. The adjusted limitations shall be as described below:

Treatment Type	7-Day Average 1/	30-Day Average 2/
Non-aerated Waste Stabilization Ponds	160 mg/l	105 mg/l

Aerated Waste Stabilization Ponds	110 mg/l	75 mg/l
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In addition, where adjusted TSS limitations are given, the 85 percent removal requirement for TSS shall be waived.

- (4) The numeric limits for pH for domestic wastewater treatment facilities may be adjusted to values outside of the limits in section 1, above, where inorganic chemicals are not added to the waste stream as part of the treatment process and where industrial contributions do not cause the pH to be less than 6.0 s.u. or greater than 9.0 s.u..
- (5) For the purpose of enforcement of the effluent limitations for the discharge wastes set forth in paragraph 62.4(1) above, sampling of waste discharges shall be made prior to any admixture of waste discharges with the receiving water. All new discharges, constructed after the effective date of this regulation, shall be constructed so designed or modified that a sample of the effluent can be obtained at a point after the final treatment process and before discharge to state waters.

If samples for BOD₅, CBOD₅ or TSS are taken at the outfall of a final quiescent pond, with a detention time of at least 48 hours, the sample may be a grab sample. In all other plants which cannot meet this requirement effluent samples shall be a composite sample, comprised of a minimum of four grab samples taken approximately two hours apart.

- (6) Normally the numeric limits for BOD₅ will be applied, however, they may be replaced with the numeric limits for CBOD₅ (62.4(1)(c)) at the request of the permittee.

62.5 TECHNICAL DATA

- (1) Analytical and sampling methods utilized by the discharger shall conform to those designated in one of the following references or equivalent methods approved by the Director, Water Quality Control Division, Colorado Department of Public Health and Environment.
 - (a) Standard Methods for the Examination of Water and Wastewater. 18th edition, 1992 American Public Health Association/ Water Environment Federation, Washington, DC 20015).
 - (b) A.S.T.M. Standards, part 23, Water: Atmospheric Analysis. American Society for Testing and Materials (1916 Race St., Philadelphia, Pennsylvania 19103), 1970.

- (2) In no case will wastewaters be held to be in compliance with any of the limitations set forth in paragraph 62.4(1), above, where those wastewaters are diluted with other waters, unless such compliance would exist without such dilution.
- (3) The permittee must be able to show proof at the request of the Director, Water Quality Control Division, Colorado Department of Public Health and Environment, of the accuracy of any flow-measuring device used in obtaining data submitted in the discharge monitoring report. The flow-measuring device must indicate values within ten percent of the actual flow being measured.
- (4) If wastewater is returned to the source from which it was obtained, the numeric limitations specified in paragraph 62.4(1) above, may be in addition to the measured values of the same parameters in the incoming water except where an exceedance of a water quality standard would take place.
- (5) Any person discharging wastewater into any waters of the state shall have the option of establishing, to the continuing satisfaction of the division, a relationship between BOD₅ or CBOD₅ and COD (chemical oxygen demand), TOC (total organic carbon), or TOD (total oxygen demand) with respect to such effluent, and the COD, TOC, or TOD values so established shall be substituted for the BOD₅, or CBOD₅, values required under 62.4(1).

62.6 Reserved.

62.7 Reserved.

62.8 Reserved.

62.9 STATEMENT OF BASIS AND PURPOSE

A written statement of the basis and purpose of these amendments to the effluent limitation regulations justifying these amendments, has been prepared and adopted by the Commission. The written statement is hereby incorporated in these regulations by reference, in accord with C.R.S. 1973, 24-4-103, as amended.

62.10 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE

This Statement of Basis, Specific Statutory Authority and Purpose is adopted in compliance with Section 24-4-103: 25-8-202(1)(c) and (2); and 25-8-205, C.R.S.

The amendments allow substitution of the CBOD₅ test for the BOD₅ test contained in Section 10.1.3(1)(1) of the regulation. The Federal requirements for secondary treatment have been revised to permit the substitution. The BOD₅ pollutant parameter and its associated testing procedure have been widely used to determine the operating efficiency and effluent quality of wastewater treatment facilities. The oxygen demand for the BOD₅ parameter is primarily exerted through the bacterial oxidation of carbonaceous organic matter which results in a

carbonaceous biochemical oxygen demand or CBOD. However, an additional nitrogenous oxygen demand (NOD) may also be exerted through the action of nitrifying bacteria that oxidize ammonia nitrogen to nitrate in the two stage process known as nitrification. Secondary treatment requirements are based on controlling the oxygen demand due to the carbonaceous component of the organic material in the effluent because secondary treatment facilities can effectively remove carbonaceous organic material but may not consistently remove nitrogenous materials.

Problems have arisen with the use of the BOD₅ test in many municipal secondary facilities. When sufficient numbers of nitrifying bacteria are present in the test sample they can exert a significant NOD in the BOD₅ test that would not be exerted in the absence of nitrifying bacteria. Since many of the factors conducive to improving secondary bacteria, the BOD₅ test can erroneously indicate poorer effluent quality when, in fact, effluent quality and plant performance have actually improved. As a result of this, some facilities must be operated in a mode that inhibits the growth of nitrifying bacteria to improve BOD₅ test results and show compliance with secondary treatment requirements. These procedures usually result in poorer effluent quality, although BOD₅ test results indicate the opposite and may result in greater sludge production and higher operation and maintenance costs.

A nitrification inhibited BOD₅ test or CBOD₅ test allows the oxygen demand due to decomposition of carbonaceous organic matter to be expressed but eliminates any extraneous measurement of NOD.

A statistical analysis of effluent samples from well operated treatment plants indicated a CBOD₅ of 25 mg/l which corresponds to a BOD₅ of 30 mg/l. Therefore, the use of the CBOD₅ test and the corresponding 25 mg/l limit based on a 30-day BOD₅ average is not expected to allow an additional oxygen demand on receiving waters and no negative water quality impacts are anticipated.

FISCAL IMPACT STATEMENT

Since the substitution of CBOD₅ for BOD₅ will give a more accurate indication of true effluent quality in many instances, a positive indication of true effluent quality in many instances, a positive economic impact may be gained by municipal dischargers. As BOD₅ may falsely indicate poorer-than-actual quality, thereby forcing more intensive treatment and/or the potential for fines as a result of permit violations, this substitute methodology may result in lessened treatment expenses and/or decreased risk of permit violation.

As these regulations result in no potential impact upon beneficial uses and as costs may be saved, the Water Quality Control Commission finds this final agency action to be economically reasonable.

62.1 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE:

The provisions of 24-4-103; 25-8-202(1)(c) and (2); and 25-8-205, C.R.S. provide the specific statutory authority for consideration of the regulatory amendments proposed by this Notice.

The proposed amendments will change the definition of 7-day average and 30-day average contained in Section 10.1.4 of the regulation. Under current regulation three samples are required to establish a 7-day average or a 20-day average.

At this time, approximately 200 permit for smaller facilities require sampling less frequently (once/month or once/quarter) than the existing regulation requires. This was allowed in order to minimize sampling costs for smaller permittees.

In considering the proposed changes the Division examined the impact they would have on the affected permittees. Due to their inherent stability, effluent quality from lagoon facilities is fairly consistent. Therefore, one sample per month should give an accurate indication of effluent quality from lagoons and the change in the regulation will have little or no impact on the permittee. Small mechanical facilities, however, can exhibit large changes in process stability over a month. The proposed changes in the regulation could have a negative effect on mechanical facilities if the sampling requirements in their permits were to remain at the current level. In order to rectify this permits were to remain at their current level. In order to rectify this situation, permits for all small mechanical plants would be amended to include a sampling frequency of three times per 30 days. These changes would be reasonable as proper operation of mechanical facilities require frequent sampling for process adjustment.

Compliance monitoring done by the Division would be consistent with the sampling frequency in the permit of the affected facilities. In this way the results of the sampling series would be representative of the effluent quality from the facility during a 30-day period.

FISCAL IMPACT STATEMENT:

The change in the definitions for 30-day and 7-day average in 10.1.4 of the State Effluent Regulations will reduce State sampling costs for lagoon facilities and will increase sampling costs for permittees operating small mechanical plants. However, the increased sampling is consistent with that necessary for the proper operation of a mechanical plant treatment facility. Therefore, the Water Quality Control Commission finds this final agency action to be economically reasonable.

62.12 Statement of Basis, Specific Statutory Authority and Purpose:

The provisions of 24-4-103; 25-8-202(1)(c) and (2); and 25-8-205, C.R.S. provide the specific statutory authority for consideration of the regulatory amendments proposed by this Notice.

The proposed amendments are being made in order to: (1) restructure the format of the regulation so that it is consistent with that of other regulations, and (2) make the regulation consistent with the Federal Secondary Treatment Regulation (40 CFR 133.100-133.105).

The regulation, in its previous form, was not consistent with accepted for other Water Quality Control Commission regulations. This made it difficult to cite certain portions of the regulations in permits and other related documents. Under the amended regulation similar requirements, such as effluent limitations and sampling requirements, have been grouped together. Also the numeric order of the regulation has been adjusted such that it follows a logical progression. Actual deletions from the regulation, as well as major portions which are being moved, are denoted by slash marks. New portions of the regulations as well as those portions of the old regulation which have been moved, are denoted by capital letters.

The changes being made pursuant to the Federal Secondary Treatment Regulations are summarized below:

1. A provision has been added for a variance from the 85 percent removal requirement. The variance would only be granted where the permittee has; (1) quantified the amount of excessive infiltration/inflow (I/I) which is tributary to its collection system, (2) performed an analysis of the cost effectiveness of removing the excessive I/I versus treating it, and (3) eliminated any excessive I/I where it is shown to be cost effective to do so.
2. The two million gallon a day ceiling for allowing the adjusted total suspended solids limitations has been removed.

62.13 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE;
1994 AMENDMENTS.

The provisions of 24-4-103; 25-8-202(1)(c) and (2); and 25-8-205, C.R.S. provide the specific statutory authority for consideration of the regulatory amendments proposed by this Notice. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE:

A. Overview

In considering whether to adopt the changes proposed in this proceeding, the Commission considered the applicability of section 25-8-202(8)(a) of the Colorado Water Quality Control Act. This section, adopted in 1989, establishes requirements that must be met when the Commission adopts "rules more stringent than corresponding enforceable federal requirements." Although the existing Regulations for Effluent Limitations are more restrictive than federal secondary treatment requirements, these regulations were initially adopted in 1975. Section 25-8-206, C.R.S. explicitly validates all Commission regulations adopted prior to July 1, 1981.

Because the changes adopted in this proceeding operate only to make the existing effluent limitations requirements more lenient, the Commission does not believe that the requirements of section 25-8-202(8)(a) apply to the current actions. However, the Commission also believes

that there is sound scientific and technical evidence in the record that the revised statewide effluent limitations are necessary to protect the public health, beneficial use of water, and the environment of the state. These provisions establish technology-based requirements to establish a minimum level of wastewater quality to be met by dischargers throughout the state. The existing requirements, which are being marginally relaxed in this proceeding have been in place for nearly twenty years. During this time, compliance with these requirements has not proved to be a major technological or economic problem for dischargers.

B. Residual Chlorine

The applicability of the residual chlorine limitation has been modified so that it does not apply to discharges to irrigation ditches. This change has been made in response to a concern, raised by a permittee, that the 0.5 mg/l limit may require additional expenditures to dechlorinate the effluent in order to meet the limit. They also expressed a concern that compliance with the limit could potentially cause higher levels of fecal coliform in irrigation ditches.

C. Oil and Grease

Footnote 5 to the oil and grease effluent limitation has been revised. The previous "no visible sheen" provision in this footnote has been eliminated. Clarifying language has been added to provide that monitoring for a "visible sheen" generally will be required as a screening test, to determine when it may be necessary to analysis a grab sample for oil and grease.

D. Other Revisions

The format of the regulation has been modified to be consistent with that of other Commission regulations. The word "average" has been deleted from the last sentence of section 10.1.3, subsection 2, in recognition of the fact that the limits for total residual chlorine and oil and grease are instantaneous maximum limits. One outdated provision has been deleted from section 10.1.4. Also, the citations in section 10.1.5, subsection 1, have been updated to reflect current documents and/or agency addresses.

The Commission incorporated by reference in these rules documents that describe analytical and sampling methods to be used by the discharger. The documents are published by nationally recognized associations or organizations. A third document, prepared by the EPA, and proposed for incorporation by reference, was excluded in the final rule upon advice by the Attorney General's Office, because of potential conflicts with the Administrative Procedure Act.

The Commission added a new paragraph 10.1.1 to indicate that the documents incorporated by reference in these rules are not to include later amendments to those documents, and that copies of incorporated documents may be obtained from the Commission. This paragraph was added to comply with the requirements of § 24-4-103(12.5).

62.14 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE;
1995 AMENDMENTS.

The provisions of 24-4-103; 25-8-202(1)(c) and (2); and 25-8-205, C.R.S. provide the specific statutory authority for consideration of the regulatory amendments proposed by this Notice. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE:

The Commission added a new subsection 10.1.4(4) to the regulation. This change to the regulation is based on language found in the Secondary Treatment Regulations at 40 CFR Part 133.102. Adoption of this provision will allow the Division to consider a variance from the current pH limits of 6.0 - 9.0 s.u. in cases where inorganic chemicals are not added to the waste stream as part of the treatment process and where industrial contributions do not cause the pH to be less than 6.0 s.u. or greater than 9.0 s.u.. A variance for a discharges to waters classified for aquatic life would only be granted in situations where the instream pH would remain within the 6.5 - 9.0 s.u. water quality standard.

This provision will principally be applied to lagoon type treatment systems which, due to the effects of naturally occurring algae, often experience pH values of greater than 9.0 s.u..

62.15 **STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE;
1996 AMENDMENTS.**

The provisions of 24-4-103; 25-8-202(1)(c) and (2); and 25-8-205, C.R.S. provide the specific statutory authority for consideration of the regulatory amendment adopted by the Commission. The Commission also adopted in compliance with 24-4-103(4), C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE:

The Commission added a new sentence to section 10.1.1 to comply with the incorporation by reference provisions of the Administrative Procedure Act, section 24-4-103 (12.5)(c).

62.16 **STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
JULY, 1997 RULEMAKING**

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

The Commission has adopted a revised numbering system for this regulation, as a part of an overall renumbering of all Water Quality Control Commission rules and regulations. The goals of the renumbering are: (1) to achieve a more logical organization and numbering of the

regulations, with a system that provides flexibility for future modifications, and (2) to make the Commission's internal numbering system and that of the Colorado Code of Regulations (CCR) consistent. The CCR references for the regulations will also be revised as a result of this hearing.

62.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE;
NOVEMBER, 1998 RULEMAKING

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

The Commission revised the language in Section 62.4(3) in order to make it consistent with Section 133.103(c) of the federal secondary treatment regulation. The previous language was more restrictive than the language in the federal regulation. This change will provide the division with additional flexibility in determining the type(s) of improvements, such as effluent filters, that can be added to facilities while still allowing them to be eligible for the adjusted total suspended solids limitations.