DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 85 - NUTRIENTS MANAGEMENT CONTROL REGULATION

5 CCR 1002-85

[Editor's Notes follow the text of the rules at the end of this CCR Document.]

85.1 AUTHORITY

The Water Quality Control Commission is authorized 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 (including certified copies) may be obtained at a reasonable cost, from the Administrator, Water Quality Control Commission, 4300 Cherry Creek Drive South, Denver, Colorado 80246. Federal materials incorporated by reference are available online for free at: https://www.govinfo.gov/app/collection/cfr.

Unless expressly stated otherwise, materials incorporated by reference are those editions in existence as of the most recent date this regulation is revised by the Water Quality Control Commission and references do not include later amendments to or editions of the incorporated material.

85.2 APPLICABILITY

This regulation applies to point sources and nonpoint sources of nutrients to surface water as identified in this regulation.

85.3 SEVERABILITY

The provisions of this regulation are severable, and if any provisions or the application of the provisions to any circumstances is held invalid, the application of such provision to other circumstances, and the remainder of this regulation shall not be affected thereby.

85.4 DEFINITIONS

See the Colorado Water Quality Control Act, sections 25-8-101 et seq., C.R.S., and the Water Quality Control Commission codified regulations, 5 CCR 1002, for additional definitions.

(1) "BEST MANAGEMENT PRACTICE (BMP)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "state waters." BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(2) "DISADVANTAGED COMMUNITY" means a community that meets the criteria for disadvantaged community as defined in section 85.7.

(3) "EXISTING TREATMENT FACILITY" means any existing domestic wastewater treatment facility that commenced discharge or received PELs or site approval prior to May 31, 2012 for groundwater discharge, surface water discharge, or a non-discharging facility; or that applied for a Notice of Authorization for the application of reclaimed water prior to May 31, 2012. Existing treatment facilities also include non-domestic wastewater treatment facilities that commenced discharge to state waters prior to May 31, 2013.

(4) "LOCAL GOVERNMENT" means a city, town, county, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or a designated and approved management agency under section 208 of the federal Clean Water Act.

(5) "MS4" means a municipal separate storm sewer system.

(6) "MUNICIPAL SCREENER" means the average total annualized cost per household of pollution control including the cost of meeting the effluent limitations at 85.5 and other costs of complying with Regulation 85, divided by the median annual household income, on a percentage basis [i.e. (average total annual pollution control cost per household / median household income)*100].

(7) "NEW TREATMENT FACILITY" means any domestic wastewater treatment facility on a new site that is not an "existing treatment facility" and commences discharge to surface water, or receives PELs, after May 31, 2012, or any non-domestic wastewater treatment facility on a new site that is not an "existing treatment facility" and commences discharge to surface water or receives PELs after May 31, 2013.

(8) "NONPOINT SOURCE" means any activity or facility other than a point source from which pollutants are or may be discharged. For the purposes of this regulation, nonpoint source includes all runoff that is not subject to the requirements provided under Regulation #61, section 61.3(2)(e), (f), or (g), including those designated by the division under section 61.3(2)(f)(iii), whether sheet flows or collected and conveyed through channels, conduits, pipes or other discrete conveyances.

(9) "SITE" means as defined in Regulation #61, 5 CCR 1002-61.

(10) "STORMWATER" means stormwater runoff, snow melt runoff, and surface runoff and drainage.

85.5 SPECIFIC LIMITATIONS FOR DISCHARGERS OF NUTRIENTS

The effluent limitations and stormwater management practices in this section shall be implemented in the Colorado Discharge Permit System (CDPS) and National Pollutant Discharge Elimination System (NPDES) permits authorizing the discharge to surface water beginning no sooner than July 1, 2013. Monitoring requirements are included in Section 85.6. All facilities should refer to section 85.6 regardless of the determination of applicable permit limits.

(1) Numeric Limitations for Domestic Wastewater Treatment Works (DWWTW)

(a) Existing Treatment Facilities:

(i) Exclusions

The numeric limits in subsections (iii)(a) and (b) below will not be included in CDPS and NPDES permits and will only be included in preliminary effluent limitations for Site Location and Design Approvals upon request and with a delayed effective date for the following categories of dischargers:

(A) Any DWWTW with a design capacity of less than or equal to 1.0 million gallons per day.

(B) Any DWWTW owned by a disadvantaged community.

(ii) Delayed Implementation of Effluent Limits

The numeric limits in subsections (iii)(a) and (b) below or division approved alternative or modified effluent limits consistent with 85.5(3)(b)(iv) or 85.5(3)(d) will be included in preliminary effluent limitations with a delayed effective date for Site Location and Design Approvals and will not be included in effluent limitations in CDPS permits prior to December 31, 2030 for the following categories of dischargers:

(A) Any currently permitted DWWTW subject to Watershed Protection Control Regulations 71-74 (5 CCR 1002-71, 5 CCR 1002-72, 5 CCR 1002-73, and 5 CCR 1002-74).

(B) Any existing permitted DWWTW with a design capacity of less than or equal to 2.0 million gallons per day.

(C) Any existing permitted facility discharging into low priority 8-digit hydrologic units code watersheds [Purgatoire - 11020010, Upper Arkansas-John Martin Reservoir - 11020009, Upper San Juan - 14080101, Upper Arkansas-Lake Meredith - 11020005, Upper White - 14050005, San Luis - 13010003, Chico - 11020004, Kiowa - 10190010, Middle South Platte-Sterling - 10190012, San Miguel - 14030003, Alamosa-Trinchera -13010002, McElmo - 14080202, Lower Gunnison - 14020005, Arkansas Headwaters - 11020001, Upper Yampa - 14050001, Upper Gunnison - 14020002, and Uncompahgre - 14020006].

(iii) All Others

For all Domestic Wastewater Treatment Works not identified in subsections (a)(i) or (ii) above and discharging prior to May 31, 2012 or for which a complete request for preliminary effluent limits has been submitted to the division prior to May 31, 2012, the following numeric limits shall apply:

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	1.0 mg/L	2.5 mg/L
(b) Total Inorganic Nitrogen as N[3]	15 mg/L	20 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(b) New Treatment Facility:

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	0.7 mg/L	1.75 mg/L
(b) Total Inorganic Nitrogen as N[3]	7 mg/L	14 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(1.5) Voluntary Incentive Program for Early Nutrient Reduction for Domestic and Non-Domestic Wastewater Treatment Works

(a) The commission has created a voluntary incentive program for permittees that voluntarily reduce phosphorus and/or nitrogen nutrient concentrations below concentrations allowed by Regulation #85 effluent limits. If a permittee meets the terms of the program, the incentive that they receive, is a discharge permit compliance schedule, in conformance with the requirements in 31.7(4)(d) of Regulation #31 and 61.8(3)(n) of Regulation #61, and associated federal requirements. The purpose of the compliance schedule is to provide additional time to meet future nitrogen and/or phosphorus effluent limits, limits derived from waste load allocations, or alternative effluent limits with specific conditions expected in the next update of Regulation #85.

(b) To participate in the voluntary incentive program, a permittee is required to submit a nutrient reduction plan and annual nutrient monitoring reports to the division.

(c) The voluntary incentive program is a performance based program. The program provides incentives for early reductions in nutrient concentrations below the concentrations allowed by the Regulation 85 effluent limits. If supported by the facts, the additional time provided under the compliance schedule would be beyond that which would otherwise be granted to a permittee not participating in the incentive program and would be based on additional effort made by the participating permittee to achieve early reduction of nutrients concentrations. The duration of the additional time in the discharge permit compliance schedule will be based on voluntary nutrient concentration reductions, as recorded in annual nutrient monitoring reports and submitted to the division. Participating permittees will begin accruing additional time for their discharge permit compliance schedules beginning on January 1, 2018 and ending on December 31, 2030.

(d) If the permittee qualifies, the division will include an extended permit compliance schedule with specific conditions expected in the next update of Regulation #85 for any permittee who, through participation in the voluntary incentive program, demonstrates success in reducing phosphorus and/or nitrogen nutrient concentrations below the concentrations allowed by Regulation #85.

(e) Nothing in this subsection (1.5) precludes the division from exercising its authority under section 25-8-307, C.R.S. to address public health emergencies or Regulation #61, section 61.8(8)(a)(iv) to address a division determination that the permitted activity endangers human health or the classified uses of state waters and can only be regulated to acceptable levels by permit modifications or termination. The division may exercise such authority with respect to participants in the voluntary incentive program, as well as other sources of nutrients, as may be appropriate.

(2) Numeric Limitations for Non-Domestic Wastewater Treatment Works

(a) The following effluent limits apply to non-domestic existing treatment facilities:

(i) Delayed Implementation of Effluent Limits

The numeric limits in section 85.5(2) will not be included in effluent limitations in CDPS permits prior to December 31, 2030 for any existing permitted facility discharging into low priority 8-digit hydrologic units code watersheds [Purgatoire - 11020010, Upper Arkansas-John Martin Reservoir - 11020009, Upper San Juan - 14080101, Upper Arkansas-Lake Meredith - 11020005, Upper White - 14050005, San Luis - 13010003, Chico - 11020004, Kiowa - 10190010, Middle South Platte-Sterling - 10190012, San Miguel - 14030003, Alamosa-Trinchera - 13010002, McElmo - 14080202, Lower Gunnison - 14020005, Arkansas Headwaters - 11020001, Upper Yampa - 14050001, Upper Gunnison - 14020002, and Uncompahgre - 14020006] except for dischargers that are discharging effluent concentrations of TN or TP that are greater than 53 mg/L and 6 mg/L, respectively.

(ii) All Others

The following effluent limits apply to non-domestic existing treatment facilities not covered by the delay provided in section 85.5(2)(a)(i):

(A) Non-domestic dischargers with a Standard Industrial Classification code in the Major Group 20 (SIC 20).

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	10 mg/L	25 mg/L
(b) Total Inorganic Nitrogen as N[3]	20 mg/L	27 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(B) Any other non-domestic dischargers for which the division has determined, based on credible information that the facility is expected, without treatment for nutrients, to discharge total inorganic nitrogen or total phosphorus concentrations to surface waters in excess of the following effluent limits.

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	1.0 mg/L	2.5 mg/L
(b) Total Inorganic Nitrogen as N[3]	15 mg/L	20 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(b) The following effluent limits apply to non-domestic new treatment facilities:

(i) Non-domestic dischargers within SIC 20.

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	5 mg/L	13 mg/L
(b) Total Inorganic Nitrogen as N[3]	10 mg/L	20 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(ii) Any other non-domestic dischargers for which the division has determined, based on credible information that the facility is expected, without treatment for nutrients, to discharge total inorganic nitrogen or total phosphorus concentrations to surface waters in excess of the following effluent limitations.

PARAMETER	PARAMETER LIMITATIONS	PARAMETER LIMITATIONS
	Annual Median[1]	95th Percentile[2]
(a) Total Phosphorus	0.7 mg/L	1.75 mg/L
(b) Total Inorganic Nitrogen as N[3]	7 mg/L	14 mg/L

1 Rolling Annual Median: The median of all samples taken in the most recent 12 calendar months.

2 The 95th percentile of all samples taken in the most recent 12 calendar months.

3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

(3) Additional Provisions Applicable to Domestic and Non-Domestic Wastewater Treatment Works

(a) Compliance Schedules

A permit shall not be issued which allows a violation of the provisions of this control regulation unless it contains a schedule of compliance requiring specific steps needed to modify or install treatment facilities, operations or other measures, and deadlines for completion of those steps. Factors that the division shall consider in developing the deadlines to be included in a compliance schedule, based on information that may be provided by the permittee or is otherwise known, shall include:

(i) Availability of resources needed to modify or install treatment facilities, adjust operations or other measures, including any in-house resources, the availability of consultants and contractors in the area with the appropriate expertise, and the availability of financing for any identified facility construction or other capital project, including the Water Pollution Control Revolving Fund;

(ii) Current conditions at the site, including existing treatment processes, the physical characteristics of the property, and the layout of the facility on the property;

(iii) Sufficient time for operational startup, new plant optimization, and operator training;

(iv) Factors identified by the permittee that might significantly affect the time necessary to complete one or more of the steps necessary to attain compliance;

(v) Sufficient time for the permittee to execute and implement a trade pursuant to section 85.5(3)(d);

(vi) Sufficient time in the event the permittee undertakes a pilot project to develop and/or test new treatment technology for reduction of total inorganic nitrogen or total phosphorus; and

(vii) Other site specific factors affecting the cost and timing of construction activities.

(b) Exceptions

The numerical effluent limitations set forth in sections 85.5(1)(a)(iii), 85.5(1)(b), and 85.5(2) shall not apply under the following circumstances:

(i) Where a discharger demonstrates to the satisfaction of the division that its discharge is unlikely to cause or contribute to ambient nutrient concentrations in its receiving waters that exceed the relevant numeric levels for total phosphorus and total nitrogen set forth in section 31.17 of Regulation #31;

(ii) Where noncontact cooling water discharges contain nutrients (phosphorus or nitrogen) and nutrients in the discharge originate from the receiving water as intake water or through use of chemicals shown to be necessary for proper operation of the cooling tower;

(iii) Where discharges consist solely of ground water that is pumped for the purpose of dewatering a construction site or for building sumps so long as no phosphorus or nitrogen is added to the ground water being discharged; or

(iv) If effluent concentrations higher than the applicable numerical limitations under this Control Regulation are adequate to achieve the total phosphorus and total nitrogen instream values set forth in section 31.17 of Regulation #31, then those alternative concentrations will apply as effluent limitations under Regulation #85 rather than the numerical limitations set forth in sections 85.5(1) and 85.5(2) hereof.

(c) Variances

(i) Variances from the numerical effluent limits set forth in sections 85.5(1)(a)(iii), 85.5(1)(b) and 85.5(2) of this control regulation may be granted by the division where it is demonstrated by the permittee to the division's satisfaction that the nutrient reduction benefits of meeting the section 85.5 effluent limitations do not bear a reasonable relationship to the economic, environmental, or energy impacts resulting from meeting those effluent limitations. Meeting the effluent limitations in section 85.5 shall be presumed not to bear a reasonable relationship to the associated economic, environmental, or energy impacts where:

(A) Greater than 50% of the median annual TN or TP incremental load within the 8-digit Hydrologic Unit Code (HUC) watershed results from permitted process wastewater point source discharges, if

- for public sector entities, the Municipal Screener value is 2 or greater.

- for private sector entities, the required increase in treatment will cause more than 10 percent change in the entity's level of profitability, or similar effect on liquidity, solvency, and leverage.

(B) 20-50% of the median annual TN or TP incremental load of the 8-digit HUC watershed results from permitted process wastewater point source discharges if:

- for public sector entities, the Municipal Screener value is 1.5 or greater.

- for private sector entities, the required increase in treatment will cause 5 to 10 percent change in the entity's level of profitability, or a similar effect on liquidity, solvency, and leverage.

(C) < 20% of the median annual TN or TP incremental load of the 8-digit HUC watershed results from permitted process wastewater point source discharges if:

- for public sector entities, the Municipal Screener value is 1 or greater.

- for private sector entities, the required increase in treatment will cause less than 5 percent change in the entity's profitability, or a similar effect on liquidity, solvency, and leverage.

(ii) A request for a variance shall be accompanied by proposed alternate effluent limits that represent the highest degree of nutrient removal that is consistent with the reasonable relationship test.

(iii) Variances shall be granted, denied, or revised as appropriate at the time of permit issuance or renewal.

(d) Nutrient Trading

(i) Point Source to Point Source Nutrient Trading. The numerical effluent limitations set forth in sections 85.5(1)(a)(iii), 85.5(1)(b) and 85.5(2) may be modified for individual discharge permits pursuant to a trade of nitrogen or phosphorus between point sources where the division has determined that the trade will result in equal or better instream water quality for that parameter at all locations and at all times.

Point source to point source nutrient trades shall be based on a 1:1 ratio.

(ii) Nonpoint Source to Point Source Nutrient Trading. The numerical effluent limitations set forth in sections 85.5(1)(a)(iii), 85.5(1)(b) and 85.5(2) may be modified for individual discharge permits pursuant to a trade of nitrogen or phosphorus credits from a nonpoint source to a point source on a stream segment or watershed basis where the division has determined that the trade achieves a net water quality or environmental benefit and does not cause adverse localized impacts.

Nonpoint source to point source trades shall be based on a minimum 2:1 ratio, but may be revised based on site-specific data that demonstrates a lower ratio achieves the criteria specified in the paragraph above.

(4) MS4 Permit Requirements for Nutrient Source Reductions

The following requirements, at a minimum, shall be incorporated into a CDPS Permit for discharges from a Municipal Separate Storm Sewer System (MS4) required to obtain a CDPS Permit pursuant to Regulation #61.

(a) Public education and outreach on stormwater impacts associated with nutrients. The MS4 permittee must develop, document, and implement a public education program to reduce water quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges and distribute educational materials or equivalent outreach to targeted sources (e.g., residential, industrial, agricultural, or commercial) that are contributing to, or have the potential to contribute, nutrients to the waters receiving the discharge authorized under the MS4 permit.

CDPS Permits shall authorize MS4 permittees to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, target and provide outreach that addresses sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittee's discharge(s).

(b) Pollution Prevention/Good Housekeeping for Municipal Operations associated with nutrients. The permittee must develop and implement a municipal operations program that has the ultimate goal of preventing or reducing nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations.

Written procedures for an operation and maintenance program to prevent or reduce nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations shall be developed. The program must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program.

CDPS Permits shall authorize MS4 permittees to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, and target sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittees discharge(s).

(5) Nonpoint Source Discharges

(a) Best Management Practice Implementation

(i) Governmental entities, individuals, corporations, partnerships, associations, agencies, and other entities with responsibility for activities or facilities that cause or could reasonably be expected to cause nonpoint source nutrient pollution of waters are encouraged to adopt and implement/install BMPs to the maximum extent practicable to reduce nutrient loads from such sources.

(ii) Agricultural operations that apply supplemental nutrients as part of crop production activities are encouraged to develop and implement nutrient management plans to the maximum extent practicable to reduce nutrient loads from such sources. Nutrient planning should be based on current soil, manure, and plant tissue test results developed in accordance with guidance or industry practice, such as that developed or recognized by Colorado State University.

(iii) The choice of which type of voluntary nonpoint source control measures shall be made by the entities identified in paragraphs (i) and (ii) above.

(iv) The division shall collaborate with owners/operators of agricultural operations in pursuing incentive, grant, and cooperative programs to control nonpoint source pollution related to agricultural and silvicultural practices.

(b) Public Information and Education

(i) The division and entities identified in Section 85.5(5)(a)(i) are encouraged to develop and implement a public information and education program. This program will focus on the prevention of pollution from sources that could be mobilized from present and future activities as well as measures that could abate known nonpoint source pollution. Areas for abatement include, but are not limited to, general agricultural and silvicultural practices, landscaping activities, and other nonpoint sources of nutrients.

(ii) The program will be consistent with the voluntary, incentive-based approach and focus on the general public, and agricultural and local government sectors.

(c) Additional Nonpoint Source Actions

(i) During the triennial review of this control regulation, the division shall report to the commission on the progress implementing the activities addressed under this section.

(ii) Pursuant to section 25-8-205(5), C.R.S., the commission may consider adopting, in consultation with the commissioner of agriculture, control regulations specific to agricultural and silvicultural practices if the commission determines that demonstrated sufficient progress has not been maintained in agricultural and silvicultural nonpoint source nutrient management.

85.6 MONITORING REQUIREMENTS

(1) Monitoring requirements are established by this Control Regulation to evaluate the effectiveness of this Control Regulation and to determine the sources and load of nutrients at selected locations, and eventual implementation of appropriate and necessary source controls.

(2) Point Source Monitoring - Process Wastewater Dischargers

(a) Applicability. The requirements of this section apply to all DWWTW including federal facilities, and to any non-domestic dischargers in SIC Major Category 20 or that are identified by the division pursuant to section 85.5(2), except that facilities that are excluded from effluent limits as described in Section 85.5(1)(a)(i) are only required to conduct effluent monitoring as described below in Section 85.6(2)(b)(i). Facilities that discharge to lakes may have modified monitoring requirements.

(b) Nutrient Monitoring Program: Facilities identified in subsection (2)(a), above, shall develop, implement, and document a routine water quality monitoring program. The monitoring program shall be designed to characterize the load (coincident flow and concentration) of nutrients in the discharge, the concentrations in the receiving water above the discharge, and the load of nutrients at selected locations in the rivers and streams below the discharge. The monitoring program shall include the following information:

(i) Effluent Monitoring:

(A) Locations: Sampling for nutrients is required in the effluent before it is discharged into the receiving water body at the location where monitoring is performed to satisfy other CDPS and NPDES permit requirements.

(B) Parameters: At a minimum, sufficient data shall be collected to calculate TN, TIN, and TP loads. Samples of treated effluent shall be analyzed for total nitrogen (or the components to calculate total nitrogen such as total Kjeldahl nitrogen plus nitrate-nitrite), the components needed to calculate total inorganic nitrogen (typically ammonia, nitrate, and nitrite), and total phosphorus (or the components to calculate total phosphorus). Daily average effluent discharge shall be collected at the same time as the nutrient concentrations are measured.

(C) Frequency: Samples shall be collected a minimum of six times a year (every two months) for minor discharges and monthly for major discharges. Should there be no discharge due to the plant being offline or other reasons, zero discharge will be reported for that monitoring event.

(ii) Stream Nutrient Monitoring:

(A) Locations: Sampling for nutrients is required in the receiving water body:

- upstream of the discharge; and

- at the closest active Colorado Division of Water Resources or United States Geological Survey (USGS) gaging station with daily flow available throughout the year downstream of the discharge’s mixing zone; or

- In lieu of the closest downstream Division of Water Resources or USGS gaging station, facilities may take part in collaborative watershed-based monitoring efforts if the parameters and frequency follow sections (B) and (C) below.

(B) Parameters: At a minimum, samples shall be analyzed for total inorganic nitrogen, total nitrogen (total Kjeldahl nitrogen plus nitrate-nitrite, or the components to calculate total nitrogen) and total phosphorus (or the components to calculate total phosphorus). Daily streamflow records will be collected where an established gaging station is present. Where an established gaging station is not available, an alternative streamflow calculation methodology may be approved by the division.

(C) Frequency: Samples shall be collected a minimum of six times a year (every two months) for minor discharges and monthly for major discharges.

(iii) Lake/Reservoir Monitoring: RESERVED

(iv) Timing: Entities shall commence data collection no later than March 1, 2013. Data collection will continue through December 31, 2030.

(3) Data Quality Requirements

(a) The entities collecting the samples will document, and make publicly available the sampling methods, analytical methods, method detection limits, required field condition and physical parameters to be recorded at each sampling event, and quality control and quality assurance protocols in a sampling and analysis plan.

(b) The information required under subsection (a) above, may be evaluated by the division for compatibility with the objectives of this section. Where the division identifies deficiencies in the protocols/methods being used to meet the objectives of subsection (a) above, the entities shall make appropriate revisions such that the division-identified deficiencies are addressed.

(c) All sampling and analysis shall be performed by the entities according to specified methods in 40 C.F.R. Part 136 (2022); methods approved by EPA pursuant to 40 C.F.R. Part 136 (2022); or methods approved by the division. The analytical method for all ambient monitoring conducted in accordance with this regulation shall be capable of reporting results and method detection limits using “sufficiently sensitive” methods for analyses of pollutants or pollutant parameters as required by this regulation.

All results equal to or greater than the MDL must be reported for ambient samples. The analytical method for all effluent monitoring conducted in accordance with this Regulation shall be capable of reporting results at or below the practical quantitation limit (PQL).

(d) The permittee shall submit a certification to the division that the sampling and analysis plan is in place and that monitoring is taking place. This certification is due to the division by 6 months after permit issuance or by March 2013 if the permit was in place prior to March 2013.

(4) Nonpoint Source and Unpermitted Point Source Monitoring

(a) Entities responsible for nonpoint sources and unregulated point sources of nutrients are encouraged to monitor and assess surface water resource quality as identified in Section 85.6(2) to determine the extent and magnitude of nutrient impacts. In addition, the commission recognizes state water conservation, water conservancy, and special irrigation districts as entities that monitor and assess surface water resource quality and encourages making this data publicly available for use in nonpoint source management efforts.

(b) The division shall collaborate with these entities in developing and implementing a nutrients nonpoint source monitoring program to meet the requirements of this control regulation.

(c) Future monitoring activities are encouraged to coordinate with point source nutrient monitoring, the Colorado Agricultural Water Quality Program at the Colorado Department of Agriculture, and other relevant local, state, and federal monitoring efforts.

(d) The responsible entities are encouraged to identify potential funding sources and pursue options for monitoring in areas that do not have a current or future nutrient monitoring program.

(5) Availability and Reporting of Data

All data collected under Section 85.6 shall be maintained by the facility for 5 years after submission in an electronic form. All data collected pursuant to this control regulation shall be submitted to the division by April 15th of each year. The submission shall include geographic location of sampling, CDPS or NPDES permit number (if appropriate), name and identification of the stream flow gage, as follows:

(a) In electronic data deliverable as specified for receipt by the division; or

(b) Electronic submission to an alternative publicly available data repository. If this option is selected, the facility must notify the division by April 15 and the division will make all relevant data accessible to the public.

85.7 DISADVANTAGED COMMUNITIES

(1) Disadvantaged community (“DAC”) means a community that has a population of 10,000 or less and meets the required combination of primary and secondary factors specified in section (3) below.

(2) For purposes of determining whether a community meets the definition of a disadvantaged community, the following definitions apply:

(a) “10-YEAR CHANGE IN POPULATION” means the average annual change for a location spanning ten years.

(b) “ASSESSED VALUE/HOUSEHOLD” means taxable resources on a household basis.

(c) “COMMUNITY MEDIAN HOUSEHOLD INCOME” means data that divides local households into two parts with half earning more than the median income and the other half earning less. An income survey completed for another state or federal program can substitute for data that is determined to be unreliable or unavailable.

(d) "COMMUNITY MEDIAN HOME VALUE" means data that divides the value distribution of homes into two parts with half of the homes falling below the median value and half falling above the median value. When data is unreliable or unavailable, the county assessor's list of homes can be substituted.

(e) "COUNTY 10-YEAR CHANGE IN JOBS" means the increase or decrease in total jobs which is comprised of wage and salary jobs as well as self-employed proprietor jobs.

(f) "COUNTY MEDIAN HOUSEHOLD INCOME" means data that divides county households into two parts with half earning more than the median income and the other half earning less than the median income.

(3) A community that meets the required combination of primary and secondary factors as specified below is a disadvantaged community for purposes of this Regulation:

Primary and Secondary DAC Factors

Primary Factors	Benchmark
P1 Community Median Household Income (MHI)	Less than or equal to 80 percent of the state MHI
P2 Community Median Home Value (MHV)	Less than 100 percent of the state MHV
P3 County 10-Year Change in Jobs	Loss in total jobs in the county over a 10 year period
Secondary Factors	**Benchmark**
S1 County Median Household Income (MHI)	Less than or equal to 80 percent of the state MHI
S2 10-Year Change in Population	Community has lost population over a ten year period
S3 Assessed Value/Household	Community's total assessed value per household is less than the median Colorado municipality assessed value per household

DAC Scenarios

Scenario	Primary Factors	Results	Secondary Factors	Results
1 (P1) MHI and	(P2) MHV or (P3) Change in Jobs	DAC	Unnecessary	
2 (P1) MHI Only	Neither (P2) MHV nor (P3) Change in Jobs	Test secondary	Meet at least two of three	DAC
3 (P1) Unreliable MHI but	Both (P2) MHV and (P3) Change in Jobs	Test secondary	Meet at least two of three	DAC

(4) At the time of submitting a permit application, a community may request that the division make a determination of whether or not the community is a disadvantaged community.

(5) In the event a community's primary or secondary factor data does not represent recent, significant economic distress, or a scenario is marginally disqualifying, a business case may be presented for determination of disadvantaged community status. The business case should be qualitatively based on the factors the community has determined as not reflective of the community's current socio-economic condition. The business case should be submitted to the division, who will review the business case regarding the disadvantaged community status. The division will determine whether the business case presented provides compelling evidence that the community is a disadvantaged community.

85.8 – 85.14 RESERVED

85.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MARCH 12, 2012 RULEMAKING, FINAL ACTION JUNE 11, 2012; EFFECTIVE DATE OF SEPTEMBER 30, 2012

The provisions of sections 25-8-202; 25-8-205; 25-8-304; 25-8-401; 25-8-402; and 25-8-501, C.R.S., provide the specific statutory authority for the adoption of this Control Regulation. The Commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

I. Overview

In this rulemaking hearing, the Commission has taken two major actions as part of a coordinated strategy to address current and potential future nutrient pollution of Colorado surface waters.

First, the Commission has adopted a new section 31.17 in the Basic Standards and Methodologies for Surface Water, Regulation #31, to address nutrients. Section 31.17 establishes interim numerical values for phosphorus, nitrogen and chlorophyll a that are deemed to be suitable for the protection of identified categories and subcategories of classified uses of Colorado surface waters. The adoption of the interim phosphorus, nitrogen and chlorophyll a values in section 31.17 is the culmination of a decade-long effort, involving hundreds of hours of staff time and numerous work group meetings with dozens of stakeholders. These numerical values identify levels that the currently available scientific information indicates would be protective of the corresponding categories of beneficial uses. However, in this proceeding the Commission is not determining for which specific waters it may be necessary and appropriate to adopt standards based on these numerical values.

Second, the Commission has adopted this new Nutrients Management Control Regulation, Regulation #85. This new control regulation establishes numerical effluent limitations for many domestic wastewater treatment plants and industrial wastewater dischargers that are likely to have significant levels of nutrients in their discharges. It also describes requirements for other point source dischargers and voluntary steps for nonpoint sources to address nutrients.

Finally, it establishes monitoring requirements for point source dischargers and a program aimed at monitoring of surface waters for nutrients and related parameters. This effort is geared toward better characterizing nutrient sources, and current nutrient conditions, to help inform future regulatory decisions regarding nutrients.

The Commission has determined that the adoption of the requirements set forth in Regulation #85 are necessary to protect the public health, beneficial uses of Colorado waters, and the environment of the state, based on sound scientific and technical evidence in the record. As part of the overall nutrients management strategy described here, the Commission has decided to divert from its usual practice of adopting numerical criteria in Regulation #31 and then, in subsequent hearings to review individual basin standards, broadly applying those values as segment-specific water quality standards throughout the State. Rather, the Commission believes that Colorado will proceed faster and more expeditiously by focusing the primary control efforts over the next decade on the technology-based approach described below and set forth in this new Nutrients Management Control Regulation. However, section 31.17 includes provisions that identify limited circumstances where the interim numerical values being established may be applied in the adoption of segment specific water quality standards during the next ten years. No new or revised water quality standards are established by this current rulemaking action.

In January 2011, the Commission decided to delay this rulemaking until March 2012 to allow time for the completion of a statewide cost-benefit analysis study. Benefit-cost ratios were developed at a sub-basin level (Manageable Unit) based on the assumption that all non-exempt wastewater treatment facilities (WWTFs) in each Manageable Unit would have to comply with Tier 1, 2, or 3 effluent limits. The Commission adopted Tier 1 effluent limits in Regulation #85 for existing WWTFs and Tier 2 effluent limits for new WWTFs. Tier 3 effluent limits were based on each regulated facility meeting effluent limits based on the interim numeric nutrient values. The benefit-cost ratios developed for each Manageable Unit were aggregated into a benefit-cost ratio for the seven major river basins. The statewide benefit-cost ratio for Tier 1 effluent limits is 0.80:1; for Tier 2 effluent limits is 0.47:1, and for Tier 3 effluent limits is 0.13:1. The Commission decided to provide a 10 year delay in application of the effluent limits for low priority watersheds and facilities smaller than 2 mgd; therefore, the costs and benefits identified in the C-B Study would both be reduced and the benefit-cost ratio for Tier 1 would not be expected to change appreciably.

Information from the Cost-Benefit Study (C-B Study) conducted by CDM on behalf of the Colorado Water Resources and Power Development Authority (Water and Power Authority) and the Commission was considered throughout the development of the regulatory proposal. The Regulation the Commission is adopting is a variation of the noticed proposal that reflects changes made after considering information from the Cost-Benefit study. This included use of information in the emerging report to recast the effluent limits, to increase the design capacity flow at which an existing facility owner is excluded from the effluent limits from 0.1 MGD to 0.5 MGD, and to provide for a delay in the applicability of the effluent limits for facilities with a design capacity of 2 MGD or less.

The Commission supports the proposed effluent limits despite a benefit-cost ratio lower than 1:1 for a number of reasons. The C-B Study identified areas where quantification of benefits was not possible due to lack of data, such as the value people assign to recreational activities such as camping and watchable wildlife. The C-B Study determined quantitative benefits as a result of increased sport fishing in state waters. There was no determination (qualitative or quantitative) as to the benefit of the reduced nutrient concentrations on aquatic life as a whole, such as native plains species, endangered species, and macroinvertebrates. Therefore, such benefits were either considered qualitatively or not at all, and are not reflected in the benefit-cost ratios. Finally, several provisions included in Regulation 85 provide opportunities to temper the cost of compliance in site-specific circumstances beyond those already taken into account in the C-B Study. These include:

- A ten-year deferral for: all existing domestic wastewater treatment facilities not located in identified priority watersheds and all existing domestic wastewater treatment facilities with a capacity of 2.0 MGD or less that are not otherwise excluded.

- Opportunities for point and nonpoint source trading to reduce overall compliance costs;

- Opportunities for cost-related variances and alternative effluent limitations;

- Opportunities for long-term compliance schedules that consider the economic challenges of meeting the new requirements.

The Commission has decided that this two-part strategy for addressing nutrients is the best current policy option to make effective progress in addressing nutrients management in Colorado at this time. The Commission believes that to rely on the usual standards-based approach alone (table value criteria, followed by segment-specific water quality standards, along with possible temporary modifications and discharger-specific variances, then assessment and listing decisions, total maximum daily load development, and then incorporation into discharge permits with compliance schedules) would result in substantially less progress in controlling nutrients in the next several years than will the technology-based approach set forth in new Regulation #85. At the same time, the Commission has retained the ability to use the new interim nutrient values established in Regulation #31 as the basis for the adoption of segment-specific water quality standards in appropriate limited circumstances. Although it will inevitably take a significant number of years for existing wastewater dischargers to accomplish the planning, financing and construction of facilities to meet the new Regulation #85 effluent limitations, that approach to implementation of nutrient controls is likely to be considerably more expeditious than that which would result from the delays and transaction costs associated with the traditional standards-based control efforts alone. Moreover, following the initial ten years of implementation of the provisions now being established the Commission will determine whether additional, more extensive standards adoption is necessary to address nutrient control needs that are not fully addressed by the technology-based requirements now being established.

II. Definitions

The Commission adopted definitions for several terms not already defined in statute. The definitions of the terms “BMP”, “MS-4” and “Stormwater” were taken from the Colorado Discharge Permit System Regulations (Regulation # 61); the definition of the term “disadvantaged community” was taken from the 2011 Water Pollution Control Revolving Fund and State Domestic Wastewater Grant Intended Use Plan; and the definitions of “local government” and “nonpoint source” were taken from the Cherry Creek Reservoir Control Regulation (Regulation # 72). The definition of “municipal screener” was taken from EPA’s 1995 “Interim Economic Guidance for Water Quality Standards.”

III. Specific Limitations for Dischargers of Nutrients

The Commission set mandatory requirements for selected existing and new domestic wastewater treatment works (DWWTW) and non-DWWTW (e.g., industrial facilities).

Discharges from DWWTW and certain industrial facilities are known to contain concentrations of total phosphorus and total inorganic nitrogen that are in excess of the effluent limits the Commission has established through this control regulation. For existing facilities, effluent limits for total phosphorus and total inorganic nitrogen were set based on “first level” biological nutrient removal (BNR) that would typically consist of a three stage process (single stages of anaerobic, anoxic, and aerobic zones). For new facilities, total phosphorus and total inorganic nitrogen effluent limits were based on enhanced BNR that would typically consist of a four or five stage process (multiple stages of anaerobic, anoxic, and/or aerobic zones). The evidence presented in support of the adoption of the interim numeric nutrient values in Regulation # 31 indicates that both total phosphorus and total nitrogen can contribute to water quality impacts. Therefore, basing the nutrient effluent limits on BNR technology, which reduces total phosphorus and total inorganic nitrogen concentrations, will ensure that progress is made to reduce the concentration of nutrients in Colorado’s high priority watersheds and that new facilities are discharging even lower concentrations of nutrients. The Commission does not intend the requirements for new facilities in subsections 85.5(1)(b) and 85.5(2)(b) to apply to expansions or other improvements to existing facilities in the same location.

Effluent limits were set for total phosphorus (TP) and total inorganic nitrogen (TIN). The Commission set limits for TIN rather than total nitrogen (TN) in recognition of the variable fraction of TN that includes “recalcitrant” dissolved organic nitrogen which is difficult or impossible to biologically treat. As a matter of policy, the Commission decided that the expectations for wastewater treatment using BNR should be based on the fraction of TN that can be reliably treated by biological means.

There were several factors that guided the Commission in setting the effluent limits and compliance statistics for total inorganic nitrogen and total phosphorus. First, there will be a substantial number of domestic wastewater treatment plants and a lesser number of industrial facilities that will be required to implement the effluent limits. The Commission found it necessary to find a balance between setting limits that would provide a significant reduction in TIN and TP concentrations and the need to set limits that each of the regulated entities can finance and which the constructed facilities can reasonably be expected to achieve. The Commission decided as a matter of policy to impose a TIN limit of 15 mg/L based on the recommendations in the decision support document, rather than the 10 mg/L concentration proposed by the Division, based on considerations including cost and feasibility. The effluent limits adopted by the Commission were established based on consideration of a variety of sources of information including peer reviewed studies of treatment plant performance, industry presentations on expectations for nutrient treatment, modeling results for typically used BNR processes, and a decision support document prepared by a group of contributing consulting engineers who volunteered to provide relevant information on treatment expectations for a wide range of facilities (e.g., size and geographic location) in Colorado. Several specific factors that affect the performance of a BNR facility were identified in these materials. The Commission's consideration of factors affecting BNR performance is described below.

- Temperature: New facility designs can accommodate normally occurring low wastewater temperatures found in Colorado and still achieve the required effluent limits. For existing facilities not currently designed for nutrient removal, low temperature may limit the ability of existing treatment plants to meet the proposed technology-based numeric nutrient limits and additional basin volume or other design adjustments may be required.

- Influent Wastewater Characteristics: Facilities should be able to meet the limits without the use of chemicals. Due to unusual circumstances, some facilities may choose to add chemical treatment capability as a factor of safety.

- Influent Wastewater Loading: Available literature that characterizes BNR facility performance does not identify the current loading as a percentage of design treatment capacity for the facilities cited. Under-loaded wastewater treatment facilities are better equipped to treat beyond the design expectations of the facility due to the ability to establish longer detention times and higher recycle ratios.

- Combined versus Separate Nutrient Treatment Processes: The literature did not address whether the studied facilities used combined or separate nutrient treatment processes. Separate nutrient treatment processes generally enable better removal than combined nutrient treatment processes.

- Compliance Statistics/Periods: Nutrients are not in and of themselves toxic and their impact on the water environment generally occurs over a longer period of time. Also, BNR treatment is subject to frequent upsets that may be caused by environmental extremes (e.g., abnormally low temperatures) or introduction of a pollutant to the wastewater influent that is toxic to the sensitive biota providing the nutrient removal.

The Commission found that there is no "formula" for characterizing the effluent concentrations that can be achieved by a well-designed and operated BNR facility.

The above factors played a large role in the Commission's determination of achievable limits that will result in Colorado making significant progress to reduce the discharge of nutrients to its waters from the identified classes of regulated point sources. The modeling work that the Division referenced in its basis for achievable BNR performance as well as the Decision Support Document submitted by the group of engineering volunteers affected the decision.

Regarding influent loading the Commission notes that the majority (approximately 80 percent) of the mechanical wastewater treatment facilities within Colorado receive flows and/or loadings at less than 60 percent of their design hydraulic capacity. These facilities are therefore positioned to provide a higher level of treatment than at design loadings but as the flow and loading to these facilities increases, the ability to remove nutrients may diminish or disappear. The Commission respects that municipalities and industries have planned growth and other economic activity around the availability of the existing facility design capacity and that such capacity should not be presumed to be available for removal of nutrients.

Regarding averaging period for effluent limits, the Commission established annual median and 95 th percentile compliance statistics. The Commission decided to require the limits to apply on a rolling basis so compliance will be determined based on the sample results for the most recent twelve months. This will provide a monthly check on the facility performance and ensure that the facilities are continuously operated. The Commission considered setting limits based on long term (annual/quarterly) averages but rejected that approach based on the fact that process upsets can result in relatively high effluent nutrient concentrations that may influence the average over several months.

The Commission finds that it is appropriate to set a companion limit to the annual median limit to ensure that BNR facilities are continuously operated. The Commission set such limits for total phosphorus and total inorganic nitrogen based on the 95 th percentile of the data for the previous 12 calendar months. This will allow no more than 5% (3 samples/year if sampling occurs weekly) of samples to exceed the numeric limit which will accommodate brief periods when facility performance deteriorates as is expected to occur with BNR facilities. These limits were set based principally on the ratio of annual 95 percentile to annual median data for several Colorado BNR facilities.

The Commission appreciates that some existing facilities have implemented BNR to remove both TP and TIN in advance of any regulatory requirement and recognizes that some of these facilities may not be able to comply with the adopted limits without making improvements. The Commission decided that it is not practical to consider individually all specific facilities in setting limits that are intended to apply to a large fraction of domestic mechanical treatment plants. Therefore, achievable limits were set based on three-stage BNR.

Unlike domestic wastewater treatment works that are known to discharge concentrations of total phosphorus and total inorganic nitrogen that are in excess of the effluent limits the Commission has established through this control regulation, industrial treatment facilities may or may not discharge nutrients in such concentrations. Certain categories of industrial dischargers are known to add significant levels of nutrients -- specifically, industrial dischargers that fall into Standard Industrial Classification Major Group 20. Accordingly, the Commission has included specific provisions that will subject those dischargers to the effluent limits in 85.5(1).

In addition, the Commission included provisions so that the Division has the authority to require other non-domestic dischargers to meet the established effluent limitations where it conducts an evaluation of the facility’s discharge and determines that the facility would have significant levels of nutrients in its discharge. This test is to be based on “credible evidence” (e.g., effluent concentration data for the facility or published information for an industrial sector), that would indicate whether the discharge is expected to exceed the applicable effluent limits without additional treatment. Where effluent data is used to make the determination, the Commission intends the term “credible evidence” in subsections 85.5(2)(a) and (b) to be interpreted in a manner that will result in the use of a reasonably robust set of data (e.g., not a single sample).

IV. Exclusions

At this time, as a matter of policy, the Commission decided to exclude DWWTW owners with a design capacity of less than or equal to 1 million gallons per day (MGD) and disadvantaged communities from the requirement to meet the effluent TP and TIN limits. The Commission found that it is appropriate to exclude disadvantaged communities from the requirement to meet the limits as the cost of BNR is likely beyond their means. The Commission chose to exclude lagoon systems of 1 MGD or less as these facilities would have to be entirely replaced to implement BNR in order to meet the effluent limits, at a much higher average cost.

Also, the Commission decided to exclude the remaining DWWTW mechanical facilities with a capacity of 1 MGD or less from the requirement to meet the nutrient effluent limits. Based on estimates on the record, the lagoon facilities of 1 MGD capacity or less, the disadvantaged communities, and the non-disadvantaged mechanical facilities with a design capacity of less than or equal to 1 MGD (269 facilities) comprise approximately 9.4% of the total flow at design capacity of all DWWTW and the mechanical facilities and lagoon facilities of greater than 1.0 MGD (95 facilities) comprise approximately 90.6% of the total flow at design capacity of all DWWTW. Therefore, the effluent limits will only apply to approximately 26% of the domestic facilities but will control 90% of the design flow for domestic facilities in the state. The Division expends considerable time and resources working with small communities, which can be time consuming given that these communities are usually dependent on outside resources for planning and operations that are relatively expensive or in short supply. The Commission finds that the level of effort, on the part of hundreds of the smallest communities and the Division to achieve compliance with the effluent limits is out of scale with the benefit to be achieved by addressing the small fraction of the total nutrient loading these communities contribute to Colorado's waters.

These exclusions may be revisited in future rulemakings and effluent limits may be reconsidered at that time if determined appropriate by the Commission as a matter of public policy.

V. Delayed Implementation of Effluent Limits

The Commission considered two possible options for narrowing the scope of the applicability of the Nutrients Control Regulation (Regulation #85):

Option 1: Modify the noticed proposal by providing a 10-year delay for DWWTW that have a design capacity of 2.0 MGD or smaller from being required to meet the effluent limits in Regulation #85.

Option 2: Modify the noticed proposal by limiting application of Regulation #85 to specific geographical areas based on: (1) areas where there are currently relatively high concentrations of nitrogen, phosphorus, or both; (2) areas where water quality is relatively good and the goal is to maintain that quality as the population increases; (3) areas where there is a high degree of urbanization and there are existing nutrient issues; (4) areas where population growth is predicted to substantially increase over the next 30 years; and (5) areas where the benefit:cost ratios as identified in the CDM Cost-Benefit Study (C-B Study) are the highest.

The Commission considered the impact of implementation of the regulation, particularly for smaller municipalities. Implementation of the current proposal would require 115 municipalities to install new or modify existing treatment to meet the proposed nutrient limits. Twelve (12) of these facilities would be on a ten year delay due to their location in basins with existing nutrient control regulations. Fifty (50) of the remaining 103 facilities have a design capacity of 2 MGD or less. Implementation of the regulation would be challenging for smaller entities, especially to take on a large scale construction project and finding qualified treatment plant operators. It will also be a challenge for the Division to take on the increased workload of permitting, facility design reviews, compliance oversight, and providing assistance to smaller facilities in all of these areas.

Information provided in testimony from the Division indicates that the most significant current nutrient impacts occur in highly urbanized areas such as the Front Range and in or downstream of the most urbanized areas of the West Slope. Also of concern are areas where existing water quality is good, and there are existing population centers that are predicted to experience significant growth. Information was provided regarding the areas of the state by hydrologic unit code where the amount of treatment plant capacity per square mile of non-federal land is the largest. The Commission finds that a treated wastewater flow per square mile indicator, rather than population per square mile, is a more appropriate indicator since it accounts for resident as well as non-resident (visitor)-based impacts. Taking non-residents into account is particularly important in areas that experience significant numbers of visitors, such as locations with a large tourist base (e.g., ski areas). These and other areas identified on the map are already developing and where there is good water quality and high predicted growth there is a real danger that increasing nutrient concentrations will significantly impact waters that flow through those communities. The Commission considers these watersheds to be a higher priority for additional protection from increasing nutrient loadings. Implementing Regulation #85 in these areas will provide reductions in nutrient loadings at the existing larger wastewater treatment facilities. This will provide an offset to increasing nutrient loadings, both from wastewater treatment facilities and stormwater runoff. It is critical to maintain waters that are of good quality in the face of significant growth. The watersheds where there is the largest treated wastewater flow per square mile outside of the urbanized areas are principally along the I-70 corridor and the urbanized areas of southwest Colorado. These areas also have existing low levels of nutrients and are expected to experience some of the largest percentage growth in the state and warrant implementation of Regulation #85 upon the next renewal of their permit.

The Commission determined that it is not appropriate to apply the delayed implementation option to industrial facilities in non-priority watersheds (geographic areas with a lower treatment plant capacity per square mile) where discharge data indicates that the effluent load discharged (pounds per million gallons (lb/MG)) is greater than the comparable load from a domestic facility with the same hydraulic design capacity. For the purpose of determining the expected load from a typical domestic facility the Commission chose the default loadings from the CDM Cost Benefit Study of 442 lb/MG total Kjeldahl nitrogen and 50 lb/MGl total phosphorus.

As a matter of policy the Commission has determined that a subset of existing facilities will receive a ten year delay before the effluent limits in Regulation #85 would be included in preliminary effluent limits or in their discharge permit. The Commission has decided to delay application of the Regulation #85 effluent limits for all existing domestic facilities that have a capacity of 2 MGD or less and for all domestic facilities and a subset of industrial facilities that do not discharge within a priority watershed.

As a matter of policy the Commission provided a ten year delay in the implementation of the nutrient effluent limits for TP and TIN for existing DWWTW and industrial dischargers in the Dillon, Cherry Creek, Chatfield and Bear Creek reservoir basins. These entities are required to meet effluent limits for total phosphorus that are at least as stringent as those required under this regulation and have invested tens of millions of dollars in treatment facilities, the vast majority of which do not use BNR. The Commission found that requiring these entities to meet the new effluent limits would necessitate installation of BNR for removal of TIN at significant additional cost. The Commission provided a ten year delay in order to provide time for these entities to plan for any additional measures needed to meet BNR-based requirements for nitrogen and phosphorus. Concerns were raised regarding whether Regulation #85 relaxed the requirements for existing or new facilities subject to an existing basin-specific Control Regulation, in instances where the phosphorus effluent limitations in this regulation would be less restrictive than requirements that already apply under the existing basin-specific Control Regulations. The ten-year delay does not affect existing or new facilities' requirements to comply with the effluent limitations and other provisions specified in an applicable Control Regulation.

In addition, due to concerns regarding the cost of compliance the Commission decided to delay the implementation of the effluent limits in section 85.5 until July 1, 2013 to provide the State and local governments time to explore options for financial assistance for wastewater treatment providers impacted by these regulations.

VI. Compliance Schedules

Given the challenge of implementing a BNR project for even the largest treatment facility owner, the Commission determined that it is appropriate to specifically recognize the factors to be taken into account by the Division in establishing a compliance schedule in a permit for this type of infrastructure project. Planning and construction of a BNR project is more complex than for other wastewater infrastructure projects such as a facility expansion. These projects are expensive and financing their construction and ongoing operation will likely require increases in user rates and the entity will need additional time to educate decision makers (Council/Board members) and to develop and present information to the ratepayers in support of the project. Also, these projects typically involve the addition of new treatment basins that had not been anticipated during the initial design of the facilities, therefore determining the right location can be challenging. Finally, these projects will require a higher level of operator expertise so significant time will be needed to train existing staff and/or to obtain new operators. The Commission recognizes that in many instances long-term compliance schedules will be needed for existing dischargers to complete these and other potential steps necessary to implement BNR treatment, including the execution and implementation of trades. In addition, in an effort to provide incentives for development of new technology that can reduce levels of total nitrogen and/or total phosphorus in an even more cost effective manner, the Commission included provisions to allow additional time in a compliance schedule for dischargers who undertake a pilot project to test new treatment technology. The Commission recognizes that there are provisions at subsection 61.8(3)(n) that require compliance schedules to ensure that compliance with an effluent limit is attained “as soon as possible.” The Commission intends the factors identified in subsection 85.5(3)(a)to be use to determine the length of time, as soon as possible, when compliance with the effluent limits can be attained. The Commission also intends that where multiple treatment facilities with a single operator are on the same permit renewal schedule, the Division will take that factor into account when developing the compliance schedule.

VII. Exceptions

The Commission provided exceptions to the requirement to meet the nutrient effluent limits for several situations where the discharge from a treatment facility is presumed to not have a significant impact on nutrient loads in the receiving waters or downstream reservoirs.

The Commission found it appropriate to make an exception for facility owners that demonstrate that the discharge from the wastewater treatment plant (i.e., without additional nutrient removal) will not cause the receiving water to exceed the interim numeric nutrient values for total nitrogen and/or total phosphorus in Regulation #31. This demonstration would have to be made based on a mass balance analysis using the following inputs:

1. Discharge at the design capacity of the facility;

2 Effluent quality based on the discharge quality predicted to be achieved at design flow;

3. Upstream flow equal to the low flow in subsection 31.9(1)(c); and

4. Upstream nutrient concentrations equal to the 50th percentile of the available data or an alternate value developed by the Division where representative upstream data are not available.

There may be situations where an entity can demonstrate that plant improvements which would result in a reduction in concentration of one or both nutrients to achieve the instream values (alternate effluent concentrations) would result in the instream values being attained. Where the alternate effluent concentrations are greater than the limit(s) in Regulation #85, an exclusion from one or both of the Regulation #85 limits is appropriate and these values would be included in the permit as enforceable limits.

At this time the Commission has no information upon which to determine the quantity of nutrients (nitrogen or phosphorus) that may be added to the discharge as a result of chemical use (e.g., to prevent scale formation in a cooling tower). The Commission applied an exception to discharges of noncontact cooling water that withdraw water from the stream receiving the discharge with the understanding that monitoring of flow, TP, and TIN will be required to determine the relative amount of nutrient (if any) that is added to the flow diverted from state waters. Monitoring of the inflow, discharge, and any nutrient in added chemicals would be required beginning November 1, 2012 and continue for a period of 24 months through October 31, 2014. A report summarizing all analytical results and the loads (lbs/day) in the inflow, the effluent, and added chemicals would be required to be submitted by February 28, 2015 in advance of the triennial review of Regulation #85. At the triennial review, the Commission, based on the amount of any nutrient added through chemical use, will determine whether it is necessary to control such loadings through imposition of numeric effluent limits or implementation of best management practices. The Commission has determined that this is an appropriate approach as it makes sense to determine the amount of nutrient that may be being added at these facilities before requiring effluent limits or other measures.

Similarly, the Commission provided an exception for discharges of ground water being pumped to draw down the ground water level. Typically this would apply to construction dewatering which is a temporary activity and to building sumps that usually discharge relatively small amounts of water. Normally these activities are pumping very shallow (alluvial) ground water that is connected to the receiving stream and any impact will be short-lived or minor.

The exception in section 85.5(3)(b)(iv) allows a less stringent effluent limit than would otherwise be required by Regulation #85 if the Regulation #31 numeric stream criteria would be satisfied. This exception will allow a discharger to implement interim measures to reduce nutrients under Regulation #85 prior to adoption of Regulation #31 stream standards in site specific water bodies, with the objective of allowing a discharger to more cost effectively design a treatment solution to meet the specific circumstances.

VIII. Variances

As part of this rulemaking, the Commission adopted subsection 85.5(3)(c) that describes the process and criteria for granting a variance and provides for the implementation of alternative effluent limits for TIN and TP in certain situations. For process wastewater discharges, a variance establishes an alternative effluent limit value for a specific point source discharge that takes the place of the technology-based effluent limit specified in section 85.5. During the term of the variance, all other effluent limits not specifically modified remain applicable. Variances ensure that the highest attainable level of nutrient water quality is achieved that is consistent with the reasonable relationship test. Variances must be reviewed at the time of permit renewal and may be revised, renewed or denied as appropriate.

Variances granted by the Division pursuant to this regulation affect only the requirement to meet the effluent limitations at 85.5. There is no presumption regarding whether a discharger-specific variance to a water quality standard, (pursuant to subsection 31.7 (4)), would be granted by the Commission. Consideration of such variances would only be considered after nutrient water quality standards are adopted for the segment.

Criteria for granting a variance: The Commission adopted a “reasonable relationship” test based on the Legislative declaration in the Colorado Water Quality Control Act, C.R.S. section 25-8-102(5): *the water quality benefits of the pollution control measures [shall] have a reasonable relationship to the economic, environmental, energy and public health costs*.

The reasonable relationship test relies on an evaluation of the total wastewater treatment cost (including the cost of meeting the section 85.5 effluent limits), the community's ability to pay, and the relative contribution of the current nutrient loading from the facility in the watershed where the discharge is located. In this way, this regulation establishes a more rigorous test for a variance where point sources contribute more of the nutrients in a watershed than unregulated sources, based on an evaluation of appropriate nutrient monitoring data.

Economic analysis: The Commission intends that the Division rely upon portions of EPA's *Interim Economic Guidance for Water Quality Standards* (EPA 1995) methodology for determining whether a specific pollution control measure results in "substantial impacts." For the reasonable relationship test, the Commission is not relying upon the portion of the EPA guidance that evaluates whether the impacts are "widespread".

For public sector entities, the economic evaluation depends on the calculation of the Municipal Screener (referred to in the 1995 Guidance as the "Municipal Preliminary Screener"). The Municipal Screener acts as an index of ability to pay and means the average total annualized cost per household of pollution control, including the cost of meeting the requirements of Regulation # 85, divided by the median annual household income:

$$\textit{Municipal Screener} = \frac{\textit{Average Total Annualized Pollution Control Cost per Household}}{\textit{Median Annual Household Income}}$$

Chapter 2 of the 1995 Guidance provides direction and explanation of how to calculate the Municipal Screener. A definition "Municipal Screener" was added at 85.4(5). The total pollution control cost per house shall relate to any given community or service area of a discrete wastewater utility, or in the case of a regional utility, individual utilities or entities having a customer relationship with a regional or consolidated collection and treatment agency. A larger Multiple Screener indicates that the community has a lower ability to pay.

For private sector entities, the economic evaluation depends on an assessment of the primary measure of profitability. The secondary measures of liquidity, solvency and leverage can be used to show a similar reduction in ability to pay. Chapter 3 of the 1995 Guidance describes how these factors are evaluated.

For both public sector and private sector entities the specific values adopted for different categories of facilities based on a policy choice in light of currently available information. If practical experience in implementing this regulation warrants, the Commission can consider revising these values in subsequent triennial reviews.

Relative Nutrient Contribution: The second part of the reasonable relationship test involves determining the relative contribution of the nutrient loadings within the 8-digit hydrologic unit code (HUC8) watersheds in which the discharge is located. The relative contribution is determined based on the percentage of the total incremental nutrient load that is contributed by permitted process wastewater point sources. The "incremental load" is the mass of nutrients generated within a watershed unit (e.g. HUC8), independent of the sources upstream from the watershed unit.

Stepwise Scale for Granting a Variance: The Commission has established tiered criteria for the Division to follow when granting a variance to the effluent limits contained in section 85.5 based on the reasonable relationship test. For public sector entities, these criteria relate the incremental load attributable to point sources to the municipal screener value. Where point sources are responsible for a greater portion of the majority of the TN or TP load, a higher Municipal Screener is necessary to qualify for a variance. Likewise, where they have a relatively small effect on the incremental load, a variance may be granted for a lower Municipal Screener. Since WWTPs can be optimized for treatment of one nutrient at the expense of the other, each nutrient is assessed separately and a different conclusion may be reached for TN than TP.

The first tier is for watersheds where more than 50 percent of the TN or TP load results from aggregated sources that are required to institute nutrient controls by this regulation. In this tier, for public entities, a Municipal Screener value of 2 or more is necessary to qualify for a variance from the TIN or TP limits at 85.5(1). For private sector entities, the required increase in treatment will cause a 10 percent or greater change in the entity's level of profitability, or have a similar effect on the entity's liquidity, solvency, and leverage.

As the aggregate point source responsibility decreases, for public sector entities, a lower Municipal Screener value qualifies the discharger for a variance. For private sector entities, the required changes in profitability and other measures also decline. At 20 percent or less responsibility for the TN or TP aggregate point source incremental load, a Municipal Screener value of 1 (or a 5 percent change in profitability) qualifies a discharger for a variance.

Selection of the Alternative Effluent Limits for Process Wastewater Dischargers: A request for a variance must be accompanied by proposed alternate effluent limits that represent the highest degree of nutrient removal that is consistent with the reasonable relationship test. During the term of the variance, it is the Commission's intent that the permit require progress towards meeting the alternative limit as quickly as feasible. Steps necessary to document that progress will depend on facts of a specific situation and the basis for the variance. In some cases, investigation of treatment technologies should continue; in others, it may require long-range planning for wastewater reuse, where allowed, or process modification.

IX. Trading

Point Source to Point Source Trading: The Commission established provisions for point source to point source trading with the understanding that the owner of an upstream facility would have to agree to reduce its loading in an amount equal to the load that a downstream facility will discharge in excess of that allowed under Regulation #85. Trading will be useful in many situations, particularly where a smaller downstream facility can receive a large increase in effluent concentration by a large upstream facility taking a relatively small reduction in effluent concentration below the effluent limit.

Nonpoint Source to Point Source Trading: The purpose of section 83.5(3)(d) is to establish an alternative that allows CDPS permit holders flexibility in achieving the concentration/load-based reductions in total phosphorus (TP) and total inorganic nitrogen (TIN) that would otherwise be achieved by the new effluent limits. The Commission anticipates that by allowing such voluntary water quality measures, it will: (a) Improve water quality and optimize the use of cost effective approaches to achieving and maintaining reduced nutrient loading; (b) Provide for point source nutrient concentration/loading reductions equal to, or greater than, the reductions resulting from the effluent limitations authorized by Regulation 85; (c) Provide for voluntary nonpoint source reductions and point source discharge reductions beyond those authorized by Regulation 85; (d) Encourage early point source nutrient load reductions and accelerated progress toward meeting pending numeric nutrient water quality criteria (Regulation #31); and (e) Encourage a watershed approach that achieves multiple environmental and economic benefits, such as wetland restoration or the implementation of management practices that improve water quality and aquatic habitat and health. The Colorado Pollutant Trading Policy (Policy) is intended to provide the Division with guidance in implementing section 83.5(3)(d). While the Policy does not allow for trading where there are technology-based effluent limits, that provision was based on a prohibition of trading against federal technology-based effluent limits. Because the effluent limits in Regulation #85 are state-only limits, the Commission finds that it is appropriate to allow trading. The Commission recognizes that nonpoint source to point source trading may require significant resources for implementation. Unless the Division receives additional resources for this purpose the Commission understands that review of trades, particularly those for nonpoint source to point source, may not occur expediently.

The Division recommends a nutrient trading ratio of 1:1 for point source to point source trades, and a minimum 2:1 ratio for nonpoint source to point source trades. The point source to point source ratio would be static, but the nonpoint to point source ratio could be revised based on site-specific data submitted to the Division for consideration.

The Commission realizes that permittees will be requesting the opportunity to develop trades as an offset for all or a portion of the reduction necessary to achieve the required instream benefit that would otherwise be achieved by meeting the Regulation #85 effluent limits based on an appropriate trading ratio. Since a trade is intended to replace all or a portion of infrastructure construction that would otherwise be required, the permittee will have to have developed enough information on the proposed trade (e.g., trading partner(s), location, planned/contracted NPS or PS reduction) at the time of application in order for the Division to determine an appropriate compliance schedule. This is necessary in order for the Division to have confidence that a trade can be implemented that will achieve the required reduction in nutrient loading to the receiving water in a time that is commensurate with that achievable through an infrastructure project. This is especially important for a nonpoint source trade as there is a greater unknown that the predicted reductions would be achieved.

X. Nutrient Source Reductions at MS4s

The Commission finds that it is an appropriate initial step for MS4 permittees to be required to address nutrients through public education and outreach and municipal operations programs. In accordance with the regulation, these requirements shall be incorporated into the CDPS Permit for discharges from MS4s that are required to obtain a CDPS Permit pursuant to Regulation #61. The Commission does not currently have adequate information to determine the relative contribution of nutrients from MS4 to state waters that would support an assessment of the need for controls beyond those identified above.

Public education and outreach regarding nutrients must include identification and targeting of nitrogen and phosphorus sources that are contributing, or have the potential to contribute, nutrients to discharges from the permitted MS4. Identification should include types of sources for which a reduction in nutrient discharges are likely to be obtained through education, and prioritization of sources for implementation of the education program.

The MS4 permittees' municipal operations programs should include reducing nitrogen and phosphorus sources, if any, in runoff from municipal operations. To meet this requirement, an MS4 permittee must evaluate its operations and facilities to identify sources of nitrogen and phosphorus discharges from the MS4 that can be controlled through implementation of structural and nonstructural pollutant control practices.

The Commission encourages MS4 permittees to participate in collaborative efforts to evaluate, identify, target and provide outreach that addresses types of sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittee's discharge(s).

This Control Regulation establishes requirements to characterize nitrogen and phosphorus contributions to state waters in discharges from MS4s. Based on review of the information that is provided, as well as information from potential future monitoring requirements, the Commission intends to revisit the substantive requirements for MS4s in future triennial reviews.

XI. Nonpoint Source Discharges of Nutrients

The Commission has determined that control of nonpoint sources of nutrients is an essential part of the protection of water quality and assigned uses within Colorado. Section 85.5(5) identifies entities with responsibility for activities or facilities that cause, or could be reasonably expected to cause, nonpoint source nutrient pollution and the need for implementation for nonpoint source controls. These activities include the areas of Best Management Practices, Public Information and Education, and Additional Nonpoint Source Actions as necessary nonpoint nutrient management activities. The Commission identified these nonpoint source controls as a means to make progress towards protecting existing or restoring impaired classified uses from nutrient pollutants.

A. Best Management Practice Implementation

Section 85.5(5) emphasizes that Best Management Practices (BMPs) are to be voluntarily implemented by entities responsible for nonpoint source nutrient pollutants. All applicable entities are encouraged to be active participants in reducing the impacts of nonpoint source nutrient pollutants through these efforts. The Commission will evaluate the implementation of BMPs during each triennial review of this regulation. Prior to each triennial review, the Division will request information from the responsible entities and other relevant stakeholders to determine the extent of implementation. In subsequent triennial reviews, the Division will request information to determine the effectiveness of voluntary BMP implementation.

The specific agricultural BMP of nutrient management planning is also encouraged to be implemented through this control regulation. The development of nutrient management plans for crop production operations are an important initial means of reducing nonpoint source nutrient impacts to surface and ground water resources. The Commission requests that the Division coordinate with the Colorado Department of Agriculture, U.S. Department of Agriculture Natural Resources Conservation Services, and Colorado State University Extension Service to develop a process to identify, implement, and verify the application of this specific BMP. The Commission also requests that the Division collaborate with owners/operators of agricultural operations in pursuing incentive, grant, and cooperative programs to control nonpoint source pollution related to agricultural and silvicultural practices. Entities including the Colorado Department of Agriculture, Colorado Water Resources and Power Development Authority, U.S. Department of Agriculture Natural Resources Conservation Services, and others will be engaged to identify potential funding opportunities.

B. Public Information and Education

The regulation encourages that a public information and education program be developed and implemented by the Division and entities responsible for nonpoint source nutrient pollutants. The Commission recognizes that public information and education is an effective means to address all nonpoint source pollution impacts. A focused information and education effort is anticipated to reduce current, and potentially avoid future, water quality impacts from excessive nutrients.

C. Additional Nonpoint Source Actions

The Commission has determined that the progress and implementation of the activities identified in this section will be reviewed at each triennial review. These periodic evaluations will be used to assess the effectiveness of voluntary nonpoint source nutrient pollution controls. The existing extent of nutrient nonpoint source impacts, especially from crop production, has not been consistently assessed from a statewide perspective. Additionally, water quality improvements resulting from BMP implementation typically require several years for implementation to be measurable, and therefore require that a reasonable timeframe be used for evaluation. After 10 years, the Commission may consider adoption of additional prohibitions or precautionary measures if voluntary controls on nonpoint sources are shown to be ineffective in reducing nutrient loads and protecting classified uses. The Commission considers 10 years a reasonable period for potential funding sources to be identified and appropriate nutrient nonpoint source management activities to be successfully implemented and evaluated. This evaluation will be based on the provisions identified in section 25-8-205(5), C.R.S. and the success in voluntary BMP implementation relative to existing incentive, grant, and cooperative programs.

Nationally, there has recently been increased discussion of options to provide "agricultural certainty" with respect to nonpoint source control of nutrients. The general concept is that if agricultural producers implement certain control efforts voluntarily, they would receive some protection from additional requirements at the time that requirements may become mandatory. At the first triennial review of this new control regulation, the Commission may consider developing a regulatory certainty framework for agricultural producers not required to be permitted under this control regulation in addition to the existing BMPs and Public Information and Education activities. Consideration of this additional action will be based on the progress and implementation of these activities and further assessment of the viability of the agricultural certainty concept. The Commission's goal in considering a regulatory certainty framework is to increase producer adoption of nutrient nonpoint source controls consistent with this control regulation by providing incentives that increase the pace and extent of measurable nutrient load reductions. The framework would be designed to provide assurance to agricultural operations that investment in appropriate nutrient nonpoint source controls that result in substantive progress in reducing nutrient loads as envisioned in this control regulation will be recognized at the time that any new mandatory requirements may be established in the future. The development and implementation of this framework would require coordination with local, state, and federal agencies such as state conservation districts, Colorado Department of Agriculture, and the U.S. Department of Agriculture Natural Resources Conservation Services to ensure the effectiveness, efficiency, and leveraging of available technical and financial resources. The Commission will consider the availability of funding for Division development of the framework and the implementation of the appropriate activities by the applicable agricultural operations in determining the need for adoption of this additional nonpoint source provision.

XII. Monitoring

The Commission has determined that monitoring nutrient conditions is an important component of a statewide nutrient pollution control strategy and is appropriate to include in this control regulation. The Colorado Water Quality Control Act directs the Commission to "develop and maintain a comprehensive and effective program for prevention, control, and abatement of water pollution and for water quality protection throughout the entire state" and authorizes it to "exercise all incidental powers necessary or proper for carrying out the purposes of [the Act]." C.R.S. § 25-8-202(1)(i). The Commission is "authorized to take all action necessary and appropriate to secure to this state…the benefits of said act." C.R.S. § 25-8-202(6). The legislature specifically directed the Commission to "promulgate such regulations as may be necessary and proper for the orderly and effective administration of permits for the discharge of pollutants…The regulations may pertain to and implement…restrictions with respect to…monitoring." C.R.S. § 25-8-501(3)(d). While the Commission decided to implement monitoring through this Control Regulation rather than through permit requirements, monitoring and data collection is required under the Control Regulation for permitted point sources subject to the permitting requirements.

The Commission has authority to adopt control regulations to describe effluent limitations on specifically identified pollutants (C.R.S. § 25-8-205(1)(a)) and to describe precautionary measures that must be taken by any party that could reasonably be expected to cause pollution of state waters in violation of control regulations (C.R.S. § 25-8-205(1)(c)). The purpose of this control regulation is for the reduction of nutrients in state waters. Therefore the Commission is adopting effluent limitations as well as monitoring requirements as a precautionary measure to implement the effluent limits, to evaluate the effectiveness of this control regulation in protecting and restoring use classifications, to support quantification of sources, to identify nutrient trading opportunities, and to facilitate eventual implementation of appropriate and necessary source control measures. The monitoring provisions in section 85.6 are an initial phase of surface water data collection and analysis. The Commission recognizes that the provisions of these monitoring requirements might change at subsequent triennial reviews of this regulation.

A. Comprehensive Data Collection and Assessment

Success of a comprehensive nutrient control strategy will depend on adequate data to support decision making. The Commission recognizes that in order to be comprehensive, data collection must extend beyond the domain of this control regulation. While monitoring requirements in this control regulation described in the following sections have a narrow set of objectives, a broader focus will be needed to answer the factual and policy questions that will arise as Colorado moves toward developing and implementing a comprehensive strategy.

The focus of the requirements in this regulation is to gather data that can be assessed to inform an analysis of the effectiveness of this control regulation, to support quantification of sources, and to support development of requirements for additional source controls shown to be necessary. Other factual and policy questions for which data collection is an important part include: the appropriate refinements to nutrient interim values; the appropriate nutrient site-specific standards; which waters exceed standards after development; and, the appropriate load allocations and wasteload allocations if a TMDL becomes necessary.

This Control Regulation is not the appropriate vehicle to facilitate the acquisition of data to address all of these data needs. Currently, water quality data collection efforts around the state are focused on specific questions which may or may not be useful in a larger context. Therefore, the Commission urges the Division and stakeholders to coordinate future planning and sampling efforts to maximize the usefulness of the data.

The monitoring requirements specified in Regulation 85 will impose additional service demands on the monitoring, assessment, and reporting areas within the Division. The Commission recognizes that unless additional resources are acquired, current state-wide monitoring responsibilities other than nutrients cannot be maintained unless other parties conduct additional monitoring in lieu of the Division. The impacts to the state-wide monitoring activities will be assessed by the Division and provided to the Commission on an annual basis.

The Commission directs the Division to evaluate the data gathered in response to the monitoring requirements in Regulation 85 to identify potential information gaps, both for the goals of the Control Regulation and from a state-wide perspective. At the first triennial review of Regulation #85, the Division should report on the progress of Control Regulation monitoring requirements and other nutrient monitoring focused on the other broader issues.

B. Process Wastewater Monitoring

Entities shall commence data collection no later than March 1, 2013. This deadline provides time to allow for coordination with nearby point source facilities, non-point sources, and other known monitoring efforts, as well as to allow for the purchase of equipment and requisite training.

Past and current nutrient data collection efforts have been conducted by the State, local and private entities that focus on a variety of other aspects of the nutrient conditions in the state. The Commission encourages the implementation of a statewide, appropriately scaled watershed-based monitoring program, but realizes that site-specific and facility-specific circumstances may prove challenging. Existing monitoring networks may fulfill the requirements of this section.

1. Applicability

The monitoring requirements in this section apply to all CDPS-permitted facilities that discharge nutrients that may, without treatment, discharge total nitrogen or total phosphorus concentrations in excess of the respective effluent limitations identified in this regulation. Facilities identified as exempt from the effluent limits are only required to conduct effluent monitoring as described in Section 85.6(2)(b)(i). The scope of monitoring requirements is reduced for discharges to lakes as noted below.

There is a separate two-year monitoring requirement for monitoring of discharges from cooling towers which shall begin November 1, 2012.

2. Required Elements

Monitoring elements include the sampling location, chemical parameters, frequency of sampling, and timing considerations relevant to the types of water bodies of interest. At each location, samples shall be analyzed for both total nitrogen and total phosphorus. Total nitrogen is required in this portion of the control regulation because that is the most representative of the nitrogen in the environment. The Commission recognizes that a portion of the nitrogen discharged by wastewater treatment plants may not be immediately bioavailable, but over the timescale of days to weeks, much of this nitrogen will become available. Total nitrogen may be determined either as a single constituent (such as by the Lachat Method) or by calculation using the component fraction (such as total Kjeldahl nitrogen plus nitrate-nitrite nitrogen). Laboratory method detection limits (MDL) are specified to ensure that loads can be calculated on a scale that is useful for regional and statewide assessments. The Commission recognizes that there is a greater uncertainty in any values reported for individual data points between the minimum reporting limit (MRL) and MDL (also known as “J data” because such values are flagged with a “J”). However, the pattern of data points that includes “J data” at a location can provide important and useful information about the nutrient conditions at that location. The Commission and Division will not base decisions on “J data” results alone and will take into account the confidence and precision of any analytical results.

3. Process Wastewater Point Source Monitoring

In addition to compliance monitoring to ensure that the technology-based effluent limits in section 85.5 are not exceeded, dischargers are required to sample, analyze and report on nutrient conditions and flow in the effluent and receiving waters.

Effluent Monitoring: Effluent monitoring is required to commence March 1, 2013. The Commission has determined that final action adopting this Control Regulation in June 2012 provides sufficient time for dischargers to develop and implement an effluent monitoring plan by March 2013. Effluent shall be sampled at a point before it is discharged in to the receiving water body. This location is the same point at which permit compliance samples are taken. Nutrient concentration (total nitrogen and total phosphorus) of the effluent, along with daily average effluent flow shall be determined. Flow and nutrient concentrations must be concurrent so that accurate nutrient loading can be calculated on each sampling date.

Effluent monitoring serves two purposes. First, it defines the baseline of nutrient loads for each facility. In all but a few situations, it is anticipated that March 2013 will precede significant nutrient removal activities at these facilities. As the other sections of this control regulation become effective at individual facilities, baseline loads will help determine actual nutrient removal effectiveness. Second, effluent monitoring will provide a portion of the data needed to help the Division and stakeholders quantify sources and begin to assess the relative source contributions on a regional and watershed scale. The monitoring and assessment activities determine the practical effect of implementing the control regulation.

Upstream Monitoring: Total nitrogen and total phosphorus concentrations will be monitored in the receiving water immediately above the point of discharge. This information will provide the basis for reasonable potential determinations and an essential component of WQBEL calculations where needed. Ambient stream samples collected are to be grab samples. Effluent samples are to be taken as described in Appendix A from Division Policy WQP-20, Baseline Monitoring Frequencies for Industrial and Domestic I Wastewater Facilities or what is in the permit.

Downstream Monitoring: Total nitrogen and total phosphorus concentrations and flow are also required to be monitored at one fully mixed location downstream of the discharge.

Two alternatives for this monitoring are identified in the control regulation. One option is for the entity to select a Colorado Division of Water Resources or USGS active flow gage station downstream of their discharge and to collect samples at that location. This option has the benefit of being able to rely upon publicly available daily flow records and thereby relieve the entity of the necessity of measuring flow as well as taking the water sample. The daily flow measurements are necessary to determine the flow regime of the receiving water body between scheduled nutrient sampling dates and improve the accuracy of nutrient loading estimates on a larger time scale. The Commission recognizes that there may be other nutrient sources between the outfall and the sampling location. This requirement should not be construed to mean that the discharger is “responsible” for the nutrients, only for characterizing the flow and concentration at that point.

The second alternative is based on recognition that stakeholders wanted flexibility on the location of downstream monitoring locations to make efficient use of existing collaborative water quality monitoring programs. There are several watersheds in Colorado where coordinated monitoring programs have been in place for some time. Examples include those associated with reservoirs subject to control regulations (Dillon, Cherry Creek, Chatfield, and Bear Creek) and those operated by watershed groups (i.e., Big Dry Creek, Upper Clear Creek, Poudre, Upper Gunnison, Animas, and others).

These reservoir control regulations and watersheds groups have a considerable investment in a monitoring record that could be helpful for addressing the implementation of this Control Regulation. The Commission agrees that it makes sense to build on past efforts where an existing sampling site provides information of comparable value to the new site, and would have the added benefit of a longer period of record. The Commission expects the Division to evaluate the data from an existing monitoring program on a case-by-case basis, as long as the sampling site(s) meet the flow and parameter requirements, and determine its applicability to the monitoring program.

The Commission recognizes that there may be stream segments where an established gauging station is not available or is located a significant distance below a discharge. An alternative stream flow calculation methodology may be submitted to the Division to meet the requirements of this section. The Division will review the submittal to determine its ability to provide the necessary data.

Lake and Reservoir Monitoring: The Commission has not imposed receiving water monitoring requirements on those entities that discharge to lakes and reservoirs at this time. In order to obtain useful data, monitoring water quality in lakes and reservoirs involves boats, special equipment and training. Currently, there are very few facilities in this category and most are already are engaged in cooperative monitoring efforts. In future reviews of this regulation, the Commission anticipates that this provision will be re-evaluated to see if specific lake and reservoir information can be obtained effectively using this vehicle.

Monitoring Frequency: Monitoring frequency is based on the size of the facility. Major facilities (generally discharging 1 million gallons per day (MGD)) are required to sample on a monthly basis. Minor facilities (generally discharging less than 1 MGD) are required to monitor once every two months.

C. Stormwater Data Collection

1. Applicability

The Commission included requirements for specific entities (e.g., cities and counties) that are required to have a CDPS discharge permit pursuant to Regulation #61 for stormwater discharges from a Municipal Separate Storm Sewer System (MS4). These MS4s are required to identify representative available information and necessary additional information (the “gap”) that in combination can be used to characterize the contribution of nutrients from the MS4 discharge to state waters. The Commission did not include requirements for “non-standard” MS4 permittees (e.g., special districts, school districts, universities, etc.) at this time as these entities are generally smaller and the Commission expects that the information required to be provided in the regulation will be representative of these “non-standard” MS4s. The requirements are also only applicable to entities for which permit coverage was obtained prior to March 1, 2012. It is expected that several additional MS4s will be permitted in 2013 following release of 2010 census data. Although the requirements included in this version of the regulation will not apply to the new permittees, the Commission encourages those permittees to consider voluntary participation in collaborative data collection efforts with other MS4 permittees that is consistent with the regulation. Information obtained from MS4 data collection required by this regulation, and any voluntary data collection, will be used by the Commission to determine the scale and scope of future monitoring or nutrient control requirements for MS4s. Providing voluntary data will allow for data specific to the new permittees’ MS4 discharges to be considered in future rulemakings and permitting decisions.

Requirements to provide information to characterize discharges from additional point source discharges of stormwater have not been included in this regulation (e.g., stormwater discharges associated with industrial activities and construction). The Commission has not identified these discharges as a significant relative contributor of nutrients to state waters. If, based on additional evaluation and consideration, specific activities and facilities associated with point sources other than MS4s are identified as potentially significant sources of total nitrogen or total phosphorus, regulatory requirements for these additional stormwater discharges may be reconsidered. The Commission intends to address future monitoring requirements for MS4s in the first triennial review of Regulation #85 that will take place in 2015. Therefore, the data report to identify existing information and to characterize the information gap will be due in October of 2014 to provide time for the Division to review and make necessary changes in time for final information to be used to inform the regulatory process.

2 Municipal Separate Storm Sewer System Discharge Data Collection

The goal of the MS4 data collection requirements is to identify information that exists, and the need for additional monitoring to be conducted in the future, to determine the approximate nitrogen and phosphorus contribution to state waters due to discharges from the MS4. The intent is to ultimately fill the gap in data so that a one-time "snapshot" of the contribution of nutrients to state waters is provided. This initial effort to characterize discharges from MS4s is intended to focus on the contribution from MS4 discharges in Colorado on a broader basis instead of for specific outfalls. However, the regulation requires a MS4 permittee to assess data that are representative of its discharges to help ensure that the characterization identifies information adequate to inform potential next steps for assessment to determine if stormwater-related nutrient loads to Colorado's surface waters need to be further reduced.

The Commission recognizes that there are existing monitoring programs that have provided data based on samples having been collected from MS4 discharges, as well as additional monitoring programs that can provide information relative to characterizing discharges from MS4s. In Colorado, these monitoring programs are being implemented by Phase I MS4 cities, in watersheds where phosphorus control regulations have been adopted, and through other voluntary efforts. In addition, previous studies exist that establish concentration ranges for wet weather discharges from a variety of land uses. It is not the intention of the Commission to require MS4 permittees to duplicate these efforts. Therefore, the regulation is not requiring that additional monitoring be conducted until these existing sources of information have been assessed.

Because the data assessed may be from monitoring not associated with the permitted MS4, it is the responsibility of the MS4 permittee to review and analyze the data to ensure it is providing information that is representative and will provide a sound basis for future decision-making, including requirements for monitoring and the implementation of controls that may apply to the permittee in the future. In addition, if data are provided that are not adequate in quality or do not include information to allow for analysis that meets the objectives of the regulation, future data collection may be required to meet the objectives of this regulation.

The Commission envisions requirements for the characterization of nitrogen and phosphorus in discharges from MS4s to be an iterative process. The "gap analysis" information, as well as information from assessment of the data and supporting information, will be evaluated by the Division and then the Commission to determine the need for and focus of future regulatory requirements. The Commission's intent is for the information provided in accordance with this regulation to be used to understand the significance of MS4s as nutrient sources and to develop future regulatory requirements for monitoring, as necessary, to adequately characterize nitrogen and phosphorus contributions from MS4 discharges in Colorado. For this reason, the Commission strongly encourages MS4 permittees to be diligent in the identification of existing data that will maximize the ability for assessment to characterize nitrogen and phosphorus in the MS4s' discharges. The extent to which the information provided identifies the need for further monitoring and data collection efforts to provide adequate information for future decision making will directly drive the scope and scale of monitoring requirements in future revisions to this regulation.

The Commission also strongly encourages, and has explicitly authorized in this regulation, that MS4 permittees collaborate in the development and documentation of the MS4 data collection information required by this regulation. The Commission intends for this flexibility to provide an opportunity to increase the efficiency and accuracy of the data while ensuring that the data are representative of the quality of the stormwater flowing from the MS4. Discussions with participating MS4 stakeholders indicate that a single, state-wide program will be the most cost-effective way to accomplish the goal of the monitoring requirement and is likely to result in the most comprehensive and useful information. Future nutrient permit conditions placed upon MS4s participating in collaborative efforts will be based upon the collaborative analysis and representative data. Permittees choosing not to participate in a collaborative effort can still provide a data analysis based on data collected from their MS4s. The Water Quality Control Division is committed to participating in the planning and development of the MS4 permittees' data collection efforts. The extent to which the Division will have the ability to provide direct coordination with MS4 permittees on the development of Data Reports will likely be highly influenced by the extent that MS4 permittees collaborate with other MS4 permittees in development of collaborative reports.

XIV. Data Quality Requirements

Section 85.6(4)(c) provides that process wastewater effluent monitoring required by Regulation #85 be conducted using analytical methods capable of reporting results at or below the practical quantitation limit (PQL) as required by Regulation #61. This section also requires that ambient water quality monitoring conducted pursuant to this regulation utilize an analytical method capable of reporting results at or below certain listed method detection limits (MDLs). The Commission recognizes that there is greater uncertainty regarding values reported at levels between the MDL and the PQL, but has adopted the Division recommendation in this regard to acquire more complete information regarding nutrient loads in Colorado surface waters than would result if values were reported only above commonly accepted PQLs. The Commission concludes that cumulatively this data will be useful, in spite of the greater uncertainty regarding reported values close to the MDL. Of course, regulated entities may, if they choose, use analytical techniques capable of greater precision regarding results reported above the numerical levels specified in section 85.6(4)(c), although use of such techniques likely would entail additional cost.

XV. Nonpoint Source and Unpermitted Point Source Monitoring

The Commission encourages entities responsible for nonpoint sources and unregulated point sources of nutrients to monitor and assess surface water resource quality to determine the extent and magnitude of nutrient impacts. This monitoring will provide the other portion of the total nutrient loading data needed to help the Division and stakeholders quantify sources and begin to assess the relative source contributions on a regional and watershed scale. This data is equally important to the overall goal of this nutrient control regulation.

The Commission directed the Division to collaborate with these entities in developing and implementing a nutrients nonpoint source monitoring program to meet the requirements of this control regulation. The Division may provide technical expertise related to sampling and analysis plan development and overall logistics to develop and implement an appropriate monitoring program. The Division can also provide guidance on the coordination between point and nonpoint sources, the Colorado Agricultural Chemicals Program, and other relevant local, state, and federal monitoring efforts.

The Commission encourages responsible entities to identify potential funding sources and pursue options for monitoring in areas that do not have a current or future nutrient monitoring program. Collaborative efforts to identify and acquire the necessary funding may support regional or watershed-based monitoring and assessment activities. These efforts will provide essential information for use in future triennial reviews of the effectiveness of nonpoint source nutrient management planning and BMP implementation.

XVI. Availability and Reporting of Data

Data collected pursuant to section 85.6 of this regulation shall be submitted to the Division by April 15 of 2014 and each year thereafter. In addition, for compliance purposes, facilities subject to effluent limits in section 85.5 in their permit must also submit effluent data in their Discharge Monitoring Reports.

It is the Commission's intention that the data collected under this control regulation will be publicly available and in a form that is easily downloaded for evaluation. The Commission recognizes two specific alternatives that currently meet those submittal requirements. The first alternative is to submit the data directly to the Division in an agreed upon electronic data deliverable format. This format is used by the Division for submittal of water quality impairment assessment consideration. The second alternative is to submit the data to an alternative publicly available data repository. An example of this is the Colorado Data Sharing Network. In addition, data collected pursuant to the control regulation must be designated as publicly available. If data are to be submitted via the second alternative, the Division must be notified by April 15 of each year.

The water quality data submitted under section 85.6 will be assessed by the Division at each triennial review to evaluate the effectiveness of this regulation in controlling nutrients discharged to surface waters. The Commission encourages data assessment by collaborative regional water quality monitoring efforts to be submitted. The level of assessment by the Division will be dependent upon future available resources necessary to complete the assessment. The Division will report their water quality assessment to the Commission at each triennial review informational hearing.

XVII. Relationship to Section 303(d) Implementation

The Commission does not intend that the interim numerical nutrient values set forth in sections 31.17(b), (c) and (d) will be used directly as a basis for identifying impaired waters to include on Colorado's Section 303(d) List. In the limited circumstances where these numeric values are used prior to 2022 as the basis for adopting site-specific numerical water quality standards, as described in sections 31.17(e) and (f), those adopted numerical standards would be used as the basis for listing decisions.

The Commission agrees with input suggesting that it is important to address how Colorado will implement the current narrative standards, as they may apply to nutrients, in making section 303(d) listing decisions. The Commission requests that the Division address this issue in development of the Section 303(d) Listing Methodology for the 2014 listing cycle. The Commission intends that listing decisions based on the narrative standards would be based on a "weight of the evidence" approach. In the absence of applicable numerical water quality standards, it is appropriate to look at all relevant considerations in making a determination about attainment of uses and compliance with the narrative standards.

In the event that a water body is determined to be impaired due to nutrient enrichment based on interpretation of the nutrient narrative standards prior to May 31, 2022, a related standard such as DO or pH is not attained, or an investigation of an aquatic life use impairment shows that the cause is nutrient enrichment, the Commission envisions the following process would be followed:

1) Where the impaired segment is the receiving water or downstream of permitted discharges that are subject to controls in Regulation #85,

    a. Where a Category 4b demonstration plan documenting implementation of nutrient controls to comply with Regulation #85 is submitted and such plan is accepted by the Division and EPA in accordance with the Section 303(d) Listing Methodology, the segment will not be included on the 303(d) List;

b. Where a Category 4b demonstration plan is not submitted or is not accepted in accordance with the Section 303(d) Listing Methodology, and the segment is included on the 303(d) List, the segment would receive a low priority for TMDL development until the Regulation #85 source controls are fully implemented, and the water body water quality reflects any resultant improvement.

2) Where the impairment is not downstream of permitted discharges that are subject to controls in Regulation #85, or if the water body remains impaired due to nutrients after implementation of Regulation #85, the Division will develop a TMDL that will determine what site-specific numeric nutrient values are appropriate to protect the applicable uses. The Division will propose to use those values as site-specific standards for the water body. The Commission intends that the TMDL process explore all available alternatives in an effort to avoid the potential imposition of requirements more stringent than the Regulation #85 controls on facilities not subject to controls in Regulation #85.

3) Where the Commission has adopted site-specific numeric standards, water-quality based effluent limits will be developed for the dischargers that have a reasonable potential to cause or contribute to an exceedance of those standards. (Compliance schedules and discharger-specific variances will be available according to the policies governing each.)

4) Where the impairment is upstream of permitted discharges that are subject to controls in Regulation #85, TMDL development will be designated a higher priority for the water body.

XVIII. Relationship to Implementation of Narrative Water Quality Standards

The Commission has determined that the requirements of this regulation, including the numerical effluent limitations for process wastewater dischargers, constitute a reasonable and appropriate first step in the implementation of Colorado's narrative standards as they relate to nutrients. The provisions of this control regulation establish appropriate precautionary measures to avoid or minimize the risk of violation of Colorado's narrative water quality standards as they relate to nutrients. As discussed elsewhere in this statement of basis and purpose, the Commission has determined that the nutrient controls resulting from implementation of this control regulation provide the most expeditious approach to achieving progress in nutrient pollution management in Colorado. During subsequent triennial reviews of this regulation, the Commission will determine whether additional steps are needed, in terms of point source discharge permit requirements or other measures, to attain and maintain compliance with narrative water quality standards relative to nutrients. Therefore, the Commission does not intend that the interim numerical values for nutrients being adopted in this rulemaking in Regulation #31 would be used as the basis for implementing Colorado's narrative water quality standards set forth in section 31.11 in discharge permits. Therefore, compliance with Regulation #85 will be deemed to be compliance with the narrative standards unless and until the Commission adopts subsequent revisions to Regulation #85 and/or Regulation #31.

PARTIES TO THE RULEMAKING

1. Conservation Groups
2. Colorado Nutrient Coalition
3. Colorado Water Utility Council
4. Colorado Wastewater Utility Council
5. Colorado Stormwater Council
6. Colorado Association of Home Builders
7. Associated General Contractors of Colorado
8. Colorado Association of Commerce & Industry
9 Colorado Agricultural Producers Alliance
10. Colorado Lake and Reservoir Management Association
11. Colorado Division of Parks and Wildlife
12. Eagle River Water and Sanitation District

13. Northwest Colorado Council of Governments
14. Colorado River Water Conservation District
15. 5-2-1 Drainage Authority
16. Mesa County
17. Grand Valley Drainage District
18. City of Grand Junction
19. Town of Rangely
20. Town of Nucla
21. Clifton Sanitation District
22. Southwestern Water Conservation District
23. Monument Sanitation District
24. Donala Water & Sanitation District
25. Buena Vista Sanitation District
26. Cherokee Metropolitan District
27. Fountain Sanitation District
28. Lower Fountain Metropolitan Sewage Disposal District
29. Security Sanitation District
30. Palmer Lake Sanitation District
31. Pikes Peak Area Council of Governments
32. City of Colorado Springs and Colorado Springs Utilities
33. Tri-Lakes Wastewater Treatment Facility
34. Pueblo West Metropolitan District
35. City of Westminster
36. Board of Water Works of Pueblo, Colorado
37. Centennial Water & Sanitation District
38. City of Boulder
39. City and County of Broomfield
40. City of Fort Collins
41. City of Pueblo
42. Miller Coors, LLC
43. Plum Creek Wastewater Authority
44. Tri-State Generation & Transmission Association
45. Upper Blue River Sanitation District
46. Xcel Energy
47. Upper Clear Creek Watershed Association
48. Northern Colorado Water Conservancy District
49. Metro Wastewater Reclamation District
50. South Platte Coalition for Urban River Evaluation
51. City of Black Hawk and Black Hawk/Central City Sanitation District
52. City of Arvada
53. Grand County Districts
54. North Front Range Water Quality Planning Association
55. Bear Creek Watershed Association
56. Littleton/Englewood Wastewater Treatment Plant
57. City of Lafayette
58. Niwot Sanitation District
59. Board of County Commissioners of Weld County
60. Parker Water and Sanitation District
61. Chatfield Watershed Authority
62. Dominion Water and Sanitation District
63. City and County of Denver
64. City of Thornton
65. City of Aurora
66. Farmers Reservoir and Irrigation Company
67. City of Northglenn
68. Denver Water

69. City of Brush
70. Academy Water and Sanitation District
71. Woodmoor Water & Sanitation District No. 1
72. Towns of Hotchkiss, Olathe, Ridgway and Silverton
73. Town of De Beque
74. Orchard Mesa Sanitation District
75. Colorado Association of Conservation Districts
76. Denver Metro Chamber of Commerce
77. Town of Estes Park
78. Pagosa Area Water and Sanitation District
79. City of Greeley
80. Central Colorado Water Conservancy District
81. Arapahoe County Water and Wastewater Authority
82. Colorado Department of Transportation
83. Colorado Municipal League
84. Cherry Creek Basin Water Quality Authority
85. Roaring Fork Water & Sanitation District
86. Southeastern Colorado Water Conservancy District
87. U.S. Environmental Protection Agency
88. Water Quality Specialists
89. Upper Thompson Sanitation District
90. City of Fort Lupton

85.16 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: OCTOBER 10, 2017 RULEMAKING, FINAL ACTION NOVEMBER 13, 2017; EFFECTIVE DATE OF DECEMBER 30, 2017

The provisions of sections 25-8-202; 25-8-205; 25-8-304; 25-8-401; 25-8-402; and 25-8-501, C.R.S., provide the specific statutory authority for the adoption of this Control Regulation. The commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

Phase 2 of Colorado's Nutrients Management Program: In this rulemaking, the commission took action to put into place the second phase of Colorado's strategy to address current and potential future nutrient pollution of Colorado surface waters.

In 2012, the commission adopted interim numerical values for phosphorus, nitrogen, and chlorophyll *a* as one part of a two-part strategy. Since 2012, the commission has adopted phosphorus numeric values upstream of domestic discharges, cooling tower discharges, and non-domestic discharges subject to Regulation #85 effluent limitations in segments throughout the state in accordance with 31.17. The commission has also adopted the direct use water supply classification and standard in accordance with 31.17. In 2016, EPA approved the interim numeric values for chlorophyll *a*, approved with recommendations the numeric values for phosphorus and nitrogen for lakes and reservoirs, and took no action with respect to the interim numeric values for phosphorus and nitrogen for rivers and streams or the delayed effective dates.

In 2012, the commission envisioned that the interim numeric values in 31.17 could be used for the adoption of water quality standards for any surface waters in Colorado following May 31, 2022. However, EPA's action in 2016 has led the commission to consider modifications to its nutrients reduction strategy.

First, the commission noted that EPA had approved the interim numeric values for chlorophyll *a*, and the commission determined that the 2022 timeframe is appropriate for adoption of chlorophyll *a* standards. The adoption of chlorophyll *a* standards throughout the state in the 2022 timeframe is included in Colorado's nutrients management plan that was discussed during the proceedings for this hearing. Also discussed in that plan is the commission's anticipation that during Phase 2 of Colorado's nutrients management approach, the chlorophyll *a* standards will be implemented through the TMDL process for waters listed on the 303(d) list for impaired waters.

Second, the commission noted that EPA approved with recommendations the numeric values for phosphorus and nitrogen for lakes and reservoirs. Because of the EPA recommendations regarding the interim phosphorus and nitrogen values for lakes and reservoirs, additional analysis is needed before applying the interim values, particularly for warm-water lakes and reservoirs. The commission determined that the division should revisit the phosphorus and nitrogen values for lakes and reservoirs, and should prioritize the development of numeric phosphorus and nitrogen standards based on protection of public health. Therefore, as reflected in the nutrients management plan, the commission anticipates that in the 2022 timeframe the division will propose phosphorus and nitrogen standards for lakes and reservoirs that are direct use water supply reservoirs and where there are public swim beaches. With the exception of direct use water supply reservoirs and lakes and reservoirs with public swim beaches, the commission has decided to further delay the effective dates of the phosphorus and nitrogen numeric values below dischargers to 2027.

Third, the commission noted that EPA took no action with respect to the interim numeric values for phosphorus and nitrogen for rivers and streams. The commission determined more time is needed to revisit the numeric values for phosphorus and nitrogen for rivers and streams, and anticipates that revised standards will be developed and considered in the 2027 timeframe. The commission acknowledges that removing organic nitrogen to low levels is a current technological challenge. The commission recognizes this issue will need to be considered in future policy reviews and rulemaking hearings regarding nutrients along with future technological advances.

The commission also anticipates that a hearing will be held in 2020 to consider impacts from nonpoint sources and potential strategies for nonpoint source control. As part of implementing the provisions of Regulation 85 at subsection 85.5(5), Nonpoint Source Discharges, the commission determined that considerable progress has been made to date by the division, the Colorado Monitoring Framework Agricultural Task Force, the Lower Arkansas Valley Water Conservancy District, and other partnering entities through dissemination of nutrient control-related information and tools for voluntary use by the agricultural community. This model of collaborative outreach, education, and engagement has been made possible through division leadership and funding to support these efforts, as well as the proactive responsiveness of entities who work directly with agricultural producers. The commission encouraged these collaborative activities to continue with a goal of documenting measurable results for presentation at the next triennial review.

In addition, while the commission's traditional approach would have meant that the commission would have considered updated standards for ammonia and selenium in 2021, the current intent of the commission is to delay adoption of revised standards for selenium and ammonia until 2027 as well. The long-term strategy is that the commission will consider the adoption of revised standards for all of these constituents for all water bodies in the state in rulemaking hearings in 2027. The commission anticipates that over the course of the next 10 years, the division will work to revise the standards for ammonia, selenium, nitrogen and phosphorus for rivers and streams, while at the same time will develop feasibility information to assist dischargers with proposing discharger specific variances, which will also take into consideration the treatment challenges of treating for nutrients, selenium, and ammonia, as well as temperature. In order to implement standards as soon as practical, the commission will not rely on the basin review process for adoption of site-specific standards over the course of several years. Instead, in hearings in 2027, the commission will consider site-specific standards and discharger-specific variances for all of these parameters for all waters bodies of the state. After adoption of revised numeric nutrient standards in 2027 in rivers and streams, the commission intends that water quality based effluent limits will be implemented into permits after December 31, 2027.

While the commission has decided to delay the adoption of numeric nutrient values to 2027, it is committed to making additional progress towards nutrient reductions in Colorado during this second phase. The commission believes that the best way to make progress at this time is through an incentives program to encourage early reductions of nutrients by domestic and non-domestic wastewater treatment works. The incentives program will encourage facilities to make voluntary reductions of nutrients, and in exchange the facility will receive an extended compliance schedule as well as certainty about the year in which the facility will need to meet water quality based effluent limits. An extended compliance schedule means the facility will be given additional time to comply with effluent limits that would be based on water quality standards or variances adopted in 2027. The commission believes that more progress can be made through an incentives program than through mandating reductions by medium sized facilities or facilities in a low priority watershed. For example, the commission believes that even if only the 15 largest dischargers took advantage of the incentives program, and if each of those facilities reduced its nitrogen 20% below the Regulation #85 effluent limits, the resulting load reduction in the state would be three times larger than what would be achieved if the Regulation #85 effluent limits were applied to all domestic wastewater treatment facilities with delayed implementation as identified in 85.5(1)(a)(ii). The commission believes this is the best current policy option to make effective progress in addressing nutrients management in Colorado at this time. The commission believes that reducing the phosphorus or nitrogen effluent limits in Regulation #85, or to apply those effluent limits to more facilities would result in substantially less progress in controlling nutrients in the next 10 years than will the incentive program. However, the commission does intend to evaluate the amount of improvement that occurs through the incentive program, and may revisit this approach and make additional modifications to its nutrients reduction strategy if this voluntary incentives program does not result in reductions as anticipated.

To achieve this goal of early nutrient reduction, the commission has adopted a voluntary incentive program. Participation in the program is entirely voluntary. The program does not require wastewater treatment facilities to implement a specific treatment technology, but it is anticipated that nutrient reductions will be achieved through BNR optimization, a water quality trade, a source reduction plan, watershed nutrient reductions, or capital improvements. A facility that achieves early reduction of nutrients will be offered an incentive in the form of an extended CDPS permit compliance schedule, which increases the number of years that the wastewater facility has to meet the water quality based effluent limits after 2027. The commission expects that the incentive will provide wastewater treatment facilities additional time to identify funding sources necessary to make the capital infrastructure investment in tertiary treatment after 2027. Regulatory framework for voluntary incentive program: The voluntary incentive program is outlined in Regulation 85.5(1.5). The commission intends that implementation of this program will be accomplished in conjunction with Commission Policy 17-1 that was adopted concurrent with this hearing. Permittees who wish to participate in the incentive program are required to submit a nutrient reduction plan and annual nutrient monitoring reports to the division by December 31, 2019. In order to qualify for the incentive program, the permittee must reduce nitrogen and/or phosphorus discharge concentrations to levels below those in Regulation #85 by December 31, 2026.

The annual reporting requirement provides the division with an opportunity to review a permittee's progress in reducing nutrient levels below those in Regulation #85 and to assess how those reductions relate to the incentives offered in Commission Policy 17-1. If a permittee is able to make early reductions in its discharge of nutrients, the permittee will qualify for an incentive which gives it additional time to comply with numeric nutrient values in Regulation #31, and Regulations #32 through 38 that are anticipated to be adopted in 2027. The amount of additional time granted will depend on the amount of nutrient concentration reduction that the wastewater facility achieves between 2019 and 2026.

The commission considered whether permittees subject to TMDLs should still be able to participate in the incentive program due to the fact that there is an impaired waterbody and the incentive program will result in participants receiving an extended period of time to meet their wasteload allocations. In particular, the commission heard concerns about participation by the dischargers subject to the Barr Milton TMDL. The commission ultimately decided that dischargers subject to a TMDL should still be able to participate in the incentive program because it will help drive earlier reductions. However, in the case of the dischargers subject to the Barr Milton TMDL, the commission decided that in order to continue to incentivize early nutrient reductions by those dischargers but yet address concerns about additional delay in implementation of the phosphorus wasteload allocations, that the method for earning incentive credit for total phosphorus reduction would be focused on further phosphorus reductions in line with the Barr Milton TMDL phosphorus targets. During the first review of Policy 17-1 which would typically take place in 2020, the commission will consider whether to extend the method that applies to the dischargers with a wasteload allocation pursuant to the Barr Milton TMDL to other dischargers within the Barr Milton watershed or even potentially more broadly. Should any entity determine that consideration of this change should occur prior to the deadline for opting into the incentive program on December 31, 2019, any entity can request that the commission consider changes prior to December 31, 2019.

The division will use Commission Policy 17-1 to make a determination about the amount of time that a permittee participating in the incentive program should be granted when it renews the permittee's CDPS permit after 2027. The division will rely on the nutrient incentives program annual reports in making this determination. If a permittee achieves early reduction of nutrients, it will be granted a compliance schedule in accordance with Commission Policy 17-1 Such compliance schedule may be revised or terminated if the division determines, under section 25-8-307, C.R.S., that the discharge or continued discharge of nutrients by an incentive program participant constitutes a "clear present and immediate danger to the health or livelihood of members of the public," or, under section 61.8(8)(a)(iv) of Regulation #61, that the "permitted activity endangers human health or the classified or existing uses of state waters and can only be regulated to acceptable levels by permit modification or termination." Examples of situations that could trigger the division's exercise of this authority could include, but are not limited to, a toxic algae bloom in receiving waters downstream of a wastewater treatment facility or the presence of pollutants that cause or contribute to unacceptably high concentrations of disinfection byproducts in drinking water treatment facilities with intake locations downstream of a wastewater treatment facility. They could also include situations where nutrient levels in receiving/downstream waters have reached extreme highs or have increased two or threefold since 2017, where streams or reservoirs have repeated algae blooms producing toxins in multiple years, or where there is demonstrable and significant impact to aquatic life or other animals attributable to nutrients.

Based on the environmental benefit anticipated from the voluntary nutrient reductions under the incentive program, the commission expects these circumstances to be rare. The commission recognizes that the voluntary nutrient reductions that will result from the incentive program participants may reduce the severity of the event by reducing nutrient concentrations below those that would otherwise have been permitted. The commission anticipates that in such a circumstance the division will evaluate all of the sources and work to control all of the sources concurrently or in succession, depending on the most appropriate approach in that particular case.

A permittee or other interested parties can challenge the division's determination implementing the voluntary incentive compliance schedule as part of the CDPS permit renewal schedule. If the annual nutrient monitoring reports demonstrate that a permittee has achieved early nutrient reductions in accordance with Commission Policy 17-1, there will be a presumption that a permittee is entitled to the additional time allotted.

It is the commission's determination that this approach will achieve the maximum practical degree of water quality in state waters consistent with the welfare of the state, and that this approach maximizes the beneficial uses of state waters while bearing a reasonable relationship to the economic, environmental, energy, and public health costs and impacts to the public. The commission intends that the incentive program as adopted in 2017 will be maintained for the participants through 2027. The commission will review the incentive program as part of its triennial process in 2022. If the commission determines that additional nutrient reductions beyond those that result from the incentive program are necessary during the program period, the commission intends that these additional reductions will be accomplished first through alternative regulatory mechanisms and only as a last resort will the commission change the incentive program.

Definition of New and Existing Treatment Facilities: The commission modified section 85.4 DEFINITIONS by adding the terms New Treatment Facility and Existing Treatment Facility and renumbering all definitions based on alphabetic ordering. These terms were added to clarify the commission's previously stated intent that the technology based effluent limits for new treatment facilities were not to apply to expansions or other improvements to existing facilities in the same location. The previous regulatory language did not clearly indicate that the technology based effluent nutrient limits apply to discharges to surface water only. The new definitions clarify that existing domestic facilities include any treatment facility that commences discharge or receives PELs or site approval for groundwater discharge or surface water discharge or who applies for a Notice of Authorization for the application of reclaimed water prior to May 31, 2012, even if the facility was discharging without a permit. The new definitions also clarify that a change in a treatment facility's site location will result in application of the effluent limits for new facilities. A cross-reference to the definition of the term "site" in Regulation #61 was also added. The definitions do not change existing implementation practices, but merely reinforce current interpretations to prevent any future misunderstanding or misapplication.

Preliminary Effluent Limits: The commission modified section 85.5(1)(a) to allow a standard practice of including Regulation #85 effluent limits in preliminary effluent limits (PELs), with a delayed effective date, for the facilities covered by Section 85.5(1)(a)(ii). While some effluent limits will mirror the limits in Sections 85.5(1)(a)(iii) or (1)(b), in the course of evaluating the Regulation #85 limits for PELS, the division would also be evaluating whether any of the additional exceptions from Section 85.5(3)(b) would apply or whether a trade has been executed pursuant to Section 85.5(3)(d), resulting either in no effluent limit or a less stringent effluent limit than those contained in Sections 85.5(1)(a)(iii) or (1)(b). This will allow a facility to plan and design the facility to meet the Regulation #85 effluent limits if they choose to do so. In addition, the facility would be able to obtain Site Location and Design Approval for that design. This type of information would be helpful, for example, in a situation where a facility is planning other facility upgrades or is interested in leveraging funding opportunities.

The commission also modified section 85.5(1)(a)(i) to allow preliminary effluent limits, with delayed effective dates, to be included for small and disadvantaged communities upon request by the facility.

Disadvantaged Communities: Section 85.5 states that the numeric effluent limits do not apply to any domestic wastewater treatment works owned by a disadvantaged community. The commission did not change this exclusion in this hearing. However, the commission did update the definition of disadvantaged communities in order to better examine the socio economic condition of a community and to be more aligned with the State Revolving Loan Fund program definition. First, the commission changed the population threshold from 5,000 to 10,000. Then, multiple criteria are evaluated to determine whether the community is disadvantaged. There are three primary factors that a community will be evaluated against: median household income, median home value, and unemployment rate or job loss. There are three secondary factors that will also be evaluated. Section 85.7 contains a table that outlines which factors must be met in order for a community to be determined to be a disadvantaged community. In the event a community is determined not to be disadvantaged, but the community believes there is an error in the data, the community may present a business case to the division for review. The division will then determine whether a business case has been made such that the community should be determined a disadvantaged community and therefore excluded from application of the effluent limits.

The commission also clarified that if a community wants the division to conduct an evaluation of whether it meets the criteria in section 85.7, the community must request that analysis be conducted at the time of submitting its permit application.

Monitoring and reporting requirements: A two year monitoring requirement for cooling tower discharges existed in Section 85.6(2)(a). This monitoring requirement resulted in the data collection and reporting of nutrient data from inflow, discharge and nutrient added to cooling processes from November 1, 2012 through October 31, 2014. This monitoring requirement was fulfilled and therefore the commission deleted that provision.

A reporting requirement for municipal separate storm sewer system discharges existed in Section 85.6(3). The data was compiled into a report and submitted to the division. This reporting requirement was fulfilled and therefore the commission deleted that provision.

The commission added the requirement to monitor and report total inorganic nitrogen at stream monitoring locations. This change will allow the direct comparison of effluent and instream total inorganic nitrogen concentrations and loads, and thus, a better understanding of the change due to the implementation of total inorganic nitrogen effluent limits.

The commission notes that applicable PQLs can be found in WQC Policy CW6.

In order to provide certainty to monitoring facilities, the commission added an end date of December 31, 2027 to the monitoring requirements. This date will allow the division to amass substantial data regarding nutrient loading into Colorado's waters and will provide for an understanding of how that load may change as nutrient effluent limits are implemented. Furthermore, the commission anticipates there will be continued nutrient monitoring data from the division's (and others') routine monitoring as well as from discharge monitoring requirements as effluent limits are implemented into permits. However, understanding the impacts to water quality from the implementation of the incentive program, water quality based effluent limits based on Regulation #31 criteria, and related DSVs may necessitate collection of additional instream data. Therefore, the commission will reevaluate the appropriateness of this end date at future rulemaking hearings.

In order to reduce confusion, the commission added a sentence to the opening paragraph of Section 85.5 to call attention to the monitoring requirements of 85.6 regardless of whether the effluent limitations in 85.5 apply.

Federal Facilities: The commission modified 85.5 and 85.6 to clarify that Regulation #85 applies to federally operated domestic wastewater treatment facilities that receive National Pollutant Discharge System Elimination System (NDPES) permits from EPA as Colorado has not been delegated authority to issue permits to federal facilities. Other control regulation requirements apply to federal facilities in Colorado and it makes sense for this control regulation to stand on equal ground in terms of its applicability to federal facilities. The commission added language to clarify that section 85.5 requirements apply to Colorado Discharge Permit System (CDPS) and NPDES permits. In addition, the commission clarified in 85.6 that monitoring requirements apply to federal facilities.

Typos and corrections: In addition to the substantive changes described above, numerous editorial changes have been made in the regulation to provide clarity. Several minor changes were made to further define priority watersheds, delete references that were no longer relevant, and to clarify the monitoring requirements. In addition, several typographical errors have been corrected including a reference in the trading section.

Standard Industrial Classification code in the Major Group 20

Numeric Limitations for Non-Domestic Wastewater Treatment Works: The commission modified Section 85.5(2) to include TIN and TP limitations specific to non-domestic dischargers with a Standard Industrial Classification code in the Major Group 20 (SIC 20). Several of the SIC 20 dischargers presented information to the commission regarding their specific challenges in treating to the Regulation 85 limitations. The SIC 20 industries treat wastewater that has influent concentrations of total nitrogen in the range of 500 to 900 mg/L (4,170 to 7,500 lbs/MG) and total phosphorus concentrations of 60 to 80 mg/L (500 to 670 lbs/MG). These influent concentrations are an order of magnitude higher than the influent concentrations experienced by typical domestic wastewater treatment works. While most of the existing SIC 20 wastewater treatment works are configured to treat these higher influent nutrient loadings, the influent nutrient and organic ratios do not allow these wastewater treatment works to achieve biological nutrient removal to the same technology based effluent limits as typical domestic wastewater treatment works.

For consistency with the requirements for domestic facilities, new and existing SIC 20 facilities were assigned different technology based effluent limits. These limits were based on the capability of biological treatment systems, and the difficulty of retrofitting existing systems versus the ability to design and install enhanced treatment on an undeveloped site. The commission decided to require existing SIC 20 facilities to achieve treatment commensurate with BNR removal for the more significant influent loading. For new SIC 20 facilities, the technology based nutrient effluent limits were based on the biological treatment capabilities of enhanced BNR (eBNR) treatment systems at these anticipated higher influent loads. Based on the expected influent loadings of the SIC 20 facilities and the domestic wastewater facilities, the adopted technology based effluent limits for SIC 20 facilities reflect similar percent removals for total phosphorus, but significantly higher percent removals for total inorganic nitrogen.

PARTIES TO THE RULEMAKING

1. City of Boulder, Centennial Water and Sanitation District, Littleton-Englewood Wastewater Treatment Plant, Metro Wastewater Reclamation District and Colorado Wastewater Utilities Council
2. AF CURE
3. City of Black Hawk and Black Hawk/Central City Sanitation District
4. Colorado Monitoring Framework
5. Eagle River Water and Sanitation District
6. Supervisory Committee of the Littleton/Englewood Wastewater Treatment Plant
7. Colorado Springs Utilities
8. North Front Range Water Quality Planning Association
9. Farmer’s Reservoir and Irrigation Company
10. City of Fort Collins
11. Town of Fraser
12. MillerCoors, LLC
13. Plum Creek Water Reclamation Authority
14. Public Service Company of Colorado
15. City of Pueblo
16. Silverthorne/Dillon Joint Sewer Authority
17. Town of Telluride
18. Tri-Lakes Wastewater Treatment Facility
19. Tri-State Generation and Transmission Association, Inc.
20. Upper Blue Sanitation District
21. Dominion Water and Sanitation District
22. Parker Water and Sanitation District
23. City and County of Broomfield
24. Leprino Foods Company
25. Swift Beef Company

85.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: APRIL 10, 2023 RULEMAKING, FINAL ACTION APRIL 12, 2023; EFFECTIVE DATE JUNE 14, 2023

The provisions of sections 25-8-202; 25-8-205; 25-8-304; 25-8-401; 25-8-402; and 25-8-501, C.R.S., provide the specific statutory authority for the adoption of this Control Regulation. The commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

Monitoring Requirements and Data Quality Requirements: Section 85.6(4)(c) provides that process wastewater effluent monitoring required by Regulation #85 be conducted using analytical methods capable of reporting results at or below the practical quantitation limit (PQL) as required by Regulation #61. This section also required that ambient water quality monitoring conducted pursuant to this regulation utilize an analytical method capable of reporting results at or below certain listed method detection limits (MDLs). However, MDLs are variable and labs are not able to meet the MDLs included at 85.6(3)(c) on a consistent basis. The commission removed the MDLs listed at 85.6(3)(c) and added a provision that requires labs to continue to report the MDLs for the instream monitoring requirement. If the data fall between the specific lab's MDL and the PQL, as listed in Clean Water Policy 6, the reported data should include a "J" qualifier. This approach will provide the needed flexibility in MDL reporting while meeting the division's need for numeric values to report trends in instream water quality as Colorado continues to implement nutrient controls in the state.

Nonpoint Source: Section 85.5(5) identifies entities with responsibility for activities or facilities that cause, or could be reasonably expected to cause, nonpoint source nutrient pollution and the need for implementation for nonpoint source controls. These activities include the areas of Best Management Practices, public information and education, and additional nonpoint source actions as necessary for nonpoint nutrient management activities. The commission identified these nonpoint source controls as a means to make progress towards protecting existing or restoring impaired classified uses from nutrient pollutants. Prior to each triennial review, the commission directed the division to work with responsible entities and other relevant stakeholders to determine the extent of implementation of the nonpoint source provisions and voluntary BMP implementation. The commission reviewed the information presented in this rulemaking hearing and determined that recent activities have been effective and resulted in reductions of nonpoint sources of nutrients and that the outreach efforts have been effective. The commission removed the 2022 date for determination of effectiveness of the voluntary nonpoint source BMPs and will continue to review the effectiveness of these measures at each triennial review of the regulation.

Voluntary Incentive Program: The commission made changes to the provisions at Section 85.5(1.5) to reaffirm that the Voluntary Incentive Program in Regulation 85.5(1.5) aligns with existing requirements which implement and provide authority to issue permits with compliance schedules and that the Voluntary Incentive Programs conforms with state and federal rules and regulations.

Typos and corrections: In addition to the substantive changes described above, editorial changes have been made in the regulation to provide clarity.

85.18 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: XXXXX DD, 2027 RULEMAKING, FINAL ACTION XXXXX DD, 2027; EFFECTIVE DATE XXXXX DD, 2027

The provisions of sections 25-8-202; 25-8-205; 25-8-304; 25-8-401; 25-8-402; and 25-8-501, C.R.S., provide the specific statutory authority for the adoption of this Control Regulation. The commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

Regulation 85, Nutrients Management Control Regulation, was adopted in 2012 to improve water quality by reducing nutrient concentrations in state waters. In 2012, the commission adopted interim numerical values for phosphorus, nitrogen, and chlorophyll *a* as one part of a two-part strategy. Since 2012, the commission has adopted phosphorus numeric values upstream of domestic discharges, cooling tower discharges, and non-domestic discharges subject to Regulation 85 effluent limitations in segments throughout the state in accordance with Regulation 31.17. The commission has also adopted the direct use water supply classification and standard in accordance with 31.17. In 2023, the commission revised the total nitrogen and total phosphorus table value standards for lakes and reservoirs to protect aquatic life and recreation in Colorado. Those revisions addressed recommendations made by EPA in its July 14, 2016 action letter regarding its review of the commission's 2012 adoption of total nitrogen and total phosphorus standards for lakes and reservoirs in Regulation #31. In addition, the commission continued its phased implementation of chlorophyll *a*, total nitrogen, and total phosphorus standards in prioritized waterbodies. As described below, the commission has determined that a three-year extension of the 2012 interim numeric values for phosphorus and nitrogen for rivers and streams below dischargers is necessary and appropriate.

The control regulation established numerical effluent limitations for many domestic wastewater treatment plants and industrial wastewater dischargers that are likely to have significant levels of nutrients in their discharges. It also included requirements for other point source dischargers and voluntary steps for nonpoint sources to address nutrients. The current Regulation #85 technology-based effluent limits are set to expire in December 2027 and significantly lower nutrient standards for lakes, reservoirs, and streams below existing dischargers in Regulations #31 to #38 are set to become effective in January 2028. The commission recognizes that the resulting more rigorous permit limits are not technologically feasible in most cases and could result in a permit with effluent limits that cannot be achieved for many dischargers, and create significant programmatic issues for the division, especially in permitting and compliance dealing with the situation. Although there are many small domestic wastewater facilities, their collective loading to Colorado state waters is very small (e.g., approximately 85% of the domestic wastewater treatment facilities have only approximately 12% of the treatment capacity. These small facilities serve smaller communities with limited economic resources. The commission recognizes that the expiration of the extensions of time and exemptions currently in Regulation #85 for smaller facilities may also present economic difficulties to those communities.

Although it can take a significant number of years for existing wastewater dischargers to accomplish the planning, financing and construction of facilities to meet the Regulation #85 effluent limitations, the commission believes the control regulation approach to implementation of nutrient controls was considerably more expeditious than that which would result from the delays and transaction costs associated with the traditional standards-based control efforts and many site-specific variance applications. The commission continues to believe that Colorado will proceed faster and more expeditiously in nutrient water quality improvements by focusing the primary control efforts for the foreseeable future on continuing a refined technology-based approach established in Regulation #85. The commission finds it appropriate to continue a nutrient control regulation approach at this time. The commission desires the next update to be a comprehensive framework for prioritizing water quality improvement based on economic, technological, and environmental feasibility in an approach that gives facilities incremental treatment improvements, ensuring communities can meet compliance goals without undue financial stress.

The development of methods to evaluate technical and economic feasibility for nutrient removal at low levels involves significant effort for both the technical and economic considerations. In 2025, stakeholders and the division began partnering in funding a National Water Research Institute (NWRI) expert panel to provide input on questions of technological feasibility of nutrient removal in domestic wastewater treatment. In addition, the division has been actively developing methods for several years to provide data and tools to guide economic feasibility evaluations. At the July 2025 Water Quality Forum annual retreat, the division and stakeholders discussed the need to provide enough time to evaluate the results from the Water Quality Forum Feasibility and Implementation Subgroup to develop a longer-term regulatory

approach to reduce nutrients statewide in a comprehensive framework considering technical and economic feasibility.

The commission has determined that development of a comprehensive framework is important and the development effort needs more time than is currently available before the 2027 expiration of the Regulation #85 effluent limits. Therefore, the commission is adopting a two-step approach to extending and then modifying Regulation 85. At this time, the commission is adopting a three year extension to Regulation #85 with minor other changes. In addition, the commission is separately extending the voluntary incentive program in Policy 17-1 through 2030. The commission is also separately adopting a coordinated extension to the nutrient standards for lakes, reservoirs, and streams below existing dischargers in Regulations #31 to #38. The commission expects this extension to provide time for the division and stakeholders to develop the comprehensive framework for an updated control regulation to prioritize water quality improvement based on economic, technological, and environmental feasibility in a phased approach, reflecting the financial needs of communities. During the extension period, the commission anticipates adopting an updated control regulation that provides technological based effluent limits for the foreseeable future and includes methods for providing flexibility to communities with demonstrated economic limitations. The commission expects segment-specific adoption of nutrient standards (TN and TP) will continue to be limited (status quo) until after the commission determines that technology based effluent limits are no longer making sufficient water quality improvements. The commission directs the division to develop a process for reassessing the statewide nutrient control framework in the future and evaluating when a standards-based approach may become appropriate.

The intent of the commission for the future framework to reflect:

- A primary focus on biological nutrient removal as a sustainable method for wastewater treatment to balance and minimize adverse environmental impacts of significant chemical addition (e.g., salinity) and loss of water resource in this inland arid location (e.g., reverse osmosis).

- Continuing the focus of the control regulation on the bioavailable portions of nitrogen, excluding unavailable and untreatable portions of organic nitrogen (i.e., total inorganic nitrogen instead of total nitrogen).

- General phosphorus removal through biological methods and limited chemical phosphorus removal to balance significant increases in effluent salinity with decreasing marginal effectiveness in phosphorus removal with chemicals. A recognition that some locations may have specific needs for more enhanced nutrient removal treatment (e.g., phosphorus in areas with watershed control regulations or total maximum daily load (TMDL) limits).

- Recognition that nutrient removal focusing on technologically and economically feasible capabilities is the priority to enable the best water quality progress in the immediate term.

- Methods for flexibility for communities with demonstrated economic limitations to develop sustainable plan phases to systematically improve water quality over time.

- Quantitative and qualitative measures to encourage all sizes of wastewater treatment facilities to improve water quality through treatment based on balancing available resources.

- Continue encouraging nonpoint source projects to improve water quality.

- Continue educational efforts regarding nutrients in stormwater through municipal separate storm sewer system (MS4) permits to improve water quality.

- Continue water quality monitoring to characterize nutrient sources and track current nutrient conditions, to help inform future regulatory decisions regarding nutrients.

The commission adopted the following specific changes to Regulation 85 during this hearing.

- Section 85.5, extending the expiration date for technology-based effluent limits from December 31, 2027 to December 31, 2030 to provide time for development of a more comprehensive update to the control regulation.

- Section 85.5(1.5), extending the period of time for participants in the voluntary incentive program to accrue credits through December 31, 2030. As noted earlier, the commission is separately extending the voluntary incentive program in Policy 17-1 through 2030. The commission anticipates incorporating methods for honoring accrued voluntary incentive program credits into the updated control regulation after the current extension. The commission expects the accrual of credits in the voluntary incentive program, Policy 17-1, to end at the end of 2030.

In the interest of maintaining a relatively simple extension, the commission chose to keep the existing Regulation #85 sections regarding monitoring of effluent and in-stream locations, nonpoint source, and municipal separate storm sewer system (MS4). Additional discussion is provided on these topics below.

Regulation #85 established effluent monitoring requirements for effluent discharges and a program of in–stream monitoring of surface waters for nutrients and related parameters. This effort was directed toward better characterizing nutrient sources and tracking current nutrient conditions, to help inform future regulatory decisions regarding nutrients. Future water quality decisions require the availability of recent ambient data for evaluation of the success of the technology-based effluent limits and for development of TMDL and standards. As noted, the commission is keeping the current monitoring requirements during the extension (section 85.6). The commission anticipates reviewing and updating the monitoring program with the updated control regulation after the current extension.

For MS4 permittees, Regulation #85 required public education and outreach on stormwater impacts associated with nutrients. MS4 permittee must develop, document, and implement a public education program to reduce water quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges. For Municipal Operations associated with nutrients, the permittee must develop and implement a municipal operations program that has the ultimate goal of preventing or reducing nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations. As noted, the commission is keeping the current MS4 requirements during the extension.

For nonpoint sources, Regulation #85 required collaboration with the agricultural community to implement best management practices (BMPs), nutrient management plans (e.g., flood to sprinkler conversion, irrigation pond lining, filter strips), and implementation of public information and education programs focused on nonpoint source pollution prevention and restoration activities. As noted, the commission is retaining the current nonpoint source requirements during the extension.

Editor's Notes

History

New rule eff. 09/30/2012.

Rules 85.2, 85.4-85.8, 85.16 eff. 12/30/2017.

Rules 85.1, 85.4, 85.5(1.5), 85.5(5)(c), 85.6(2)(b)(i)(B), 85.6(3)(c), 85.6(4)(c), 85.17 eff. 06/14/2023.