



COLORADO

**Water Quality
Control Commission**

Department of Public Health & Environment

Water Quality Control Commission Policy 17-1

Voluntary Incentive Program for Early Nutrient Reductions

Regulation #85 – Section 85.5(1.5)

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I. Introduction

As part of the Water Quality Control Commission's routine review of regulations, in October 2017, the commission held a rulemaking concerning the requirements to control nitrogen, phosphorus and chlorophyll *a* in both Regulation #85 and Regulation #31. In section 85.5(1.5), the commission established a Voluntary Incentive Program for Early Nutrient Reductions. In the statement of basis and purpose, the commission explained that 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 or nutrient-related waste load allocations.

The purpose of this policy is to establish the program requirements of the Voluntary Incentive Program for Early Nutrient Reductions ("Incentive Program").

II. Central Concepts of the Incentive Program

The driving objectives of this policy are for the State of Colorado to continue to make progress toward further reducing phosphorus and nitrogen in state waters, while providing facilities that go above and beyond the current regulatory requirements a meaningful incentive and certainty. Through section 85.5(1.5) and this policy the commission is offering existing domestic and non-domestic wastewater treatment facilities a performance-based Incentive Program, which means that improved performance by a wastewater treatment plant through reducing total phosphorus and total inorganic nitrogen levels below the technology-based effluent levels allowed by the Regulation #85 will result in the permittee receiving an incentive.

This policy is a continuation of the commission's policy decisions in 2012 to make initial reductions in nutrients through a technology-based framework. The commission has determined that the best way to make progress during the next ten years is to continue within the technology-based framework. The next step of nutrient reductions in Colorado is for existing facilities to achieve the levels of nutrients reductions that can be realized through enhanced biological nutrient removal (BNR) or other operational changes. Accordingly, the timeframes and levels of reductions for total phosphorus and total inorganic nitrogen in the Incentive Program reflect reductions that can be realized by achieving improvements in treatment that may approach, in some cases, enhanced BNR.

The commission has determined that the appropriate type of incentive to provide a participating wastewater treatment plant is an extended compliance schedule. The time allotted under the Incentive Program compliance schedule provided for by this policy will be in addition to any compliance schedule that the permittee would have otherwise received if the permittee had not participated in this program. The total of the two combined compliance schedules will not exceed fifteen years. The Incentive Program compliance program outlined in this policy satisfies the requirements of Regulation # 61.8(3)(n), 5 CCR1002-61, and Water Quality Control Division Clean

Water Policy 3, *Permit Compliance Schedules*, effective March 4, 2014. The combined compliance schedule will be included in the permittee's first permit renewal that incorporates effluent limitations based on numeric standards or variances to be adopted after 2027, or effluent limitations based on nutrient-related waste load allocations ("New Nutrient Limits"). The Incentive Program compliance schedule will be included in subsequent permit renewals until the entire compliance schedule duration has been provided to the permittee. For purposes of this policy, the term "wastewater treatment plant" includes both domestic wastewater treatment facilities and non-domestic wastewater treatment facilities.

III. History and Anticipated Path Forward on Nutrient Regulations in Colorado

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 dischargers, cooling tower discharges, and non-domestic discharges subject to Regulation #85 effluent limitations in segments throughout the state in accordance with section 31.17 of Regulation #31. The commission has also adopted the direct use water supply classification in accordance with section 31.17. As part of this two-part strategy, in 2012 the commission established the parameter limitations in Regulation #85 based on the potential nutrient removal that could be realized from BNR and enhanced biological nutrient removal (eBNR). See 5 CCR 1002-61, § 85.15(III). The commission "set" the parameter limitations for existing facilities, "based on 'first level' BNR that would typically consist of a three stage process (single stages of anaerobic, anoxic, and aerobic zones);" and for new facilities, "based on eBNR that would typically consist of a four or five stage process (multiple stages of anaerobic, anoxic, and/or aerobic zones)." *Id.*, § 85.15(III). Also, "[r]egarding averaging period for effluent limits, the commission established annual median and 95th 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." See Regulation #85, § 85.15(III), paragraph 5.

In 2012, the commission envisioned that the interim numeric values in section 31.17 could be used for the adoption of water quality standards for any surface waters in Colorado after May 31, 2022. The commission expected that during the 2022 through 2025 basin reviews, the Water Quality Control Division (division) would propose the adoption of numeric standards on individual segments to protect uses. Entities interested in site-specific numeric standards would develop their proposals in advance of the 2022 through 2025 basin reviews. Following the basin reviews in 2022 through 2025, the interim values, revised nutrient table value standards, or site-specific standards would have begun to be implemented in discharge permits.

In 2016, the Environmental Protection Agency (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 light of EPA's action, the division is re-evaluating the interim phosphorus and nitrogen values for rivers and streams, and the commission anticipates the division will propose revised numeric values, including:

- Collection of additional site-specific data for warm-water lakes and reservoirs
- Hearings in 2020 to consider impacts from nonpoint sources and potential strategies for nonpoint source control
- Adoption of chlorophyll *a* standards in 2022

Additionally, adoption of numeric phosphorus and nitrogen standards for lakes and reservoirs will be prioritized for hearings in 2022 based on the protection of public health (numeric standards will be adopted first on lakes and reservoirs upstream of domestic dischargers, lakes and reservoirs with the direct use water supply use classification, or where there is a swimming beach that is open to the public for a fee, defined as "natural swimming areas" in C.R.S. § 25-5-801).

There are limits in the technology available that would allow entities to meet the expected water quality-based effluent limitations (WQBELs) based on numeric standards for nutrients at the levels expected to be adopted in section 31.17 of Regulation #31, particularly in cases of low ambient dilution. The commission has revised its long-term strategy for water quality improvement in Colorado and decided to take a different approach for the time-period of 2017 through 2027 in order to provide sufficient time for development of revised numeric nutrient values and to provide certainty for the regulated community. This policy is a continuation of the commission's policy decisions in 2012. The commission has determined that the best way to make progress during the next ten years is to continue within the technology-based framework with an incentive for early nutrient reductions rather than a regulatory requirement. This policy was developed to create an incentive for wastewater treatment plants to incorporate revisions to operating practices, changes to infrastructure, or both, up to eBNR into their treatment processes, but it is completely within a participating wastewater treatment plant's discretion to choose how to reduce the level of nutrients in its discharge.

The commission will consider the adoption of revised standards for nitrogen, phosphorus, ammonia, and selenium, for all water bodies in the state in rulemaking hearings in 2027. While the commission's traditional approach would have meant that the commission would have considered updated standards for ammonia and selenium in 2021 and would have adopted updated site-specific standards in the basin reviews in 2022 through 2025, the commission will delay adoption of revised standards for selenium and ammonia until 2027 as well. The commission anticipates that over the course of the next 10 years, the division and stakeholders will work to develop recommended revisions to the standards for ammonia, selenium, nitrogen and phosphorus for rivers and streams, while at the same time developing feasibility information to assist dischargers with proposing discharger-specific variances (DSVs), which will also take into consideration the challenges of treating for nutrients, selenium, and ammonia, as well as temperature. In hearings in 2027, the commission will consider site-specific standards and DSVs for all of these parameters for all water bodies of the state. After adoption of revised numeric nutrient standards in 2027 for these

parameters 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's revised strategy will result in a delay in the adoption of numeric phosphorus and nitrogen values for some water bodies to 2027, it is committed to making additional progress towards nutrient reductions in Colorado during this second phase (2017-2027). To achieve this goal of early nutrient reduction, the commission is adopting this 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 or eBNR optimization, water quality trades, source reduction plans, watershed nutrient reductions, or other capital improvements.

The commission believes that an Incentive Program to encourage early reductions of nutrients is the best way to make progress at this time. The commission believes that more progress can be made through this Incentive Program than through mandating reductions by medium-sized facilities or facilities in a low priority watershed. For example, there is strong evidence to suggest that even if only the 15 largest dischargers took advantage of the Incentive Program, and if each of those facilities reduced its nitrogen 20 percent below the Regulation #85 effluent limits, the resulting load reduction in the state would be six 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 section 85.5(1)(a)(ii). The commission also believes that offering an incentive will result in more rapid nutrient reduction because it does not rely on the issuance of permit renewals and the five-year permit renewal cycle. 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 Incentive Program does not result in reductions as anticipated.

It is the commission's determination that this approach will achieve the maximum practical degree of water quality protection in state waters consistent with the welfare of the state, and that this approach maximizes the beneficial uses of water while bearing a reasonable relationship to the economic, environmental, energy, and public health costs and impacts to the public.

IV. Applicability

A. Existing facilities

This policy and the Incentive Program are available to all existing domestic and non-domestic wastewater treatment plants in the State of Colorado regardless of whether the facility is currently required to meet effluent limitations required by Regulation #85. To participate, a facility is expected to follow the program requirements outlined in this policy.

B. New treatment facilities subject to Regulation #85 effluent limitations

Commission Policy 17-1 and the Incentive Program do not apply to any facility that commences discharge after December 31, 2017.

V. Voluntary Incentive Program for Early Nutrient Reductions

This section of the policy outlines the requirements that a wastewater treatment plant is expected to meet to participate in the Incentive Program and the methodology for determining the duration of the incentive.

A. Compliance schedule incentive for early nutrient reductions

The commission has determined that the appropriate type of incentive to provide a participating wastewater treatment plant is an extended compliance schedule. Schedules of compliance are a regulatory tool authorized under the federal Clean Water Act and the Colorado Water Quality Control Act. As defined in the Clean Water Act (33 USC § 1362(17)):

"Schedule of compliance" means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.

Although the concept of a compliance schedule is in the federal Clean Water Act, EPA has determined that Congress intended that States, not EPA, are the proper authorities to define appropriate deadlines for complying with their own state law requirements. In *The Matter of Star-Kist Caribe, Inc.*, 3 E.A.D. 172, 175, 177 (1990).

The State of Colorado has incorporated compliance schedules into the state's water quality program. See § 25-8-501(3)(e), C.R.S.; 5 CCR 1002-61, § 61.3(b) and (n). A "schedule of compliance" is defined under the Colorado Water Quality Control Act as "a schedule of remedial measures and times including an enforceable sequence of actions or operations leading to compliance with any control regulation or effluent limitation." § 25-8-103(18), C.R.S. Provisions authorizing the use of compliance schedules are included both in Colorado's water quality standards (Regulation #31) and the implementing regulations (Regulation #61):

31.14(4). For new standards, revised standards that have become more stringent, and new interpretations of existing standards, the Division shall include schedules of compliance in permits when it determines such schedules to be necessary and appropriate.

61.8(3)(b). The conditions set forth in permits will implement, among other matters, procedures, requirements, and restrictions with respect to the following:

(v) Schedule of compliance where the Commission has adopted new standards, adopted temporary modifications, adopted revised standards that have become more stringent, or where the Division has developed new interpretations of existing standards including, but not limited to, implementation requirements through approved total maximum daily loads (TMDLs) and wasteload allocations and antidegradation reviews.

61.8(3)(n). Where applicable, the Division shall specify a schedule of compliance leading to compliance with the Federal and State Acts. Such schedule shall require the permittee to achieve compliance as soon as possible, but not later than the applicable statutory deadline under the Federal and State acts.

The Incentive Program provides an extended compliance schedule to those facilities that reduce their nutrient levels below the levels allowed by the technology-based effluent limitations in Regulation #85. To reduce nutrient levels below the Regulation #85 technology-based effluent limitations, wastewater treatment plants will either optimize the performance of existing treatment facilities or may potentially undertake infrastructure improvements to achieve nutrient removal. In all circumstances, the reductions in nutrients below the Regulation #85 parameter limitations are expected to be accomplished through additional operational/construction efforts and the expenditure of resources by the owners of the wastewater treatment plants.

B. Anticipated adoption of nutrient standards.

In 2027, the Commission anticipates adopting revised numeric values for nitrogen and phosphorus in rivers and streams, along with DSVs for facilities where achieving water quality-based effluent limitations is not feasible. After December 31, 2027, these standards will result in new water quality-based effluent limits (or alternative effluent limits (AELs), in the case of a DSV) being included in permits as an underlying permit limit. However, the commission expects that the existing Regulation #85 technology-based effluent limits (1 mg/L total phosphorus and 15 mg/L total inorganic nitrogen) will continue to be included as an active effluent limit requirement in permits until the New Nutrient Limits are implemented in the permit at the end of the compliance schedule.

Facilities that reduce their nutrient levels below the Regulation #85 parameter limitations before the division develops New Nutrient Limits will be taking good faith efforts above and beyond the Regulation #85 requirements, which will result in improved effluent and ambient water quality. Because facilities that participate in the Incentive Program will have taken efforts to meaningfully reduce their nutrient levels, and because the commission anticipates that the numeric nutrient standards will be below the Regulation #85 parameter limitations, the commission has determined that facilities that participate in the Incentive Program will receive additional time after the development of New Nutrient Limits to modify or add to their physical treatment processes, modify their operations, or take other additional actions to comply with the New Nutrient Limits. Furthermore, based on the 2012 interim values for rivers and streams in Regulation #31 and based on nutrient standards adopted across the country, the commission has determined that wastewater treatment plants in Colorado will likely need to install additional treatment facilities beyond eBNR to comply with the 2027 WQBELs.

C. Purpose of the Incentive Program

The Incentive Program is designed to provide wastewater treatment plants that participate in the Incentive Program with a period of time that will allow them to comply with the New Nutrient Limits as soon as possible. The Incentive Program is a performance-based program, which means that a

facility qualifies for a compliance schedule based both on the levels of reductions that the facility achieves and the timeframe in which the facility achieves and maintains those levels.

The Incentive Program encourages reductions in total phosphorus and total inorganic nitrogen concurrently, and the longest compliance schedules will be available to those facilities that reduce both total phosphorus and total inorganic nitrogen to the lowest levels. For example, a facility that achieves greater reductions for a longer period of time will be provided a longer compliance schedule under the Incentive Program because it is the commission's expectation that earlier and larger reductions will result in greater environmental benefit, which is an outcome the commission wants to encourage. In addition, the more nutrient reductions that are realized by a facility under the Incentive Program, the longer the compliance schedule that a facility will receive. To achieve additional nutrient reductions beyond the reductions that are achieved through the Incentive Program, a participating facility will need additional time to fund, design, construct and optimize additional treatment processes. This Incentive Program provides facilities certainty, which is beneficial given that most wastewater treatment plants are public entities that have a twenty-year planning horizon.

D. Compliance with Colorado compliance schedule policy and federal requirements

The Incentive Program compliance schedule authorized by this policy will include general compliance schedule durations that are calculated in accordance with this policy ("Incentive Policy Compliance Schedule"). The extended compliance schedule timeframe will be included in a permit in addition to the time that the permittee would have otherwise received if the permittee had not participated in this program ("underlying compliance schedule"). The amount of time allotted in the underlying compliance schedule by the division will be based on section 61.8(3)(n), 5 CCR 1002-61, and Water Quality Control Division Clean Water Policy 3, *Permit Compliance Schedules*, effective March 4, 2014. The duration of the compliance schedule to achieve WQBELs, including both the Incentive Program and underlying compliance schedule, will not exceed 15 years total. The combined compliance schedule will be included in the permittee's first permit renewal after 2027 that incorporates New Nutrient Limits, and will be included in subsequent permit renewals until the entire compliance schedule duration has been provided to the permittee. The division intends to renew the permits for the incentive program participants within two years of the conclusion of the incentive program (i.e., the intent is for permits to be renewed by 2029). Federal and state law allow for the inclusion of compliance schedules in permits "when appropriate" (40 CFR 122.47(a)(1)) and "where applicable" (5 CCR 1002-61, Section 61.8(3)(n)). The commission finds that the following considerations support a finding that the Incentive Program compliance schedule meets the required "as soon as possible" finding demonstration under Clean Water Policy 3 (effective March 4, 2014) and federal guidance:

- By expending funds in the short term to reduce nutrient levels leading up to the 2027 adoption of final numeric values, the permittee will likely need additional time than would otherwise be required to raise funds necessary to achieve final WQBELs in permits issued after December 31, 2027
- By making modifications to existing treatment facilities to achieve short-term nutrient reduction improvement, the permittee may be making changes that will not be consistent

with its plan to achieve final WQBELs after 2027. In these cases, the permittee will have expended funds on infrastructure that will represent a “lost” sunk cost. This could require removal or significant retrofit of this infrastructure when the permittee installs the final treatment solution.

- By focusing its efforts on achieving nutrient reductions between the 2017 adoption of the revisions to Regulations #31 and #85 and 2027 the permittee will have little if any time to be able to focus on developing options for a plan to meet WQBELs based on numeric values to be adopted in 2027
- By expending efforts and funds on voluntary nutrient reductions, the permittee shows good faith in meeting existing permit requirements and anticipated future requirements, while improving water quality before 2027
- After 2027, the division will prioritize accelerating nutrient reductions by facilities that have not yet taken voluntary steps to reduce nutrient levels

At the time of issuing and renewing each facility’s permit after 2027, there will need to be a case-by-case demonstration incorporated into the fact sheet of every permit to show that the extra time given to that facility is consistent with the discharger achieving the WQBELs “as soon as possible.” The division permit writer will refer to the rationale in this Policy when performing any analysis of the “as soon as possible” requirement and will use this rationale to support incorporating the Incentive Program Compliance Schedule into a permit fact sheet. The division permit writer will not modify the number of years earned in accordance with this policy. The commission further recognizes that the division permit writer, when determining if a facility is also entitled to an underlying compliance schedule for nutrients, will need to perform an independent analysis and considerations of “as soon as possible,” such as the steps needed to modify or install the necessary treatment facilities, operations, or other measures, and the time those steps would take based upon the facility’s financial resources or other relevant factors. These considerations will be included in the fact sheet accompanying each permit in accordance with 40 CFR 124.8, and the division will also incorporate interim requirements and dates for the achievement of the WQBELs. See 40 CFR 122.47(a)(3); 5 CCR 1002-61, Section 61.8(3)(n)(i).

E. Nutrient reduction plan

To participate in the program a wastewater treatment plant must submit a nutrient reduction plan to the division on or before December 31, 2019. A template for a nutrient reduction plan is included in this policy as Attachment A. The purpose of this plan is to notify the division of the facility’s intent to reduce nutrients below Regulation #85 effluent limits and the measures it plans to take to reduce its nutrients below the levels established by Regulation #85. Further, any permittee that operates more than one wastewater treatment facility and that desires to share the earned incentive credit it would otherwise receive for a facility with one or more facilities it operates, the proposed allocation of that compliance schedule credit amongst the permittees’s facilities shall also be described in the plan.

F. Annual reports

A wastewater treatment plant that has submitted a nutrient reduction plan to the division must submit reports to the division annually thereafter. A template for an annual report is included in this policy as Attachment B. The purpose of these annual reports is to update the division on the facility's progress. The first annual report is due to the division on or before March 31, 2020. Each year thereafter the annual report will be due on or before March 31st, and will cover data collected during the previous calendar year. Reports will not be required as permit conditions, but failure to submit a report will result in the facility being ineligible to earn extended compliance schedule credit for that year.

VI. Framework for Earning Incentive Program Compliance Schedule

A. Targeted reductions

The commission has developed a system for facilities to demonstrate nutrient reductions below the Regulation #85 parameter limitations that would allow a facility to qualify for an extended compliance schedule. The compliance schedule duration is based on the level, and duration, of nutrient reductions and calculated using a core point system.

The Incentive Program is intended to encourage the next level of realistic reductions that the commission has determined is feasible for wastewater treatment facilities to achieve with eBNR. The commission expects facilities to continue to investigate and explore emerging technologies during this time period. The Incentive Program is not intended to create a floor for facilities pursuing nutrient reductions over the next ten years, particularly in light of the potential for the evolution of technologies during that time period. The Incentive Program is also not intended to require facilities to use a particular technology or method for achieving nutrient reductions.

B. Sampling

During any year that a facility participates in the Incentive Program, at a minimum, the facility must take monthly composite effluent samples for total phosphorus and total inorganic nitrogen from its permitted outfall(s) following disinfection and prior to mixing with the receiving stream. This is consistent with the current sampling requirement in Regulation #85 for major domestic facilities. Sampling requirements and analytical methods shall follow the existing division requirements, policies, and guidance. Samples may be collected more often at the discretion of the participating facility that would result in a more robust data set.

C. Ten-Year performance program

The Incentive Program will start in 2018 and will end in 2027 (hereinafter referred to as program period). During this ten-year program period, a facility that chooses to participate will accrue its incentive by demonstrating performance below Regulation #85 nutrient parameter concentration limitations. The median statistic will be used as the basis for determining annual performance, which is generally consistent with the approach adopted by the commission in Regulation #85. This approach reflects the variable nature of biological processes and the finding in the statement of

basis and purpose for Regulation #85 that “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.” This program is designed to create an incentive for participating facilities to move towards eBNR through optimizing their performance at consistently lower concentrations than the Regulation #85 parameter limitations while providing flexibility, which is necessary to account for the inherent variability in biological processes. Domestic and non-domestic facilities are both eligible for this program, but regardless, all facilities will have to achieve the reduction levels outlined in this policy in order to be eligible for the Incentive Program compliance schedule.

1. Methodology

The statewide methodology (which is different in some aspects from the Barr Milton Watershed methodology) relies on a linear scaling of the annual median total phosphorus and total inorganic nitrogen concentrations between the upper and lower boundaries to earn incentive months. The following table outlines the maximum and minimum incentive months earned based on the annual total phosphorus and total inorganic nitrogen median values calculated each year.

Accumulation of incentive months

Total phosphorus annual median (mg/L)	≥1	≤0.7
Months earned	0	12
Total inorganic nitrogen annual median (mg/L)	≥15	≤7
Months earned	0	12

Annual median concentrations must be below the median values indicated in the above table for the facility to be eligible for an incentive. The scale for earning incentive months is implemented in a linear fashion based on annual median concentrations that fall within the ranges shown on the table. For example, if a facility’s annual median concentration is 0.85 mg/L total phosphorus, the facility is eligible to earn incentive credit for that year. Based on the linear scaling of the total phosphorus median, the facility would earn six months toward a compliance schedule. The months of incentive credit from each year will be summed at the end of the 10-year period and rounded down to the next whole month. Partial months will not be incorporated into compliance schedules.

A maximum of an additional 90 months (7.5 years) will be available for both total phosphorus and for total inorganic nitrogen, other than for facilities in the Barr Milton Watershed as explained below. However, the total additional years that can be allotted to each permittee after the total phosphorus and total inorganic nitrogen years earned are added together shall not exceed 10 years. This performance-based compliance schedule is in addition to the compliance schedule that the facility would have otherwise received if the facility had not participated in the Incentive Program. The performance-based program is designed to provide the maximum incentive to a facility that achieves the targeted reduction concentrations for seven out of the 10 years for one parameter and half the

targeted reduction concentrations for seven out of the 10 years for the other parameter (i.e. 7*12 months = 84 months and 7*6 months = 42 months, for a total of 126 months or approximately 10 years). The commission established this timeframe to provide facilities that have not yet begun to implement nutrient reductions a three-year time frame to plan, fund, design and construct nutrient controls.

Due to the pH and dissolved oxygen TMDLs that apply to Barr Lake and Milton Reservoir the commission has determined that the Incentive Program should be tailored for facilities located in the Barr Milton Watershed to align with the Barr Milton TMDLs target for total phosphorus of 0.1 mg/L. The statewide methodology and all other aspect of the Incentive Program will apply in the Barr Milton Watershed with the following exceptions:

- For facilities located in the Barr Milton Watershed that participate in the incentive program a maximum 120 months (10 years) can be accrued by reducing phosphorus. This performance-based compliance period is in addition to the compliance schedule that the facility would have otherwise received if the facility had not participated in the Incentive Program.
- The methodology relies on a linear scaling of the annual median total phosphorus between the upper and lower boundaries to earn incentive months. The following table outlines the maximum and minimum incentive months earned based on the annual total phosphorus median values calculated each year.

The following table reflects how incentive months for phosphorus reductions will be calculated for the Barr Milton Watershed:

Accumulation of incentive months for the Barr Milton Watershed

Total phosphorus annual median (mg/L)	≥1	≤0.7
Months earned	0	12
Total phosphorus annual median (mg/L)	≥0.7	≤0.1
Months earned		24

The commission recognizes that at the time of the adoption of this policy, over half of the facilities that are subject to Regulation #85 have not received renewal permits with total phosphorus and total inorganic nitrogen effluent limits that are based on Regulation #85. Facilities across Colorado will be at different starting points at the beginning of implementing this policy. As a matter of policy, it is important to the commission to set forth a reasonable but aggressive timeframe to allow facilities that want to participate to have time to fund, design and undertake construction activities so that they will have the opportunity to achieve the greatest nutrient reductions over the next 10 years and obtain the maximum incentive. Additionally, the commission determined that this framework provides an inherent maintenance requirement. A facility will need to maintain BNR or other processes for seventy percent of the program period to maximize its compliance schedule.

2. Calculation of the Incentive Program compliance schedule

After the program period has concluded in 2027, the division will add the total number of months that a facility has accrued for total phosphorus, and the total number of months that a facility has accrued for total inorganic nitrogen. The months accrued for total phosphorus and total inorganic nitrogen will be added together under the following circumstance:

- Where a facility reduces both total phosphorus and total inorganic nitrogen below the Regulation #85 parameter limitations, and reductions are achieved for both parameters. In this circumstance, the division will provide the facility a compliance schedule for both parameters of the same duration with the duration based on the total number of months earned for both parameters. For example, if a facility earned 24 months for reductions of total phosphorus and 12 months for reductions of total inorganic nitrogen, the division will provide the facility a compliance schedule for total phosphorus of 36 months and a compliance schedule for total inorganic nitrogen of 36 months (12 months + 24 months). Requiring reductions in both parameters to realize the benefit of having the months combined is a built-in backstop due to the inherent need to reduce both parameters to some degree to make progress through this Incentive Program and to allow participating entities to maximize the compliance schedule.

The months accrued for total phosphorus and total inorganic nitrogen will not be added together under the following circumstance:

- Where a facility does not accrue any months for a parameter, then the facility will not be eligible to apply months earned for improvements to the other parameter. For example, if a facility earned 40 months for reductions of total phosphorus and zero months for total inorganic nitrogen, then the facility would only be eligible for a 40 month total phosphorus compliance schedule incentive. Requiring reductions in both parameters to realize the benefit of having the months combined is a built-in backstop due to the inherent need to reduce both parameters to some degree to maximize the compliance schedule.

The division will provide full credit to facilities that have been early adopters of technologies or practices that met or exceeded Regulation #85 parameter limitations prior to the initiation of the Incentive Program.

3. Application of the incentive compliance schedule in a facility's permit

The incentive compliance schedule will not begin to run until the division has included the incentive compliance schedule in a permit. The division will include a facility's incentive compliance schedule(s) for total inorganic nitrogen and/or total phosphorus in the facility's first permit renewal following the anticipated rulemaking in 2027, and will include the compliance schedule in subsequent permit renewal(s) until the entire compliance schedule duration has been provided to the permittee. The incentive compliance schedule will be in addition to what a facility would have otherwise received, as explained above. Also, the total of the two combined compliance schedules will not exceed 15 years to comply with a water quality-based effluent limit.

VII. Effluent Limitations Pursuant to a Nutrient-Related TMDL Waste Load Allocation

The division has developed Total Maximum Daily Loads (TMDLs) with total phosphorus waste load allocations for some water bodies. These include TMDLs for Barr Lake and Milton Reservoir for pH and dissolved oxygen, and for Fruitgrowers Reservoir for dissolved oxygen. Several segments are on the Section 303(d) List of impaired water bodies in Regulation #93 based on pH or dissolved oxygen (D.O.) impairments, many of which have or may lead to the development of TMDLs with waste load allocations for phosphorus or nitrogen. In addition, in 2022 the commission plans to adopt chlorophyll *a* standards for all water bodies throughout the state. Adoption of chlorophyll *a* standards may result in impairment listings and TMDL development including phosphorus or nitrogen waste load allocations.

Regulation #61, section 61.8(2)(c), requires the division to incorporate effluent limits consistent with the waste load allocation established under an approved TMDL. Section 61.8(2)(c) also authorizes the division to incorporate interim limits and a schedule of compliance to attain the effluent limits based on the waste load allocation.

The commission intends to use the Incentive Program to incentivize early nutrient improvements at facilities located in the watersheds of segments that have nutrient-related impairments or approved TMDLs. The Incentive Program can encourage nutrient reductions that occur before a TMDL is developed or earlier than the dates provided in a TMDL implementation plan. Furthermore, application of the Incentive Program to phosphorus or nitrogen limitations derived from waste load allocations reduces uncertainty and encourages participation by more facilities. Therefore, the Incentive Program will be applicable to effluent limitations for phosphorus or nitrogen pursuant to a TMDL wasteload allocation. As discussed previously, facilities subject to the Barr Milton TMDL will earn credit for total phosphorus reduction in a different manner than other facilities that are eligible to earn incentive credit.

VIII. Alternate Effluent Limitations Pursuant to a Discharger-Specific Variance

In order to provide greater certainty and to encourage more facilities to participate in the Incentive Program, participating wastewater treatment plants will be eligible for extended compliance schedules to meet AELs established pursuant to a DSV.

The commission anticipates that DSVs may be requested by numerous facilities. Many facilities in Colorado discharge to streams with very little dilution. As a result, WQBELs based on numeric phosphorus and nitrogen standards are expected to be close to, or equal to, the water quality standards at the end of pipe. Nutrient WQBELs are anticipated to be below the current limits of technology for wastewater treatment plants or would require treatment that could cause negative environmental consequences or substantial and widespread adverse social and economic impacts. Either circumstance would support the adoption of a DSV by the commission.

At the time of the development of the Incentive Program, it is not known what the numeric phosphorus and nitrogen standards will be, and therefore it is also not known whether meeting nutrient WOBELs will be technologically, economically, and environmentally feasible for any given facility. Accordingly, the division, commission, and facilities do not know whether facilities should plan to be subject to nutrient WOBELs or nutrient AELs after 2027. In order to maximize the progress on nutrient reductions, the commission believes it is necessary to allow dischargers who are subject to nutrient AELs to participate in the Incentive Program.

Permit durations, compliance schedule durations, and discharger-specific variance durations may all be different, although they include interrelated considerations. Permit durations are up to five years (and almost always equal to five years). The regulations and guidance governing duration of compliance schedules to meet WOBELs, which have no maximum duration, are described in more detail above in section V.D.

DSVs also have no maximum duration. DSVs are time-limited water quality standards with conditions and durations set by the commission under section 31.7(4) and reviewed by the EPA under Clean Water Act Section 303(c). The duration of a variance is set by the commission on a case-by-case basis, based on all relevant factors, including the potential for achieving more protective effluent levels. See Section 31.7(4)(c) and (d). According to the federal regulations, the variance duration "must only be as long as necessary to achieve the highest attainable condition." 40 CFR 131.14(b)(1)(iv). Moreover, the duration must be justified by "describing the pollutant control activities to achieve the highest attainable condition . . . which serve as milestones for the water quality standards variance." See 40 CFR 131.14(b)(2)(ii). The division can grant a permit compliance schedule when a permittee needs additional time to meet its AEL based on the variance. Just as with WOBELs in permits, the compliance schedule in the context of a variance is required to lead to compliance with the AEL "as soon as possible." See 80 Fed. Reg. 51039 (August 21, 2015).

In recent DSV decisions (La Junta, Nucla and Suncor), the commission adopted DSVs that were longer than or equal to the AEL compliance schedule that was on the record which is consistent with the federal requirements defined above. In these cases the AEL was protective of the highest attainable condition. The duration of the variance for dischargers who participate in the Incentive Program will need to be long enough to accommodate the time earned under the Incentive Program. In other words, the duration of the variance will need to be greater than or equal to the Incentive Program compliance schedule. Similar factors as described for WOBEL compliance schedules in Section V.D. above can be used in the justification for the duration of the variance. In addition, the total AEL compliance schedule, including both the Incentive Program extension and the underlying AEL compliance schedule, will not exceed 12 years total.
~~In recent DSV decisions, the commission has assumed that as long as the proposed AEL compliance schedule is less than or equal to the variance duration then the federal requirements defined above are met. The commission has assumed in these cases that the AEL is protective of the highest attainable condition. Therefore, the duration of the variance for dischargers who participate in the Incentive Program will need to be long enough to accommodate the time earned under the Incentive Program. In other words, the duration of the variance will need to be greater than or equal to the Incentive Program compliance schedule. The commission assumes that similar factors as described for WOBEL compliance schedules in Section~~

~~V.D. above can be used in the justification for the duration of the variance. In addition, the total AEL compliance schedule, including both the Incentive Program extension and the underlying AEL compliance schedule, will not exceed 10 years total.~~

The Incentive Program will provide extended compliance schedules to meet AELs under the division's broad authority to determine the schedule for meeting the State's water quality standards. However, the commission recognizes that for facilities that are already controlling nutrients to the maximum feasible extent, DSVs may be granted even if no additional feasible pollutant control technology can be identified in 2027. For these facilities, compliance with the AEL will not require additional capital expenses for total phosphorus or total nitrogen, or both. Facilities that are granted DSVs based on the greatest pollutant reduction achievable with pollutant control technologies installed before 2027 will therefore not receive an extended compliance schedule for any parameters for which the DSV does not require capital improvements.

Alternatively, where a DSV is granted based upon additional feasible pollutant control technology, the facility will be provided an extended compliance schedule. However, because an AEL is not fully protective of the classified use, the number of years granted under the Incentive Program will be reduced by 33 percent. If a facility only receives a DSV for one parameter, but has earned an extended compliance schedule for both nitrogen and phosphorus, the total amount of years earned will be used when reducing the extended compliance schedule by 33 percent. If a facility earns an extended compliance schedule for only one parameter and receives a DSV for that parameter, its credit would be reduced for the one parameter. For example, if a facility "maxes out" the years earned under Incentive Program (i.e., earns 10 years of an extended compliance schedule) by reducing both nitrogen and phosphorus then the facilities extended compliance schedule for the AEL would be 6.6 years. This extended compliance schedule for the AEL would be added to the underlying compliance schedule for the AEL and added together the total AEL compliance schedule should not exceed ~~10~~12 years.

IX. Applicability of Incentive Program to Facility Receiving Grants and Loans

The Incentive Program will apply to a facility regardless of the facility's status in receiving grants and loans, even if those proceeds are used to install capital improvements necessary to reduce nutrients.

X. Trading and Watershed Nutrient Reductions

The Incentive Program will allow a wastewater treatment plant to accrue time under a post-2027 compliance schedule through trading or watershed nutrient reductions as part of its nutrient reduction plan. In determining the amount of time to be provided, the division will use the applicable provisions of the Colorado Pollutant Trading Policy, October 2004, (Trading Policy) and the trading provisions in Regulation #85 at section 85.5(3)(d) for any trade credits generated. However, facilities can participate in both trading programs if the trading generates enough nutrient load reductions.

Since the objective of the Incentive Program is to encourage reductions in the discharge of nutrients to Colorado water bodies, the wastewater treatment plant will be credited for approved reductions

of nutrient discharges from point or nonpoint sources in the watershed. Watershed nutrient reductions consist of actions undertaken or sponsored by the permittee to reduce nutrients within the same HUC 8 watershed as the permitted discharge point. By their nature, watershed nutrient reductions can be made below the wastewater treatment plant discharge point. For example, downstream nonpoint source nutrient reductions may generate incentive credits without considering whether "hot spots" are created, as long as the permittee complies with all permit requirements during the Incentive Program. Also, watershed nutrient reductions are not necessarily required to result in "equal or better instream water quality ... at all locations and at all times," which is specified in section 85.5(d) for point source to point source trades. Similar to a trade, unless determined otherwise by the division, source reductions within the watershed will entitle the permittee to an incentive credit based on a default 1:1 ratio, and nonpoint watershed reductions will entitle the permittee to an incentive credit based on a default 2:1 ratio. Because of the site-specific nature of trading and watershed reduction programs, interested parties must establish the details of the program, including monitoring requirements, program nutrient reduction estimates, and performance standards, with the division prior to implementation.

Once the Incentive Program period has been completed (December 31, 2027), any trading program developed to generate an incentive will no longer be in effect. Subject to the trading requirements adopted by the division or the commission at that time, any wastewater treatment plant desiring to continue the reduction of nutrients at the same locations will have to submit a request for trading credits to the division for approval.

The trading proponent will be responsible for developing the nutrient reduction concept, the reduction plan and the implementation plan for the trade. The division will be responsible for the review and approval of a trade that is part of the facility's nutrient reduction plan.

The division will determine the duration of the compliance schedule incentive for implementing a water quality trade or watershed nutrient reductions on a case-by-case basis. The division will base the duration of the incentive on the amount of nutrient reduction below the concentration allowed for the facility under Regulation #85, after accounting for trade ratios or watershed reduction ratios. It is the commission's intent that the amount of incentive for implementing a trade will be equivalent to the incentive that would be available by achieving reduced concentrations of the discharge of nutrients from the wastewater treatment plant.

XI. Routine Review

Consistent with the commission's routine review of all of the commission's regulations, the commission will review the interim progress that has been achieved through the Incentive Program in 2020. In 2020, if an insufficient number of wastewater treatment plants are participating in the Incentive Program, then the commission may consider additional enhancements or nutrient requirements.

XII. Safety Clause

Nothing in this Section 85.5(1.5) or Regulation #85 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. A compliance schedule provided as part of the incentive program 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 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 that is attributable to nutrients.

XIII. Attachments

The following attachments are included with this policy:

- Attachment A: Nutrient reduction plan template
- Attachment B: Nutrient Annual Report template

Attachment A
Nutrient reduction plan template

Attachment A

Voluntary Incentive Program for Early Nutrient Reductions Application Form Template (Form to be web-based - Developed by the Water Quality Control Division)

Facility Information

- Name
- Address
- Email
- Phone Number
- Receiving Water Name and Segment
- Discharge Location (lat./long. coordinates, in decimal degrees, of location where effluent meets receiving water)
- CDPS Permit Number
- CDPS Permit Effective/Expiration Dates
- Flow Rate (million gallons per day)
 - Rated capacity
 - Previous year annual average flow
- Contact Information
 - Legal Contact (name, title, address, phone number and e-mail)
 - Certified Operator (name, title, address, phone number and e-mail)
 - Best contact for incentive program (choose: legal contact, certified operator, other (name, title, address, phone number and e-mail)).
- Treatment Process Type (this will be a drop down menu)

CDPS Discharge Permit Nutrient Removal Requirements

- Does the facility CDPS permit currently include Regulation 85 requirements? [Y/N]
 - If yes, provide the permit number if different than above.
 - Does your facility have limits for TIN?, TN?, TP?(check all that apply)

Nutrient Reduction Method(s) to Be Implemented Under Incentive Program

- Will wastewater treatment operational and/or new treatment processes be used to reduce nutrients below Regulation 85 requirements? [Y/N]
 - If yes, describe anticipated operational and/or new treatment processes. Include detail for each nutrient - TIN and/or TP (there will be separate fields for TIN and TP).
- Will the facility implement procedures to reduce nutrient loads to the wastewater treatment facility? [Y/N]
 - If yes, describe anticipated procedures. Include detail for each nutrient - TIN and/or TP. (there will be separate fields for TIN and TP)
- Is the facility considering pursuing nutrient trading? [Y/N]

- If yes, describe anticipated trading details. Include detail for each nutrient - TIN and/or TP. Include details for trading partner(s) as well.

Anticipated Nutrient Reduction Goals

- Does the facility have specific nutrient reduction goals? [Y/N]
 - If yes, provide goals for TIN and TP and anticipated year (defined as the year into the 2018-2027 10-year program duration, ie., “year 5, 2022”) goals are planned to be achieved.

Attachment B
Annual report template

Attachment B
Voluntary Incentive Program for Early Nutrient Reductions Annual Reporting Requirements

Data collected in support of the Voluntary Incentive Program for Early Nutrient Reductions under Water Quality Control Commission Policy 17-1 shall be maintained in an electronic form. All data collected pursuant to Policy 17-1 shall be submitted to the Water Quality Control Division in electronic format by March 31st the year following each year for which an incentive is being requested. Under Policy 17-1, Incentive Program participants have the ability to reduce nutrients as defined in Policy 17-1 Sections VI. Depending on the nutrient reduction method utilized, Incentive Program participants may need to provide different data and information to demonstrate nutrient reductions for the year corresponding to the annual reporting requirements. Data shall be submitted in subsequent years in a similar format (or appended to the previous report) so as to allow for direct comparison from one implementation year to the next.

Annual reporting requirements shall include the following information.

Incentive Program Participant Information

- Facility Name
- Address
- Email
- Phone
- Receiving Water Name and Segment (facility receiving water or receiving water(s) considered for a trade)
- Discharge Location, including coordinates (if applicable)
- CDPS Permit Number
- Legal Contact Information (address, phone number and e-mail)
- Best contact for data included in implementation report (name, phone number, e-mail)

Nutrient Reduction and Discharge Information

The following information related to nutrient reductions from a wastewater treatment facility shall be provided:

- Date Range and Year for which data are being submitted.
- If applicable, annual median TIN concentration values (mg/L)^{1,2}.
- If applicable, annual median TP concentration values (mg/L)¹.
- Annual average discharge rate and design capacity (mgd).

¹ Regulation 85 describes these as rolling values, so we would anticipate 12 values per year. Calculation of values is described in the division's [Discharge Monitoring Report Guidance](#).

² The division recognizes that there may be slight discrepancies in calculated TIN values due to the treatment of non-detect data in the summation.

- Nutrient Reduction Process
 - Provide a description of wastewater treatment facility operational and/or treatment processes used to achieve nutrient reductions below Regulation 85 parameter limitations. If available, an estimate of costs to achieve nutrient reductions shall be provided.

The following information related to nutrient reductions that include trading shall be provided:

- Participant(s) included in the trade. If trade is occurring between facilities operated by the same entity, please list information for each facility participating in the trade.
- Watershed(s), waterbody(ies) and segment(s) included in the trade.
- Nutrient reductions, TIN and/or TP.
 - Since trading can be applied in various forms, a description of the trade structure and determination of nutrient reductions as they apply to receiving additional compliance schedule years under Policy X shall be provided.

The following information related to nutrient reductions that include source (defined as a discharge to the wastewater treatment facility) reductions shall be provided:

- Source discharge(s) considered in the reduction
- Nutrient reductions, TIN and/or TP.
 - Since source reductions can be accomplished in various ways, a description of the source reduction(s) and determination of nutrient reduction impacts to the wastewater treatment facility shall be provided.