

Frequently Asked Questions
Water Quality Rules and Regulations, Chapter 1, Wyoming Surface Water Quality Standards
Rulemaking to Allow Discharger Specific Variances
Before the Environmental Quality Council February 2018

What is the purpose of this rule change? The Wyoming Department of Environmental Quality/Water Quality Division (WDEQ/WQD) is proposing to add language to the Water Quality Rules and Regulations, Chapter 1, Wyoming Surface Water Quality Standards, to allow the Water Quality Administrator to grant temporary modifications to a designated use and water quality criteria in circumstances where meeting a water quality-based effluent limit for ammonia and/or nutrients would result in substantial and widespread social and economic impacts (economic hardship). In other words, in circumstances where it is not economically feasible to meet a water quality-based effluent limit for ammonia and/or nutrients, WDEQ/WQD may allow the permittee additional time to meet the effluent limit.

Where is WDEQ/WQD in the rulemaking process? In February 2017, WDEQ/WQD released proposed rule language, a statement of principal reasons for the proposed changes, and a takings analysis for public scoping. The public scoping period closed on March 27, 2017. Based on the comments received, WDEQ/WQD revised the proposed rule and supporting documents and released the rule package for a second public comment period on May 23, 2017 in anticipation of the June 23, 2017 Water and Waste Advisory Board meeting. Based on the comments received before and during the June 23, 2017 Water and Waste Advisory Board meeting, WDEQ/WQD revised the proposed rule and supporting documents. These were released on August 11, 2017, in anticipation of the September 22, 2017 Water and Waste Advisory Board meeting. At the September 22, 2017 meeting, the Water and Waste Advisory Board recommended advancing the proposed rules to the Environmental Quality Council. The council will consider the proposed rule at a February 2018 hearing.

What is WDEQ/WQD releasing for public review? WDEQ/WQD has developed draft rule language, a statement of principal reasons for the proposed changes, a Response to Comments for the Comment Period Ending September 22, 2017, and a takings analysis that describes how the proposed changes could potentially impact private property.

Where can I find the proposed rule language and accompanying information? The proposed rule language and accompanying documents can be found at the following link:

<http://deq.wyoming.gov/wqd/resources/proposed-rules-regs/>.

How do I submit my comments? Written comments regarding the proposed revisions may be directed to Gina Thompson, 200 West 17th Street, Suite 400, Cheyenne, Wyoming, 82002 or faxed to (307) 635-1784. Electronic comments may be submitted online at <http://wq.wyomingdeq.commentinput.com/>. Verbal comments will be accepted at the Environmental Quality Council hearing at 10:00 AM on February 21, 2018 at the Herschler Building, Room 1699, 122 West 25th Street, Cheyenne, Wyoming.

What is next in the process? WDEQ/WQD will present the proposed revisions to the Environmental Quality Council on February 21, 2018. The Environmental Quality Council will consider the proposed rules and the written comments received before and at the hearing. The Environmental Quality Council will consider the proposed rule, written and electronically files comments, and WDEQ's Analysis of Comments, along with any modifications proposed by WDEQ to the draft rules. The council will determine if the record will remain open beyond the close of the scheduled hearing or may close the

record and make a final decision regarding the rules at the conclusion of the hearing. Once approved by the council, the revised rules will be submitted to the Governor for approval. Once approved by the Governor, the rules will be sent to the United States Environmental Protection Agency pursuant to the federal Clean Water Act.

Who do I contact with questions? Questions should be directed to Lindsay Patterson at Lindsay.Patterson@wyo.gov or 307-777-7079.

Why is DEQ initiating this rulemaking? DEQ is initiating this rulemaking to increase the options available to point source discharges that may be unable to meet water quality-based effluent limits.

What is a water quality-based effluent limit? Effluent limits are concentrations of pollutants that point source discharges are required to meet as a condition of their Wyoming Pollutant Discharge Elimination System (WYPDES) Program permit. Effluent limits can be technology based or water quality based. Water quality-based effluent limits are derived from water quality criteria, either as part of a reasonable potential analysis during WYPDES permit development or as part of a total maximum daily load (TMDL).

Why might some point sources be unable to meet a water quality-based effluent limit? Water quality criteria (and corresponding effluent limits) are intended to protect designated uses such as aquatic life and do not take into consideration the feasibility or costs associated with meeting the criteria. In some cases, meeting the water quality-based effluent limit may require millions of dollars in capital investments or complex treatment systems that may be unrealistic for small communities or small businesses to afford and operate.

What options are currently available to point sources that are unable to meet a water quality-based effluent limit? Currently, permittees can request a change to a designated use, a change to water quality criteria, or a compliance schedule.

Why are these current options not sufficient? In many circumstances, DEQ and local stakeholders would like to retain a designated use and associated water quality criteria as the appropriate goal for a water. Compliance schedules are often granted for one five-year permit cycle and require a permittee to identify specific actions it will take to meet the effluent limit when the compliance schedule ends; however, many permittees may need longer than five years to meet a water quality-based effluent limit and in some cases they may not know whether they can ultimately meet the effluent limit or not.

What are the advantages of a discharger specific variances versus modifying a designated use and water quality criteria? A discharger specific variance would retain the underlying designated use and water quality criteria. Retaining the underlying use and criteria recognizes that although a permittee may not currently be able to meet a water quality-based effluent limit, the permittee may be able to meet the limit in the future as economic conditions change, technologies improve or become cheaper and easier to operate.

What is the permittee required to do in exchange for obtaining a discharger specific variance? The proposed rule requires the permittee achieve the highest attainable condition in the receiving water by meeting an interim effluent limit that reflects the greatest pollutant reduction achievable and developing and implementing a pollutant minimization program. The highest attainable condition is reviewed at least every five years to ensure that the permittee is making sufficient progress toward meeting the water quality-based effluent limit.

How does DEQ plan to determine economic hardship? Each applicant for a discharger specific variance would be required to submit a comprehensive alternatives analysis that identifies the costs associated with various pollutant control techniques. DEQ will rely primarily on [USEPA guidance](#) to assist in determining whether the most cost-effective alternative that would result in economic hardship. The guidance takes into consideration the pollutant control costs and the ability of the responsible entity to pay those costs. Municipalities, for example, would be evaluated on the number of households, median household income, existing debt, unemployment rates, property values, property tax revenue, etc. Private entities would be evaluated on their revenue and other debts.

How does DEQ plan to determine the highest attainable condition of the receiving water? As part of an economic hardship demonstration, permittees will be required to identify costs associated with various pollutant removal methods. DEQ and the permittee would evaluate the permittee's economic situation and the pollutant removal methods to determine what affordable pollutant control technique will provide the best effluent quality. In circumstances where a permittee is already paying a considerable amount to treat their wastewater or where financial conditions would not allow them to pay any more for treatment, the permittee would be required to develop a pollutant minimization program that would outline the steps the permittee will take to maintain and improve processes and pollutant controls that will prevent or minimize pollutant loadings. In circumstances where the permittee can afford to improve their existing pollutant control system, the permittee would implement the preferred option and develop and implement a pollutant minimization program to ensure that the treatment facility is maintained and operated in a manner that will minimize pollutant loading.

Why is DEQ proposing this rule now? DEQ is aware of at least one small municipality in the state that is looking at significant and costly upgrades to their wastewater treatment system to meet an ammonia effluent limit derived from a TMDL. DEQ is also considering adopting the United States Environmental Protection Agency's (USEPA) 2013 recommended aquatic life criteria for ammonia. The 2013 recommended chronic ammonia criteria are approximately half of Wyoming's current chronic ammonia criteria. The revised criteria will likely increase the number of wastewater treatment systems in the state that may have difficulty meeting ammonia effluent limits because many wastewater treatment systems were not designed to treat to low levels of ammonia. DEQ is also aware of some surface waters in the state that are impacted by nutrient pollution (i.e., total phosphorus and/or total nitrogen) and that most wastewater facilities were not designed for nutrient removal. It is likely not economically feasible for many of these facilities to meet nutrient effluent limits at this time.

How would members of the public provide input on discharger specific variances? The public will be provided drafts of each variance prior to an Administrator's determination. The public will be able to provide comments in writing or at public hearing on the proposed variance. Once a variance is granted by the Administrator, the public may also appeal the determination to the Environmental Quality Council, as outlined in Chapter 1, Section 8 of the Rules of Practice and Procedure. The public will also be provided an opportunity to comment on each reevaluation of the variance. Reevaluations must occur at least every five years.

Are variances to water quality standards allowed under the federal Clean Water Act? Yes, variances are allowed under the Clean Water Act. USEPA has recommended that states use variances as one tool to facilitate adoption of increasingly stringent water quality criteria for pollutants such as nutrients and ammonia. USEPA revised the water quality standards regulations in August 2015 to include additional

details on the use of variances (see [40 CFR § 131.14](#)). USEPA also has a [checklist](#) for evaluating state submissions of discharger-specific variances.

Do you have more details on how many facilities may potentially be impacted by the revised ammonia criteria? Wyoming has approximately 110 facilities (70 municipal, 30 private, and 10 industrial) that discharge ammonia or have the potential to discharge ammonia. Of the 70 municipal facilities, approximately 60 have lagoon wastewater treatment systems. Approximately 15 of the 60 lagoons discharge to receiving waters with a large amount of dilution and may not receive ammonia effluent limits. This leaves approximately 45 municipal wastewater lagoons that may be impacted by the revised ammonia limits.

Can you provide example cost estimates for what a discharger with a lagoon might incur to meet the revised ammonia limits? Water quality-based effluent limits for ammonia are based on the pH and temperature of the receiving water; the background concentration of ammonia in the receiving water; the critical low flow of the receiving water; and the flow of effluent. As a result, there is considerable variability in ammonia effluent limits depending on the amount of effluent, the size of the receiving water, and the pH and temperature of the receiving water. As such, not all facilities will require the same level of treatment to meet revised ammonia limits. That said, WDEQ/WQD does have information on the costs a handful of municipalities have incurred to meet Wyoming's current ammonia criteria, which were adopted in 2001. Three facilities have used the Clean Water State Revolving Fund program to finance improvements to their wastewater treatment plants to meet ammonia effluent limits. Capital costs ranged from 3.5 million for a 0.35 million gallon per day (mgd) plant to meet approximately 10 mg/L total ammonia nitrogen; 16 million dollars for a 6 mgd plant to meet approximately 1 mg/L total ammonia nitrogen; and approximately 15 million dollars for a 1.8 mgd plant to meet approximately 4 mg/L total ammonia nitrogen. The 2013 chronic ammonia criteria is approximately half of Wyoming's existing chronic ammonia criteria, so the potential costs for lagoons in the state is considerable (>\$100,000,000). Small communities with stringent limits generally will not be able to finance these projects without incurring significant economic hardship.

Do you have details on how many facilities may potentially be impacted by nutrient effluent limits? The number of facilities that may be impacted by nutrient effluent limits is likely to be greater than the number of facilities that may be impacted by the revised ammonia criteria because there may be additional facilities that discharge nutrients that currently do not discharge ammonia. In addition, many mechanical wastewater treatment plants were not designed to treat to low levels of nutrients, so even mechanical plants may have difficulty meeting water quality-based effluent limits for nutrients and would likely need to add pollutant control techniques such as biological nutrient removal to existing infrastructure.

Can you provide example cost estimates of what a discharger with a lagoon may incur to meet water quality-based effluent limits for nutrients? Similar to ammonia, effluent limits for nutrients will be based on the design flow the treatment plant, the critical low flow of the receiving water, the background concentrations of nutrients in the receiving water, and water quality criteria, so there may be considerable variability in nutrient effluent limits. However, general estimates for a lagoon to be able to treat for nutrients range from 1 million dollars at a very small plant to more than 75 million dollars at a 3 mgd plant.

Can you provide example cost estimates of what a discharger with a mechanical treatment plant may incur to meet water quality-based effluent limits for nutrients? Mechanical treatment plants would need to utilize biological nutrient removal technology to meet nutrient effluent limits and general estimates range from approximately 10 to 60 million dollars.

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