State of Utah

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Department of
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DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

MEMORANDUM

TO: Utah Water Quality Board

THROUGH: Walter L. Baker, P.E.

FROM: John Mackey, P.E.
Manager, Engineering Section

DATE: November 24, 2015

SUBJECT: Request to Initiate Rulemaking on Rule R317-1-3.3 Technology-Based Limits for Controlling Phosphorus Pollution (Amendment)

The purpose of this memorandum is to request authorization from the Utah Water Quality Board to initiate rulemaking to amend R317-1-3, *Requirements for Waste Discharges*. The proposed amendment would modify the subject rule to address comments received from POTWs regarding rule implementation. The proposed amendment also incorporates a voluntary wastewater treatment optimization element designed to encourage nitrogen pollution reductions. Additionally, the proposed amendment provides clarification to the phosphorus discharge cap basis, its implementation schedule, and to the requirements for manual collection of composite samples. Minor formatting changes to the rule have also been included with the amendment.

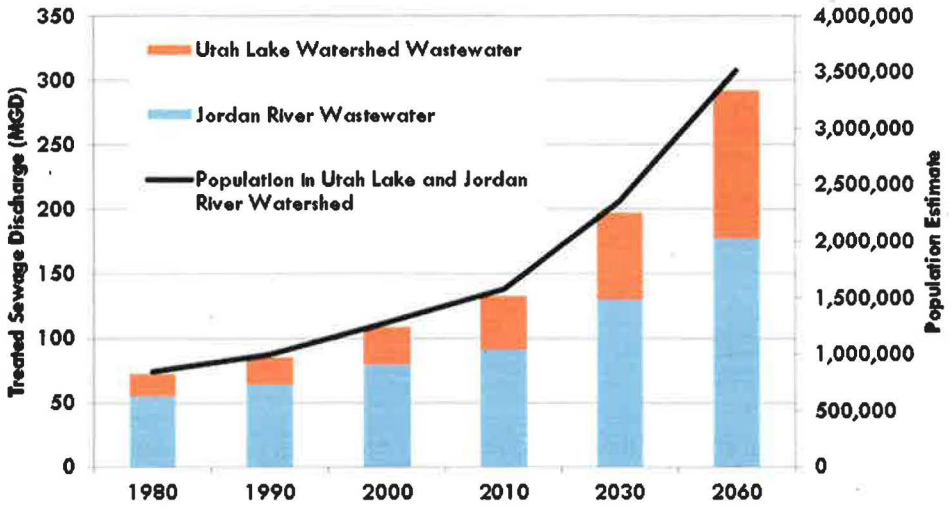
Background

On July 1, 2015, Rule R317-1-3.3 Technology-Based Limits for Controlling Phosphorus Pollution began taking effect with the initiation of self-implementing nutrient monitoring in the wastewaters of all discharging treatment works in the state. The next regulatory milestone of the rule will be January 1, 2018 when all variances to the rule will need to have been submitted for consideration by the Division. After that date, all discharging wastewater treatment works without variances will be required to comply with the technology-based phosphorus effluent limit (TBPEL) or the phosphorus loading cap as is applicable, by January 1, 2020.

Rule R317-1-3.3 institutes a technology-based effluent limit of 1 mg/L total phosphorus, applicable to all non-lagoon wastewater discharges into surface waters of the state. When implemented, the water quality

benefits of the rule will be to reduce the aggregate total phosphorus loadings into Utah's waters by more than 985 tons per year, which equates to a 66% reduction in treatment plant phosphorus discharges, and reduce receiving stream phosphorus concentrations on average by about 50 percent. Although the precise ecological benefits of this loading reduction are difficult to predict and it may take years before impacts are observable, several outcomes of the rule can be stated:

1. Current scientific understanding of the relationship between phosphorus loading and ecological response would predict a beneficial outcome.
2. The mass of phosphorus removed each year will no longer be available to accumulate in storage sinks such as lake and river sediments. By reducing these storage amounts, potential for long-term problems associated with episodic releases and internal cycling are diminished.
3. TBPEL of 1 mg/L total phosphorus is the consensus value among all other U.S. states that have opted to implement technology-based limits as part of their nutrient reduction strategies. In other words, the 1 mg/L TBPEL is recognized as achievable using current technologies employed in wastewater treatment in the U.S.
4. The 2010 "Statewide Nutrient Removal Cost Impact Study", performed in collaboration with the POTW community, substantiated the cost-effectiveness of establishing a 1 mg/L effluent limit for phosphorous.
5. The near-term implementation of the TBPEL will significantly reduce phosphorus loadings to Utah's waters until waterbody-by-waterbody phosphorus standards can be developed.
6. Developing nutrient criteria for each waterbody statewide will take many years if not decades. Implementing the 1 mg/L TBPEL is an interim and adaptive step to help hold the line on nutrient pollution until scientifically defensible criteria can be developed.
7. Without the TBPEL, the phosphorus load to Utah's waters is expected to increase in proportion to population growth. Utah has not changed secondary treatment standards since the 1970s, despite considerable population growth over that time. Population is expected to double state-wide by 2050. In the most densely populated areas of the state (e.g., Summit County and Utah County), population is expected to double within 30 years. The graph below summarizes the expected population growth in the Utah Lake and Jordan River watersheds and associated projected increases in treated sewage discharge.



Proposed Amendments to Rule: R317-1-3.3.C.1.e "Due Diligence" Variance

In addition to the required monitoring, many discharging treatment works throughout the state have begun conducting technical and financial studies that are directed toward implementing the rule. Two of the largest plants in the state have presented study results to the Division that indicate biological phosphorus removal technology is the preferred long-term nutrient control approach instead of chemical treatment.

Staff has reviewed the studies and cost estimates and has met with staff from the Salt Lake City and Central Valley Water Reclamation Facilities to discuss their challenges in cost-effectively implementing the current rule. Staff is supportive of the long-term plans of these plants to update and upgrade their wastewater treatment technology.

Staff believes that where facilities intend to implement extensive infrastructure upgrades to economically meet not only the TBPEL but to also meet long-term facility needs, additional time should be allowed for compliance with the TBPEL so long as those facilities are working diligently toward accomplishing these upgrades.

The proposed Amendment to R317-1-3.3 offers a variance for up to 5 years, until January 1, 2025, for facilities that are diligently pursuing implementation of the TBPEL but, in spite of their diligence, would be unable to achieve the effluent limit of 1.0 mg/L total phosphorus by January 1, 2020.

Proposed Amendments to Rule: R317-1-3.3.D "Nitrogen Optimization" Waiver

Nitrogen is recognized as an important nutrient that contributes to nutrient-related water quality problems and use impairments. Its interactions in the aquatic environment are more complex than those of phosphorus and hence, many regulatory authorities have tended to focus on controlling phosphorus as their primary means of reducing the effects of eutrophication. Nonetheless, nitrogen removal from wastewater discharges is an important part of many state water quality protection programs.

Utah's approach to implementing water quality protections has been to use an adaptive approach. The adaptive approach involves taking reasonable incremental steps to improve water quality followed by: (1) a performance review period to evaluate the benefits of these steps; (2) an assessment to determine their effectiveness; and (3) from new information produced, a consideration of the need for and magnitude of further steps required to permanently protect water quality-based uses.

Under our adaptive approach to nutrient control, Utah has proceeded with implementing technology-based phosphorus effluent limits as its first step. The adaptive approach specifies that the effectiveness of the TBPEL be assessed prior to implementing further nutrient regulation. In an effort to encourage a more proactive approach to protecting against nutrient pollution problems, DWQ is proposing a companion "nitrogen optimization" rule that incentivizes early adoption of nitrogen controls. The proposed amendment offers up to ten years of relief from future nitrogen regulation to dischargers who voluntarily reduce nitrogen discharges to agreeable levels prior to January 1, 2020. The goal of this waiver is to effect early, significant nitrogen reductions in discharges by facilities capable of doing so economically. In exchange, facilities that anticipate more stringent nitrogen requirements within their current construction planning period may be able to defer major construction improvements and costs by adopting minor improvements and costs sooner. Where this waiver is employed, there should be a long-term benefit to both the receiving water quality and to the pollution control facility.

Other Proposed Amendments to Rule: R317-1-3.3

Several minor modifications to R317-1-3.3 are incorporated with this amendment. Principally, the proposed amendment provides clarification to the phosphorus discharge cap basis and its implementation schedule, which had not been specified in the original Rule. The intent of these changes is to clarify that annual averaging over the first three years of phosphorus self-implementing monitoring will be used to establish effluent mass loading (in pounds per day) caps for discharging lagoon facilities.

A minor modification to the requirements for manual composite sample collection and preparation is proposed as a clarification. Minor formatting changes to the Rule have also been included with the amendment.

Staff Recommendation

Staff recommends that the Water Quality Board authorize initiation rulemaking to amend R317-1-3, *Requirements for Waste Discharges*. The proposed amendment is attached.

R317. Environmental Quality, Water Quality.
R317-1. Definitions and General Requirements.
R317-1-1. Definitions.

"Assimilative Capacity" means the difference between the numeric criteria and the concentration in the waterbody of interest where the concentration is less than the criterion.

"Biological assessment" means an evaluation of the biological condition of a water body using biological surveys and other direct measurements of composition or condition of the resident living organisms.

"Biological criteria" means numeric values or narrative descriptions that are established to protect the biological condition of the aquatic life inhabiting waters that have been given a certain designated aquatic life use.

"Board" means the Utah Water Quality Board.

"BOD" means 5-day, 20 degrees C. biochemical oxygen demand.

"Body Politic" means the State or its agencies or any political subdivision of the State to include a county, city, town, improvement district, taxing district or any other governmental subdivision or public corporation of the State.

"Building sewer" means the pipe which carries wastewater from the building drain to a public sewer, a wastewater disposal system or other point of disposal. It is synonymous with "house sewer".

"CBOD" means 5-day, 20 degrees C., carbonaceous biochemical oxygen demand.

"COD" means chemical oxygen demand.

"Deep well" means a drinking water supply source which complies with all the applicable provisions of the State of Utah Public Drinking Water rules.

"Digested sludge" means sludge in which the volatile solids content has been reduced to about 50% by a suitable biological treatment process.

"Director" means the Director of the Division of Water Quality.

"Division" means the Utah State Division of Water Quality.

"Domestic wastewater" means a combination of the liquid or water-carried wastes from residences, business buildings, institutions, and other establishments with installed plumbing facilities, together with those from industrial establishments, and with such ground water, surface water, and storm water as may be present. It is synonymous with the term "sewage".

"Effluent" means the liquid discharge from any unit of a wastewater treatment works, including a septic tank.

"Existing Uses" means those uses actually attained in a water body on or after November 28, 1975, whether or not they are included in the water quality standards.

"Human-induced stressor" means perturbations directly or indirectly caused by humans that alter the components, patterns, and/or processes of an ecosystem.

"Human pathogens" means specific causative agents of disease in humans such as bacteria or viruses.

"Industrial wastes" means the liquid wastes from industrial processes as distinct from wastes derived principally from dwellings, business buildings, institutions and the like. It is synonymous with the term "industrial wastewater".

"Influent" means the total wastewater flow entering a wastewater treatment works.

"Great Salt Lake impounded wetland" means wetland ponds which have been formed by dikes or berms to control and retain the flow of freshwater sources in the immediate proximity of Great Salt Lake.

"Large underground wastewater disposal system" means the same type of device as an onsite wastewater system except that it is designed to handle more than 5,000 gallons per day of domestic wastewater, or wastewater that originates in multiple dwellings, commercial establishments, recreational facilities, schools, or any other underground wastewater disposal system not covered under the definition of an onsite wastewater system. The Division controls the installation of such systems.

"Onsite wastewater system" means an underground wastewater disposal system for domestic wastewater which is designed for a capacity of 5,000 gallons per day or less and is not designed to serve multiple dwelling units which are owned by separate owners except condominiums and twin homes. It usually consists of a building sewer, a septic tank and an absorption system.

"Operating Permit" is a State issued permit issued to any wastewater treatment works covered under Rules R317-3 or R317-5 with the following exceptions:

A. Any wastewater treatment permitted under Ground Water Quality Protection R317-6.

B. Any wastewater treatment permitted under Underground Injection Control (UIC) Program R317-7.

C. Any wastewater treatment permitted under Utah Pollutant Discharge Elimination System (UPDES) R317-8.

D. Any wastewater treatment permitted under Approvals and Permits for a Water Reuse Project R317-13.

E. Any wastewater treatment permitted by a Local Health Department under Onsite Wastewater Systems R317-4.

"Person" means any individual, corporation, partnership, association, company, or body politic, including any agency or instrumentality of the United States government (Section 19-1-103).

"Point source" means any discernible, confined and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flow from irrigated agriculture.

"Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the state, or such discharge of any liquid, gaseous or solid substance into any waters of the state as will create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

"Sewage" is synonymous with the term "domestic wastewater".

"Shallow well" means a well providing a source of drinking water which does not meet the requirements of a "deep well".

"Sludge" means the accumulation of solids which have settled from wastewater. As initially accumulated, and prior to treatment,

it is known as "raw sludge".

"SS" means suspended solids.

Total Maximum Daily Load (TMDL) means the maximum amount of a particular pollutant that a waterbody can receive and still meet state water quality standards, and an allocation of that amount to the pollutant's sources.

"Treatment works" means any plant, disposal field, lagoon, dam, pumping station, incinerator, or other works used for the purpose of treating, stabilizing or holding wastes. (Section 19-5-102).

"TSS" means total suspended solids.

"Underground Wastewater Disposal System" means a system for underground disposal of domestic wastewater. It includes onsite wastewater systems and large underground wastewater disposal systems.

"Use Attainability Analysis" means a structured scientific assessment of the factors affecting the attainment of the uses specified in R317-2-6. The factors to be considered in such an analysis include the physical, chemical, biological, and economic use removal criteria as described in 40 CFR 131.10(g) (1-6).

"Wastes" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. (Section 19-5-102).

"Wastewater" means sewage, industrial waste or other liquid substances which might cause pollution of waters of the state. Intercepted ground water which is uncontaminated by wastes is not included.

"Waters of the state" means all streams, lakes, ponds, marshes, water-courses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion thereof, except that bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and wildlife, shall not be considered to be "waters of the state" under this definition (Section 19-5-102).

R317-1-2. General Requirements.

2.1 Water Pollution Prohibited. No person shall discharge wastewater or deposit wastes or other substances in violation of the requirements of these rules.

2.2 Construction Permit. No person shall make or construct any device for treatment or discharge of wastewater (including storm sewers) without first receiving a permit to do so from the Director or its authorized representative, except as provided herein.

A. Body Politic Required. A permit for construction of a new treatment works or a sewerage system, or modifications to an existing treatment works or sewerage system for multiple units under separate ownership will be issued only if the treatment works or sewerage system are under the sponsorship of a body politic as defined in R317-1-1.

B. Submission of Plans. Any person desiring a permit shall submit complete plans, specifications, and other pertinent documents

covering the proposed construction to the Director for review. Liquid waste storage facilities at animal feeding operations must be designed and constructed in accordance with Table 2a - Criteria for Siting, Investigation, and Design of Liquid Waste Storage Facilities with a water depth greater than 2 feet; Table 2b - Criteria for Siting, Investigation, and Design of Liquid Waste Storage Facilities with a water depth of 2 feet or less; and Table 2c - Criteria for runoff ponds with a water depth of 2 feet of less and a storage period less than 90 days annually, contained in the U.S.D.A. Natural Resource Conservation Service (NRCS) Conservation Practice Standard, Waste Storage Facility, Code 313, dated August 2006. This rule incorporates by reference Tables 2a, 2b, and 2c in the August 2006 U.S.D.A. NRCS Conservation Practice Standard, Waste Storage Facility, Code 313.

C. Review of Plans. The Division shall review said plans and specifications as to their adequacy of design for the intended purpose and shall require such changes as are found necessary to assure compliance with pertinent parts of these rules.

D. Approval of Plans. Issuance of a construction permit shall be construed as approval of plans for the purposes of authorizing release of federal or state funds allocated for planning or construction purposes.

E. Permit Expiration. Construction permits shall expire one year after date of issuance unless substantial and continuous construction is under way. Upon application, construction permits may be extended on an individual basis provided application for such extension is made prior to the permit expiration date.

F. Exceptions.

1. Wastewater facilities that discharge to an existing sewer system and serve only units that are under single ownership, or serve multiple units under separate ownership where the wastewater facilities are under the sponsorship of the public sewer system to which they discharge. This exception does not apply to pumping stations having the installed capacity in excess of 1 million gallons per day (3,785 cubic meters per day).

2. Onsite Wastewater Disposal Systems. Construction plans and specifications for onsite wastewater disposal systems shall be submitted to the local health authority having jurisdiction and need not be submitted to the Division. Such devices, in any case, shall be constructed in accordance with rules for onsite wastewater disposal systems adopted by the Water Quality Board. Compliance with the rules shall be determined by an on-site inspection by the appropriate health authority.

3. Small Animal Waste (Manure) Lagoons and Runoff Ponds. Construction plans and specifications for small animal waste lagoons as defined in R317-6 (permitted by rule for ground water permits) need not be submitted to the Division if the design is prepared or certified by the U.S.D.A. Natural Resources Conservation Service (NRCS) in accordance with criteria provided for in the Memorandum of Agreement between the Division and the NRCS, and the construction is inspected by the NRCS. Compliance with these rules shall be determined by on-site inspection by the NRCS.

2.3 Compliance with Water Quality Standards. No person shall discharge wastes into waters of the state except in compliance with these rules and under circumstances which assure compliance with water

quality standards in R317-2.

2.4 Operation of Wastewater Treatment Works. Wastewater treatment works shall be so operated at all times as to produce effluents meeting all requirements of these rules and otherwise in a manner consistent with adequate protection of public health and welfare. Complete daily records shall be kept of the operation of wastewater treatment works covered under R317-3 on forms approved by the Division and a copy of such records shall be forwarded to the Division at monthly intervals.

R317-1-3. Requirements for Waste Discharges.

3.1 Compliance With Water Quality Standards.

All persons discharging wastes into any of the waters of the State shall provide the degree of wastewater treatment determined necessary to insure compliance with the requirements of Rule R317-2 Water Quality Standards, except that the Director may waive compliance with these requirements for specific criteria listed in Rule R317-2 where it is determined that the designated use is not being impaired or significant use improvement would not occur or where there is a reasonable question as to the validity of a specific criterion or for other valid reasons as determined by the Director.

3.2 Compliance With Secondary Treatment Requirements.

All persons discharging wastes from point sources into any of the waters of the State shall provide treatment processes which will produce secondary effluent meeting or exceeding the following effluent quality standards.

A. The arithmetic mean of BOD values determined on effluent samples collected during any 30-day period shall not exceed 25 ~~[mg/l]~~ mg/L, nor shall the arithmetic mean exceed 35 ~~[mg/l]~~ mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the BOD values of effluent samples shall not be greater than 15% of the BOD values of influent samples collected in the same time period. As an alternative, if agreed to by the person discharging wastes, the following effluent quality standard may be established as a requirement of the discharge permit and must be met: The arithmetic mean of CBOD values determined on effluent samples collected during any 30-day period shall not exceed 20 ~~[mg/l]~~ mg/L nor shall the arithmetic mean exceed 30 ~~[mg/l]~~ mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the CBOD values of effluent samples shall not be greater than 15% of the CBOD values of influent samples collected in the same time period.

B. The arithmetic mean of SS values determined on effluent samples collected during any 30-day period shall not exceed 25 ~~[mg/l]~~ mg/L, nor shall the arithmetic mean exceed 35 ~~[mg/l]~~ mg/L during any 7-day period. In addition, if the treatment plant influent is of domestic or municipal sewage origin, the SS values of effluent samples shall not be greater than 15% of the SS values of influent samples collected in the same time period.

C. The geometric mean of total coliform and fecal coliform bacteria in effluent samples collected during any 30-day period shall not exceed either 2000 per 100 ~~[ml]~~ mL or 200 per 100 ~~[ml]~~ mL respectively, nor shall the geometric mean exceed 2500 per 100 ~~[ml]~~ mL or 250 per 100 ~~[ml]~~ mL respectively, during any 7-day period; or, the

geometric mean of E. coli bacteria in effluent samples collected during any 30-day period shall not exceed 126 per 100 [~~ml~~]mL nor shall the geometric mean exceed 158 per 100 [~~ml~~]mL respectively during any 7-day period. Exceptions to this requirement may be allowed by the Director where domestic wastewater is not a part of the effluent and where water quality standards are not violated.

D. The effluent values for pH shall be maintained within the limits of 6.5 and 9.0.

E. Exceptions to the 85% removal requirements may be allowed where infiltration makes such removal requirements infeasible and where water quality standards are not violated.

F. The Director may allow exceptions to the requirements of Subsections R317-1-3.2.A, R317-1-3.2.B, and R317-1-3.2.D where the discharge will be of short duration and where there will be no significant detrimental effect on receiving water quality or downstream beneficial uses.

G. The Director may allow that the BOD5 and TSS effluent concentrations for discharging domestic wastewater lagoons shall not exceed 45 [~~mg/l~~]mg/L for a monthly average nor 65 [~~mg/l~~]mg/L for a weekly average provided the following criteria are met:

1. the lagoon system is operating within the organic and hydraulic design capacity established by Rule R317-3;

2. the lagoon system is being properly operated and maintained;

3. the treatment system is meeting all other permit limits;

4. there are no significant or categorical industrial users (IU) defined by 40 CFR Part 403, unless it is demonstrated to the satisfaction of the Director that the IU is not contributing constituents in concentrations or quantities likely to significantly affect the treatment works; and

5. a Waste Load Allocation (WLA) indicates that the increased permit limits would not impair beneficial uses of the receiving stream.

3.3 Technology-based Limits for Controlling Phosphorus Pollution.

A. Technology-based Phosphorus Effluent Limits (TBPEL)

1. All non-lagoon treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus.

2. The TBPEL shall be achieved by January 1, 2020, or no later than January 1, 2025, after a variance has been granted under Subsection R317-1-3.3.C.1.e.

B. Discharging Lagoons -Phosphorus Loading Cap

1. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow[~~s~~] rates and concentrations. Absent field data to determine these loads, and in case of intermittent discharging lagoons, [~~they~~] the phosphorus load cap will be estimated by the [~~Division~~]Director.

2. A cap of 125% [~~times~~]of the current [~~average~~] annual total phosphorus load will be established and referred to as phosphorus loading cap. Once the lagoon's phosphorus loading cap has been reached, the owner of the facility will have five years to construct treatment processes or implement treatment alternatives to prevent the total

phosphorus loading cap from being exceeded.

3. The load cap shall become effective July 1, 2018.

C. Variances for TBPEL and Phosphorus Loading Caps

1. The Director may authorize a variance to the TBPEL or phosphorus loading cap under any of the following conditions:

a. Where an existing TMDL has allocated a total phosphorus wasteload to a treatment works, no TBPEL or phosphorus loading cap, as applicable, will be applied.

b. If the owner of a discharging treatment works can demonstrate that imposing the TBPEL or phosphorus loading cap would result in an economic hardship, an alternative TBPEL or phosphorus loading cap that would not cause economic hardship may be applied. "Economic hardship" for a publicly owned treatment works is defined as sewer service costs that, as a result of implementing a TBPEL or phosphorus loading cap, would be greater than 1.4% of the median adjusted gross household income of the service area based on the latest information compiled by the Utah State Tax Commission, after inclusion of grants, loans, or other funding made available by the Utah Water Quality Board or other sources. The Director will consider other demonstrations of economic hardship on a case-by-case basis.

c. If the owner of a discharging treatment works can demonstrate that the TBPEL or phosphorus loading cap are clearly unnecessary to protect waters downstream from the point of discharge, no TBPEL or phosphorus loading cap will be applied.

d. If the owner of the discharging treatment works can demonstrate that a commensurate phosphorus reduction can be achieved in receiving waters using innovative alternative approaches such as water quality trading, seasonal offsets, effluent reuse, or land application.

e. Where the owner of a non-lagoon discharging treatment works demonstrates due diligence toward construction of a treatment facility designed to meet the TBPEL, the compliance date shall be no later than January 1, 2025.

2. All variances to TBPEL and phosphorus loading caps shall be revisited [~~periodically~~] no more frequently than every five years or when a substantive change in facility operations or a substantive facility upgrade occurs to determine if the rationale used to justify the conditions in Subsection R317-1-3.3.C remains applicable.

3. For treatment works required to implement TBPEL or a phosphorus loading cap, the demonstration under Subsection R317-1-3.3.C must be made by January 1, 2018. Unless this demonstration is made, the owner of the discharging treatment works must proceed to implement the TBPEL or phosphorus loading cap, as applicable, in accordance with, respectively, Subsections R317-1-3.3.A and R317-1-3.3.B.

D. Facility Optimization to Remove Total Inorganic Nitrogen

1. If the owner of a discharging treatment works agrees to optimize the owner's facility, either through operational changes, a capital construction project, or both, to reduce effluent total inorganic nitrogen concentrations to a level agreeable to the Director, a waiver of up to ten years from meeting either water quality-based effluent limits or technology-based effluent limits for total inorganic nitrogen will be granted. This includes meeting any total inorganic nitrogen limit that may result from a TMDL or

other water quality study that is specific to the receiving water of the treatment works.

2. The waiver period under this section would begin upon implementation of the optimization improvements or another date agreed to by the owner of the treatment works and the Director.

3. The elements of the waiver under this section will be identified in a compliance agreement that will be incorporated into the facility's UPDES permit.

4. The waiver identified under this section must be granted before January 1, 2020. Thereafter, no such waiver will be considered or granted.

[~~D~~]E. Monitoring

1. All discharging treatment works are required to implement, at a minimum, monthly monitoring of:

a. influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations; and

b. effluent for total phosphorus and orthophosphate (as P), and ammonia, nitrate-nitrite, and total Kjeldahl nitrogen (as N).

2. The Director may authorize a variance to the monitoring requirements identified in Subsection R317-1-3.3.D.1.

3. All monitoring under Subsection R317-1-3.3.D shall be based on 24-hour composite samples by use of an automatic sampler or by combining a minimum of four grab samples collected [~~a minimum of~~] at least two hours apart within a 24-hour period.

4. These monitoring requirements shall be self-implementing beginning July 1, 2015.

3.4 Pollutants In Diverted Water Returned To Stream.

A user of surface water diverted from waters of the State will not be required to remove any pollutants which such user has not added before returning the diverted flow to the original watercourse, provided there is no increase in concentration of pollutants in the diverted water. Should the pollutant constituent concentration of the intake surface waters to a facility exceed the effluent limitations for such facility under a federal National Pollutant Discharge Elimination System permit or a permit issued pursuant to State authority, then the effluent limitations shall become equal to the constituent concentrations in the intake surface waters of such facility. This section does not apply to irrigation return flow.

R317-1-4. Utilization and Isolation of Domestic Wastewater Treatment Works Effluent.

4.1 Untreated Domestic Wastewater. Untreated domestic wastewater or effluent not meeting secondary treatment standards as defined by these rules shall be isolated from all public contact until suitably treated. Land disposal or land treatment of such wastewater or effluent may be accomplished by use of an approved total containment lagoon as defined in R317-3 or by such other treatment approved by the Director as being feasible and equally protective of human health and the environment.

4.2 Use of Secondary Effluent at Plant Site. Secondary effluent may be used at the treatment plant site in the following manner provided there is no cross-connection with a potable water system:

A. Chlorinator injector water for wastewater chlorination

facilities, provided all pipes and outlets carrying the effluent are suitably labeled.

B. Water for hosing down wastewater clarifiers, filters and related units, provided all pipes and outlets carrying the effluent are suitably labeled.

C. Irrigation of landscaped areas around the treatment plant from which the public is excluded.

R317-1-5. Use of Industrial Wastewaters.

5.1 Use of industrial wastewaters (not containing human pathogens) shall be considered for approval by the Director based on a case-specific analysis of human health and environmental concerns.

R317-1-6. Disposal of Domestic Wastewater Treatment Works Sludge.

6.1 General. No person shall use, dispose, or otherwise manage sewage sludge through any practice for which pollutant limits, management practices, and operational standards for pathogens and vector attraction reduction requirements are established in 40 CFR 503, July 1, 1994, except in accordance with such requirements.

6.2 Permit. All treatment works producing, treating and disposing of sewage sludge must comply with applicable permit requirements at R317-3, 6 and 8.

6.3 Septic Tank Contents. The dumping or spreading of septic tank contents is prohibited except in conformance with 40 CFR 503 and R317-550-7.

6.4 Effective Date. Notwithstanding the effective date for incorporation by reference of 40 CFR 503 provided in R317-8-1.10(9), those portions of 40 CFR 503 specified in R317-1-6.1 and 6.3 are effective immediately.

R317-1-7. TMDLs.

The following TMDLs are approved by the Board and hereby incorporated by reference into these rules:

7.1 Middle Bear River -- February 23, 2010
7.2 Chalk Creek -- December 23, 1997
7.3 Otter Creek -- December 23, 1997
7.4 Little Bear River -- May 23, 2000
7.5 Mantua Reservoir -- May 23, 2000
7.6 East Canyon Creek -- September 14, 2010
7.7 East Canyon Reservoir -- September 14, 2010
7.8 Kents Lake -- September 1, 2000
7.9 LaBaron Reservoir -- September 1, 2000
7.10 Minersville Reservoir -- September 1, 2000
7.11 Puffer Lake -- September 1, 2000
7.12 Scofield Reservoir -- September 1, 2000
7.13 Onion Creek (near Moab) -- July 25, 2002
7.14 Cottonwood Wash -- September 9, 2002
7.15 Deer Creek Reservoir -- September 9, 2002
7.16 Hyrum Reservoir -- September 9, 2002
7.17 Little Cottonwood Creek -- September 9, 2002
7.18 Lower Bear River -- September 9, 2002
7.19 Malad River -- September 9, 2002
7.20 Mill Creek (near Moab) -- September 9, 2002

7.21 Spring Creek -- September 9, 2002
7.22 Forsyth Reservoir -- September 27, 2002
7.23 Johnson Valley Reservoir -- September 27, 2002
7.24 Lower Fremont River -- September 27, 2002
7.25 Mill Meadow Reservoir -- September 27, 2002
7.26 UM Creek -- September 27, 2002
7.27 Upper Fremont River -- September 27, 2002
7.28 Deep Creek -- October 9, 2002
7.29 Uinta River -- October 9, 2002
7.30 Pineview Reservoir -- December 9, 2002
7.31 Browne Lake -- February 19, 2003
7.32 San Pitch River -- November 18, 2003
7.33 Newton Creek -- June 24, 2004
7.34 Panguitch Lake -- June 24, 2004
7.35 West Colorado -- August 4, 2004
7.36 Silver Creek -- August 4, 2004
7.37 Upper Sevier River -- August 4, 2004
7.38 Lower and Middle Sevier River -- August 17,2004
7.39 Lower Colorado River -- September 20, 2004
7.40 Upper Bear River -- August 4, 2006
7.41 Echo Creek -- August 4, 2006
7.42 Soldier Creek -- August 4, 2006
7.43 East Fork Sevier River -- August 4, 2006
7.44 Koosharem Reservoir -- August 4, 2006
7.45 Lower Box Creek Reservoir -- August 4, 2006
7.46 Otter Creek Reservoir -- August 4, 2006
7.47 Thistle Creek -- July 9, 2007
7.48 Strawberry Reservoir -- July 9, 2007
7.49 Matt Warner Reservoir -- July 9, 2007
7.50 Calder Reservoir -- July 9, 2007
7.51 Lower Duchesne River -- July 9, 2007
7.52 Lake Fork River -- July 9, 2007
7.53 Brough Reservoir -- August 22, 2008
7.54 Steinaker Reservoir -- August 22, 2008
7.55 Red Fleet Reservoir -- August 22, 2008
7.56 Newcastle Reservoir -- August 22, 2008
7.57 Cutler Reservoir -- February 23, 2010
7.58 Pariette Draw -- September 28, 2010
7.59 Emigration Creek -- September 1, 2011
7.60 Jordan River -- June 27, 2012
7.61 Colorado River -- December 5, 2013
7.62 Echo Reservoir -- March 26, 2014
7.63 Rockport Reservoir -- March 26, 2014

R317-1-8. Penalty Criteria for Civil Settlement Negotiations.

8.1 Introduction. Section 19-5-115 of the Water Quality Act provides for penalties of up to $10,000 per day for violations of the act or any permit, rule, or order adopted under it and up to $25,000 per day for willful violations. Because the law does not provide for assessment of administrative penalties, the Attorney General initiates legal proceedings to recover penalties where appropriate.

8.2 Purpose And Applicability. These criteria outline the principles used by the State in civil settlement negotiations with water pollution sources for violations of the UWPCA and/or any permit,

rule or order adopted under it. It is designed to be used as a logical basis to determine a reasonable and appropriate penalty for all types of violations to promote a more swift resolution of environmental problems and enforcement actions.

To guide settlement negotiations on the penalty issue, the following principles apply: (1) penalties should be based on the nature and extent of the violation; (2) penalties should at a minimum, recover the economic benefit of noncompliance; (3) penalties should be large enough to deter noncompliance; and (4) penalties should be consistent in an effort to provide fair and equitable treatment of the regulated community.

In determining whether a civil penalty should be sought, the State will consider the magnitude of the violations; the degree of actual environmental harm or the potential for such harm created by the violation(s); response and/or investigative costs incurred by the State or others; any economic advantage the violator may have gained through noncompliance; recidivism of the violator; good faith efforts of the violator; ability of the violator to pay; and the possible deterrent effect of a penalty to prevent future violations.

8.3 Penalty Calculation Methodology. The statutory maximum penalty should first be calculated, for comparison purposes, to determine the potential maximum penalty liability of the violator. The penalty which the State seeks in settlement may not exceed this statutory maximum amount.

The civil penalty figure for settlement purposes should then be calculated based on the following formula: CIVIL PENALTY = PENALTY + ADJUSTMENTS - ECONOMIC AND LEGAL CONSIDERATIONS

PENALTY: Violations are grouped into four main penalty categories based upon the nature and severity of the violation. A penalty range is associated with each category. The following factors will be taken into account to determine where the penalty amount will fall within each range:

A. History of compliance or noncompliance. History of noncompliance includes consideration of previous violations and degree of recidivism.

B. Degree of willfulness and/or negligence. Factors to be considered include how much control the violator had over and the foreseeability of the events constituting the violation, whether the violator made or could have made reasonable efforts to prevent the violation, whether the violator knew of the legal requirements which were violated, and degree of recalcitrance.

C. Good faith efforts to comply. Good faith takes into account the openness in dealing with the violations, promptness in correction of problems, and the degree of cooperation with the State.

Category A - $7,000 to $10,000 per day. Violations with high impact on public health and the environment to include:

1. Discharges which result in documented public health effects and/or significant environmental damage.

2. Any type of violation not mentioned above severe enough to warrant a penalty assessment under category A.

Category B - $2,000 to $7,000 per day. Major violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:

1. Discharges which likely caused or potentially would cause

(undocumented) public health effects or significant environmental damage.

2. Creation of a serious hazard to public health or the environment.

3. Illegal discharges containing significant quantities or concentrations of toxic or hazardous materials.

4. Any type of violation not mentioned previously which warrants a penalty assessment under Category B.

Category C - $500 to $2,000 per day. Violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:

1. Significant excursion of permit effluent limits.

2. Substantial non-compliance with the requirements of a compliance schedule.

3. Substantial non-compliance with monitoring and reporting requirements.

4. Illegal discharge containing significant quantities or concentrations of non toxic or non hazardous materials.

5. Any type of violation not mentioned previously which warrants a penalty assessment under Category C.

Category D - up to $500 per day. Minor violations of the Utah Water Pollution Control Act, associated regulations, permits or orders to include:

1. Minor excursion of permit effluent limits.

2. Minor violations of compliance schedule requirements.

3. Minor violations of reporting requirements.

4. Illegal discharges not covered in Categories A, B and C.

5. Any type of violations not mentioned previously which warrants a penalty assessment under category D.

ADJUSTMENTS: The civil penalty shall be calculated by adding the following adjustments to the penalty amount determined above: 1) economic benefit gained as a result of non-compliance; 2) investigative costs incurred by the State and/or other governmental levels; 3) documented monetary costs associated with environmental damage.

ECONOMIC AND LEGAL CONSIDERATIONS: An adjustment downward may be made or a delayed payment schedule may be used based on a documented inability of the violator to pay. Also, an adjustment downward may be made in consideration of the potential for protracted litigation, an attempt to ascertain the maximum penalty the court is likely to award, and/or the strength of the case.

8.4 Mitigation Projects. In some exceptional cases, it may be appropriate to allow the reduction of the penalty assessment in recognition of the violator's good faith undertaking of an environmentally beneficial mitigation project. The following criteria should be used in determining the eligibility of such projects:

A. The project must be in addition to all regulatory compliance obligations;

B. The project preferably should closely address the environmental effects of the violation;

C. The actual cost to the violator, after consideration of tax benefits, must reflect a deterrent effect;

D. The project must primarily benefit the environment rather

than benefit the violator;

E. The project must be judicially enforceable;

F. The project must not generate positive public perception for violations of the law.

8.5 Intent Of Criteria/Information Requests. The criteria and procedures in this section are intended solely for the guidance of the State. They are not intended, and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the State.

R317-1-9. Electronic Submissions and Electronic Signatures.

(a) Pursuant to the authority of Utah Code Ann. Subsection 46-4-501(a), the submission of Discharge Monitoring Reports and related information may be conducted electronically through the EPA's NetDMR program, provided the requirements of subsection (b) are met.

(b) A person may submit Discharge Monitoring Reports and related information only after (1) completion of a Subscriber Agreement in a form designated by the Director to ensures that all requirements of 40 CFR 3, EPA's Cross - Media Electronic Reporting Regulation (CROMERR) are met; and (2) completion of subsequent steps specified by EPA's CROMERR, including setting up a subscriber account.

(c) The Subscriber Agreement will continue until terminated by its own terms, until modified by mutual consent or until terminated with 60 days written notice by any party.

(d) Any person who submits a Discharge Monitoring Report or related information under the NetDMR program, and who electronically signs the report or related information, is, by providing an electronic signature, making the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

KEY: water pollution, waste disposal, nutrient limits, effluent standards
Date of Enactment or Last Substantive Amendment: January 1, 2015
Notice of Continuation: October 2, 2012
Authorizing, and Implemented or Interpreted Law: 19-5

State of Utah
GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

MEMORANDUM

TO: Utah Water Quality Board

THROUGH: Walter L. Baker, P.E.

FROM: John R. Kennington, P.E.

DATE: November 19, 2015

SUBJECT: WQB Action Item: Request for Adoption of R317-4 Rule changes.

At its October 14, 2015 meeting, the Utah Water Quality Board authorized staff to initiate rulemaking for several changes to the subject rule. The public comment period was established as November 1, 2015 to November 30, 2015.

As of this point in time, no comments have been received regarding these proposed changes. If, by the end of the public comment period, no comments have been received; or no comments that are considered substantive enough to cause a revision of the proposed changes are received, staff will be requesting the Board to approve adoption of the proposed changes.

A summary of the proposed changes is attached.

Attachments: Summary of R317-4 Changes 9-17-15

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Summary of R317-4 Proposed Changes

September 8, 2015

1.4 B: Wording changed to: "Issuing an operating permit, with a term not exceeding five years, with an inspection showing a satisfactory performance of the permitted system by the department's staff before renewal;"

2.49: To streamline the definition of "Ground Water table, perched" the second sentence of the definition was deleted.

5.1: Changed Numbering

6.10(D)(2): Added 'other design considerations approved by the regulatory authority that do not increase public health risks shall be installed.'

6.14(C)(4): Added 'A cleanout or other means of access from the surface shall be provided for these devices.'

6.14(E)(2)(c): Added 'The depth of cover may be reduced to no less than 6 inches, if approved by the regulatory authority, considering the protection of adsorption systems as required in 6.14 B. 2., and other activities, as determined by the authority.'

6.14(E)(2)(e): Added 'The depth of cover may be reduced to no less than 6 inches, if approved by the regulatory authority, considering the protection of adsorption systems as required in 6.14 B. 2., and other activities, as determined by the authority.'

6.14(e)(4): Added 'The setback to property line – 10 feet'

6.15(C): Moved the word 'trench' for clarification

Table 2 Note (c): added reference to rule R309-605.

Table 2 Note (e): The following was added after the first sentence: "A private or individual well is considered to be "grouted" if it meets the construction standards required in R655-4-11, which requires a minimum 30-foot deep grout surface seal. Private or individual wells not constructed to this minimum standard are considered to be "ungrouted".

Table 2 Note (j): Added 53 foot

Table 4: Remove references to 'Schedule 40', consolidated reference to PVC ASTM D 2729(d) pipe.

Table 5 Title: Changed Minimum to Maximum

Table 5 Headings: Changed gal/day/ft2 to gal/ft2/day

Table 5 Note (a): Added 'In no case shall the loading rate be greater than 1.0'. Deleted 'For percolation rates faster than 1 minute per inch, 1 minute per inch shall be used in the formula.'

Table 5 Note (b): Added 'In no case shall the loading rate be greater than 0.5'. Deleted 'For percolation rates faster than 1 minute per inch, 1 minute per inch shall be used in the formula.'

Table 6 Title: Changed Minimum to Maximum

Appendix D 1.1(C)(9)(b): Deleted '...unless two successive water level drops do not vary more than 1/16 of an inch and indicate that an approximate stabilized rate has been obtained.'

Appendix D 1.1(C)(9)(b)i: Changed '15 minutes' to '30 minutes'.

Appendix D 1.1(C)(9)(b)ii: Changed '30 minutes' to '15 minutes'

Appendix D 1.1(C)(9)(b)iii: Added 'Eight consecutive time intervals shall be recorded unless two successive water level drops do not vary more than 1/16 of an inch and indicate that an approximate stabilized rate has been obtained.'

Appendix D 1.1(C)(10)(b)ii: Added 'Six consecutive time intervals shall be recorded unless two successive water level drops do not vary more than 1/16 of an inch and indicate that an approximate stabilized rate has been obtained.'