



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Acting Executive Director

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

Water Quality Board
Myron E. Bateman, Chair
Shane E. Pace, Vice-Chair
Clyde L. Bunker
Steven K. Earley
Gregg A. Galecki
Dr. James VanDerslice
Jennifer Grant
Michael D. Luers
Alan Matheson
Walter L. Baker
Executive Secretary

MEMORANDUM

TO: Water Quality Board

THROUGH: Walt Baker, P.E.
Director 

FROM: Erica Gaddis
Assistant Director

DATE: October 17, 2016

SUBJECT: Request to Initiate Rulemaking R317-1-1, Independent Scientific Review

As a result of the passage to Senate Bill 110 during the 2016 session of the Utah Legislature, new provisions were added to Title 19-5, the Utah Water Quality Act, to include a provision for Independent Peer Review of a Proposal (Title 19-5-105.3). Draft rules to govern this new provision are attached herewith. The key elements of the proposed rules include:

1. The inclusion of new definitions
2. A provision for DWQ to initiate an Independent Scientific Review when the Director determines that an issue may have a significant financial impact on stakeholders or when an action may be precedent-setting or controversial
3. The process for conducting an Independent Scientific Review or Independent Peer Review

With the passage of SB 110, a consortium of twelve organizations made a request to EPA Region 8 that it withdraw its delegation of authority to DWQ to administer the federal Clean Water Act programs in Utah. EPA also registered concerns about the statutory changes resulting from the legislation. Over the last five months DWQ staff has held discussions with EPA and met with POTW managers and representatives of Western Resource Advocates, who represents the referenced twelve organizations, to craft an administrative rule that would satisfy their respective concerns. Staff believes it has been successful in doing so.

Staff requests that the Water Quality Board approve initiating rulemaking to seek broader public input into the proposed changes to R317-1.

R317. Environmental Quality, Water Quality.

R317-1. Definitions and General Requirements.

R317-1-1. Definitions.

Note that some definitions are repeated from statute to provide clarity to readers.

"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.

"Challenging Party" means a Person who has or is seeking a permit in accordance with Title 19, Chapter 5, the Utah Water Quality Act and chooses to use the independent peer review process to challenge a Proposal as defined in Subsection 19-5-105.3(1)(a).

"COD" means chemical oxygen demand.

"Conflict of Interest" means a Person who has any financial or other interest which has the potential to negatively affect services to the Division or Challenging Party because it could impair the individual's objectivity or it could create an unfair competitive advantage for any Person or organization.

"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 at least 38% using 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.

"Expert" means a person with technical expertise, knowledge, or skills in a subject matter of relevance to a specific water quality investigation, HISA, or Proposal including persons from other regulatory agencies, academia, or the private sector.

"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

"Highly Influential Scientific Assessment (HISA)" means a Scientific Assessment developed by the Division or an external Person, that has material relevance to a decision by the Division, and the Director determines could have a significant financial impact on either the public or private sector or is novel, controversial, or precedent-setting, and is not a new or renewed permit issued to a Person.

"Independent Peer Review" means scientific review conducted on request from a Challenging Party in accordance with Section 19-5-105.3 and is a subcategory of Independent Scientific Review.

"Independent Scientific Review" means any technical or scientific review conducted by Experts in an area related to the material being reviewed who were not directly or indirectly involved with the development of the material to be reviewed and who do not have a real or perceived conflict of interest. When an Independent Peer Review is conducted, the conditions in Subsection 19-5-105.3(5) shall apply.

"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 Rule R317-6.

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

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

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

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

"Person" means any individual, trust, firm, estate, company, corporation, partnership, association, state, state or federal agency or entity, municipality, commission, or political subdivision of a state. ~~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.

"Proposal" means any science-based initiative proposed by the division on or after January 1, 2016, that would financially impact a Challenging Party and that would:

A. change water quality standards;
B. develop or modify total maximum daily load requirements;
C. modify wasteloads or other regulatory requirements for permits; or

D. change rules or other regulatory guidance. A Proposal is not an individual permit issued to a Person, nor is it a technology based limit applied in accordance with Effluent limitations, 33 U.S.C. Sec. 1311, National pollutant discharge elimination system, 33 U.S.C. Sec. 1342, and Information and guidelines, 33 U.S.C. Sec. 1314

"Regulatory requirements" for permits means the methods or policies used by the Division to derive permit limits such as wasteload analyses, reasonable potential determinations, whole effluent toxicity policy, interim permitting guidance, antidegradation reviews, or Technology Based Nutrient Effluent Limit requirements.

"Scientific Assessment" means an evaluation of a body of credible scientific or technical knowledge that synthesizes scientific literature, data analysis and interpretation, and models, and includes any assumptions used to bridge uncertainties in the available information.

"Scientific basis" means empirical data or other scientific findings, conclusions, or assumptions used as the justification for a rule, regulatory guidance, or a regulatory tool.

"Scientifically necessary to protect the designated beneficial uses of a waterbody" as referenced in Subsection 19-5-

105.3(8) means a Technology Based Nutrient Effluent Limit that under current and future growth projections, will:

A. prevent circumstances that would cause or contribute to an impairment of any designated or existing use in the receiving water or downstream water bodies based on Utah's water quality standards, Section R317-2-7; or

B. improve water quality conditions that are causing or contributing to any existing impairment in the receiving water or downstream water bodies, as defined by Utah's water quality standards, Section R317-2-7.

"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.

"Technology Based Nutrient Effluent Limit" means maximum nutrient limitations based on the availability of technology to achieve the limitations, rather than based on a water quality standard or a total maximum daily load.

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 Section 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).

"Water Quality Based Effluent Limit (WQBEL)" means an effluent limitation that has been determined necessary to ensure that water quality standards in a receiving body of water will not be violated.

* * * * *

R317-1-10. Independent Scientific Review.

10.1 Applicability

A. Independent Scientific Review may be used to solicit formal evaluations from outside Experts on the strengths and weaknesses of the scientific basis used to support any new Division Proposal or Highly Influential Scientific Assessment (HISA).

B. Independent Peer Reviews for permits shall be limited to modifications to wasteloads used in UPDES discharge permits, or the scientific basis of any other modification to a regulatory requirement used in developing permit limits. Review of individual permits shall follow existing adjudicative processes that govern their issuance or renewal in accordance with Subsection 19-5-105.3(1)(c)(iii).

C. The Director shall initiate an Independent Scientific Review when one of the following conditions is met:

1. A Challenging Party requests an Independent Peer Review on the scientific basis of a Division Proposal under Section 19-5-

105.3.

2. The Director makes a determination that a new Scientific Assessment is a Highly Influential Scientific Assessment (HISA) and that sufficient resources are available to support an Independent Scientific Review.

10.2 Independent Scientific Review process

A. Independent Scientific Reviews shall be conducted in general accordance with the guidance contained in the United States Environmental Protection Agency's Science and Technology Policy Council Peer Review Handbook 4th Edition.

B. Independent Scientific Reviews shall entail development of a scope of work for review; selection of independent Experts; management of the Independent Scientific Reviews; submission by Experts of findings and recommendations; development of a Division response to review findings; finalization of the Proposal or HISA; and publication for public comment.

1. The Director shall prepare a scope of work that defines the objectives of an Independent Scientific Review and provide instructions for the Experts. The Director shall also prepare a schedule for the review. In the case of an Independent Peer Review the Director will seek and incorporate input from the Challenging Party into the development of the scope of work.

a. The scope of work shall include several components:

i. A summary of the Proposal or HISA under consideration and reasons for the review.

ii. The specific charge questions that articulate the issues, areas of concern, or advice sought through the Independent Scientific Review process. Charge questions shall generally focus on the degree of confidence, certainty, and major data gaps with respect to the interpretation or application of the scientific basis of a proposed rule, regulatory guidance, or regulatory tool.

iii. A compilation of data, reports or other scientific information that has a material influence on the scientific basis of the Proposal or HISA under review.

iv. A statement of qualifications and expertise required for Experts that will be considered in conducting the Independent Scientific Review.

v. Other important instructions to Experts such as reporting expectations or communication protocols.

vi. A schedule for accomplishing the review.

b. The scope of work shall be made available for public comment for a minimum of 30 days and no more than 60 days to help identify missing data or missing elements of the charge questions.

In the event of a condition which poses hazard to human health or the environment that may increase significantly during a review period, a shorter period may be specified. The Director shall prepare a response to any comments that are received and shall refine the scope of work, as appropriate, before sending the scope of work to the Experts.

2. The Director shall select Experts to conduct Independent Scientific Reviews using the following criteria:

a. Experts shall be selected who have demonstrated expertise in scientific disciplines that are relevant to the scientific basis of the Proposal or HISA.

b. Experts shall not have a conflict of interest that could jeopardize their objectivity or impartiality.

c. An Independent Scientific Review shall be conducted by at least three independent Experts. Additional Experts may be asked to conduct reviews, as needed, to fairly reflect the breadth of scientific perspectives or fields of knowledge related to the scientific basis under review. If the Independent Scientific Review is an Independent Peer Review, the conditions in Section 19-5-105.3 shall apply.

3. Management of Independent Scientific Reviews.

a. Management of Independent Scientific Reviews may be conducted by any of the following:

i. the Division;

ii. the United States Environmental Protection Agency;

iii. an independent contractor; or,

iv. an independent organization such as an editorial board of a relevant scientific journal, appropriate trade organization, or other research institute.

b. From the time they accept the invitation to participate in an Independent Scientific Review, Experts should avoid interaction with the Division, a challenging party, the general public or others that might create a real or perceived Conflict of Interest regarding the Proposal under review to ensure that Expert findings are independent and objective.

4. Compilation of Expert Findings.

a. Each Expert shall submit written comments that include responses to the charge questions and an evaluation of the scientific basis of the Proposal or HISA.

b. The Director shall charge Experts to identify— in their written comments any areas of scientific uncertainty or major data gaps that have a reasonable likelihood of altering material provisions of a Proposal or HISA, including descriptions of the

nature of the uncertainty, estimates of the relative extent of this uncertainty, and any recommendations for resolving areas of uncertainty.

10.3 Special provisions for Independent Peer Reviews conducted in accordance with Section 19-5-105.3.

A. On request from a Challenging Party, the Director shall conduct an Independent Peer Review of the scientific basis of a Proposal made by the Division on or after January 1, 2016, provided that the following conditions are met:

1. A Challenging Party requests the review, in writing, during the public comment period on a Proposal.

2. The Challenging Party agrees to fund the Independent Peer Review.

3. The Challenging Party would be substantially impacted by the adoption of the Proposal.

B. Funding Independent Peer Reviews

1. Costs associated with the peer reviews will be incurred by the Division and billed to the Challenging Party and may include management of the peer review process by an independent contractor agreed to by the Director and Challenging Party, honorariums provided to Experts to conduct the reviews, and expenses incurred by the Experts.

2. An estimate of projected costs for conducting an Independent Peer Review, including expenses identified in Subsection R317-1-10.3(B)(1), shall be estimated by the Director and provided to the Challenging Party prior to finalization of contracts or other financial agreements with Experts.

3. If there is more than one Challenging Party to the scientific basis of a Proposal, the challenges will be consolidated for the Independent Peer Review. Those requesting the review will be responsible for the costs of the review and allocation of costs between parties.

C. The written request for an Independent Peer Review from a Challenging Party shall be included in the final scope of work and shall include the following as best determined by the Challenging Party:

1. An explanation of the specific scientific elements of the Proposal that the Challenging Party questions and an explanation of why these elements may not be scientifically defensible.

2. If the challenge involves review of whether a Technology Based Nutrient Effluent Limit is scientifically necessary, the Challenging Party should include an explanation of why the limits

are or are not necessary, including consideration of:

a. all designated beneficial uses of the receiving water and the uses of downstream, hydrologically connected water bodies;

b. current conditions and projected future conditions with respect to wastewater effluent and receiving water quantity and quality; and

c. any other nutrient sources under current and projected future conditions that it is reasonable to believe may affect the same receiving water and downstream hydrologically connected water bodies.

3. Access to sources of data, reports or other information that can be used to establish a scientific basis to the challenge that the Challenging Party would like to be included as supporting materials in the scope of work.

4. Recommendations for qualified independent Experts, who do not have a conflict of interest and whom the Challenging Party would support as Experts based on their documented expertise in areas of relevance to the technical basis of the Proposal being challenged.

D. The Independent Scientific Review process specified in Section R317-1-10.2 shall be followed for Independent Peer Reviews conducted at the behest of a Challenging Party with the exception of several limitations outlined in this subsection that are needed to maintain consistency with Section 19-5-105.3.

1. An Independent Peer Review panel shall consist of at least three Experts who do not have direct association with the Division or Challenging Party in accordance with Subsection 19-5-105.3(1)(b)(iii) and shall be selected by both the Division and Challenging Party as described in Subsection 19-5-105.3(5).

2. The Director shall designate one member of the Independent Peer Review Panel to serve as a chair to develop and oversee the preparation of a final synthesis report. In the event that Experts are selected through Subsection 19-5-105.3(5)(c), then the mutually agreed upon member shall serve as the Independent Peer Review Panel chair.

3. Management of the Independent Peer Review process shall be conducted by an independent contractor, who does not have a conflict of interest with the Division or the Challenging Party.

4. Management responsibilities of Independent Peer Reviews include the following:

a. Estimation of appropriate honorariums for the Experts to complete their individual written reviews with consideration for the breadth of the review identified in the scope of work and

volume of supporting materials including additional compensation for the Independent Peer Review Panel chair for overseeing and writing a final written report as described in Subsection R317-1-10.3.D.5.

b. Development of a work timeline and interim progress tracking to ensure timely completion of the Independent Peer Review process.

c. Development and oversight of contracts or other financial agreements with Experts or others identified as integral to the review process.

d. Facilitation of necessary communication among the Division, Challenging Party and Experts throughout the review process, in a way that ensures all parties have access to any additional information, such as clarification to charge questions or charge questions that were not considered in development of the scope of work.

e. Regular progress updates to the Division and Challenging Party.

5. The Director shall charge the Independent Peer Review panel chair with development of a final written report, which:

a. is written by the chair after written independent reviews have been submitted by each Expert;

b. is reviewed by all members of the Independent Peer Review panel;

c. documents areas of consensus and dissent among Experts on elements of the scientific basis of the Proposal that Experts believe to have material influence of the Proposal under review;

d. provides a final recommendation from the Independent Peer Review panel on the scientific defensibility of the Division's Proposal, as specified in Subsection 19-5-105.3(7);

e. includes a determination of scientific necessity for any review that involves an evaluation of the application of a Technology Based Nutrient Effluent Limit; and

f. includes the Experts' written findings of the underlying rationale for making a determination that any element of the scientific basis of a Proposal is not scientifically defensible or is scientifically defensible with conditions, and any applicable and reasonable conditions to remedy their concerns.

E. To avoid inordinate delays in rulemaking or other regulatory decisions, Independent Peer Reviews must be completed within one year following appointment of the Independent Peer Review panel.

10.4 Use of Independent Scientific Review results.

A. The Director shall incorporate as needed recommendations and findings from the Experts in the finalization of the Proposal or HISA under review.

B. The Director shall document how the findings of the Experts were applied to the Proposal or HISA.

C. All materials associated with any review process shall be made available during the public comment period applicable to the HISA or Proposal under review, including:

1. the scope of work used to conduct the peer review;
2. the written independent findings from individual Experts;

3. summary reports that were developed after individual Expert reviews were submitted, if appropriate; and

4. the final decision of the Director and rationale for any modifications to the original agency Proposal or HISA in response to Independent Scientific Review findings and recommendations.

D. In the event that the Proposal or HISA under review does not have an established public comment process that occurs after the Independent Scientific Review Process, the Director shall make peer review material available for public comment for a minimum of 30-days and shall consider all substantive public comments prior to finalization of the Proposal or HISA.

E. The Director shall prepare a responsiveness summary that includes:

1. all substantive public comments related to the Independent Scientific Review,

2. the Director's response to public comments, and

3. any changes to the Proposal or HISA that were made in response to public comments.

F. Incorporation of the Director's decisions into existing Division processes.

1. If the Expert findings result in a decision by the Director to modify any element of any UPDES permit, this decision will be summarized in the Statement of Basis on the next issuance of the permit and all Independent Peer Review materials shall be made available as supporting documentation when the permit is published for public comment. If the Proposal is a wasteload or other regulatory requirements for a permit the results shall be incorporated into the proposed permit on which the wasteload is based.

2. If the Proposal under review is regarding the

application of a Technology Based Nutrient Effluent Limit and the Independent Peer Review panel determines that the limit is not scientifically necessary, then this finding shall be included in the Statement of Basis in the new or renewed permit as a justification for not including Technology Based Nutrient Effluent Limits that would otherwise have been required. All materials associated with the Independent Peer Review shall be made available during the public comment period for this permit as support for this determination.

3. The decision to modify any permit element, based upon the results of an Independent Scientific Review, is not final until the permit is actually issued.

4. The decision to modify a rule, based upon the results of an Independent Scientific Review, is not final until the rule is actually modified.

KEY: water pollution, waste disposal, nutrient limits, effluent standards

Date of Enactment or Last Substantive Amendment: [February 25,] 2016

Notice of Continuation: October 2, 2012

Authorizing, and Implemented or Interpreted Law: 19-5