

Water Quality Standards Rule Making Implementation Tool - Variances

November 6, 2013

Definition

A variance is a temporary change to the water quality standards for a single discharger, a group of dischargers, or a waterbody. Variances establish a time-limited set of temporary requirements that apply instead of the otherwise applicable water quality standards and related water quality criteria. Variances may be used where attaining the designated use and criteria is not feasible immediately, but may be feasible in the longer term. They can be targeted to specific pollutants, sources, and/or waterbody segments.

The temporary requirements established through a variance are only effective for the life of the variance and must reflect the highest condition attainable during the time the variance is in effect. EPA guidance indicates that the “highest attainable condition” is the condition that is both feasible to attain and is closest to achieving the water quality criteria that would otherwise be in effect. Requirements established in a variance may be expressed as the highest attainable interim criteria (e.g., a numeric standard), or the highest attainable effluent condition.

Because a variance establishes a temporary set of requirements that apply instead of the otherwise applicable water quality criteria, EPA has specified that variances are appropriate only under the same circumstances required in federal rule to undertake a Use Attainability Analysis (UAA), used to change a designated use for a waterbody. Regulations found in 40 CFR 131.10(g) establish six circumstances under which a UAA, or a variance, might be appropriate. They are:

1. Naturally occurring pollutant concentrations prevent attainment of the use.
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent attainment of the use, unless these conditions may be compensated for by discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met.
3. Human caused conditions or sources of pollution prevent attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.
4. Dams, diversions or other types of hydrologic modifications preclude attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the use.
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses.

6. Controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

The first five of these factors address water quality and habitat features of the water body as a whole. The first five factors are generally more appropriate to making decisions about entire water body segments or portions of water body segments. They are not, in general, ideally suited to making decisions about the capabilities of individual dischargers. For example, it is not immediately clear how use removal factor five, "physical conditions related to natural features of a water body, such as...preclude attainment of a use", could be applied to a decision about an individual discharger. On the other hand, the sixth factor, which addresses the substantial and widespread economic and social impact factor, is well suited to decisions about individual dischargers and has been previously applied in evaluating individual discharger variances. Variances for multiple dischargers might rely on either the first five factors or on the sixth factor. Variances for water bodies and for multiple dischargers are discussed specifically below.

The variance decision-making process is similar to the process for changing a water body use – a public hearing is required and information should be made available to the public before the hearing. A demonstration to justify a variance should involve the same substantive and procedural requirements as removing a designated use, but should focus on the discharger(s), pollutant(s), and time limit addressed in the variance. Recent EPA guidance offered two examples of the circumstances under which variances may be particularly appropriate to consider:

- (1) When attaining the designated use and criteria is not feasible under current conditions (e.g., water quality-based controls required to meet the numeric nutrient criterion would result in substantial and widespread social and economic impact) but achieving the standards could be feasible in the future if circumstances related to the attainability determination change (e.g., development of less expensive pollution control technology or a change in local economic conditions).
- (2) When it is not known whether the designated use and criteria may ultimately be attainable, but feasible progress toward attaining the designated use and criteria can be made by implementing known controls and tracking environmental improvements (e.g., complex use attainability challenges involving legacy pollutants).

EPA has not established a specific time limit for variances; however, EPA guidance describes them as "temporary" and "short term." Most states limit variances to three or five year terms. Proposed changes to the federal water quality standards rule, recently released by EPA in September 2013, include changes to address variances with a proposed timeframe not to exceed ten years.

EPA approval for variances is required, either on an individual variance-by-variance basis or programmatically through review and approval of a state's variance regulations.

Variances have not been issued in Washington to date but are allowed under WAC 173-201A-420 (see Attachment 1). The decision to approve a variance is subject to a public and intergovernmental

involvement process and a variance does not go into effect until it is incorporated into WAC 173-201A and approved by EPA. The duration of a variance is allowed for up to five years and variances may be renewed after providing for another opportunity for public and intergovernmental involvement and review.

Multiple Discharger Variances

If multiple permittees cannot attain a designated use or criteria for the same pollutant(s) for the same reason, regardless of whether or not they are located on the same waterbody, a state may streamline the variance process by adopting one variance that applies to all the permittees. These are generally known as “multiple discharger variances.” Multiple discharger variances may be considered under the same circumstances, and must meet the same standards, as single discharger variances. A permittee that could not qualify for an individual variance should not qualify for a multiple discharger variance. EPA guidance recommends that justifications for multiple discharger variances should:

- (1) Apply only to permittees experiencing the same challenges in meeting water quality based effluent limits for the same pollutant(s), criteria, and designated uses.
- (2) Group permittees based on specific characteristics or technical and economic scenarios that they share, and conduct a separate analysis for each group. The more homogenous a group is in terms of factors affecting attainability of the designated use and criteria, the more credible a multiple discharger variance will be.¹
- (3) Collect sufficient information from each individual permittee to support the assignment of each individual permittee to the designated group of multiple dischargers. The justification for a multiple discharger variance should account for as much individual permittee information as possible. When a permittee does not fit with any of the group characteristics, an individual variance should instead be considered.

Waterbody variances or “temporary standards”

Waterbody variances apply to an entire water body segment or portions of water body segments. They are sometimes referred to as “temporary standards” or “temporary modifications”. States have used water body variances where the problems in a water body are significantly impacting water quality and habitat, are widespread, and involve numerous sources of point and nonpoint pollution; that is, where waters are significantly impaired by multiple sources, not just a few point sources. For example, where historic mining practices have impaired both water quality and habitat throughout a headwater basin, States have applied temporary standards with specific expiration dates for certain pollutants related to the historic mining practices rather than downgrading these waters. In this way, States have maintained designated uses and underlying criteria for other pollutants, while recognizing that existing ambient

¹ For example: type of discharger (public or private), industrial classification, permittee size and/or effluent quality, treatment train (existing or needed), pollutant treatability, available revenue, whether or not the permittee can achieve a level of effluent quality comparable to the other permittees in the group, and waterbody or watershed characteristics.

conditions for certain pollutants are not correctable in the short-term. The temporary standards provide a basis for permit limits in the shorter term, that will in turn lead to remediation of damaged water resources to the point that they will once again provide protection for the underlying designated use and criteria. By doing a variance instead of a UAA the underlying use and criteria are preserved, allowing them to actively drive water quality improvements in the longer-term. A waterbody variance provides time for the state or tribe to work with both point and nonpoint sources to determine and implement adaptive management approaches on a waterbody or watershed scale to achieve pollutant reductions and strive toward attaining the water body's designated use and associated criteria.

Where EPA has provided guidance to individual states on use of temporary standards, EPA has advised that any temporary standard should:

- Be granted only where there is a demonstration that one of the use removal factors (40 CFR 131.10(g)(1) through (6) has been satisfied (as with all variances);
- Be granted for a specific water body or portion of a specific water body as defined in State standards;
- Identify and justify the numerical criteria that will apply during the existence of the temporary standard and identify a "remediation plan" aimed at compliance with the underlying designated uses and criteria;
- Be established as close to the underlying numerical criteria as is possible;
- Be reviewed every three years, at a minimum, and extended only where the conditions for granting the temporary standard still apply;
- Be in effect only for the specified term of the temporary standard (or extension thereof), and upon expiration of the temporary standard, the underlying numerical criteria have full regulatory effect;
- Not exempt any discharge to the water body from compliance with applicable technology or water quality-based limits (based on the temporary standards) or best management practices;
- Not apply to any new discharger to the water body; and
- Protect existing uses.

Experience in Other States

Oregon

Variances: None

Oregon revised its variance provisions as part of their recent water quality standards rulemaking². In addition to meeting one of the six EPA identified criteria for consideration of variances, variance applicants must supply³:

- A complete alternatives analysis of treatment and/or other options is required.
- Sufficient WQ data analysis to characterize ambient and discharge WQ concentrations.

² OAR 340-041-0059

³ Technical Support Document for Action on the State of Oregon's New and Revised Human Health Water Quality Criteria for Toxics and Associated Implementation Provisions Submitted July 12 and 21, 2011. Available at: <http://www.deq.state.or.us/wq/standards/docs/toxics/humanhealth/EPAtsd20111017.pdf>

- Cost-effective and reasonable best management practices for nonpoint sources.
- Proposed pollutant reduction plan⁴
- No impacts on ESA listed species or critical habitat.
- Cannot result in unreasonable risk to human health.
- For publicly owned treatment works, a demonstration of the jurisdiction's legal authority.

Variance approval is required by the Director of Oregon DEQ for a source covered by an existing NPDES permit and by the Environmental Quality Commission for a discharger that does not have a currently effective NPDES permit. The decision to approve a variance is subject to a public and intergovernmental involvement process and they must be submitted to EPA for review and approval prior to its use in a NPDES permit or other CWA action. The duration of a variance must not exceed the term of the discharger's NPDES permit, a maximum of five years. If a permit is administratively extended, the permit requirements based on the variance are maintained. When duration of variance is less than the NPDES permit length, permittee must meet WQS by end of variance.

Oregon investigated the use of multiple discharger variances as part of their recent rulemaking process. After input from stakeholders and multiple public meetings, the decision was made to not include multiple discharger variances in the proposed rule but to consider them in the future as more data and information are reviewed through the implementation of the revised human health criteria in NPDES permits. This does not preclude multiple, similar facilities from applying for variances at the same time with the same justifications but each facility variance must go through approval process outlined above.

Idaho

Variations: One variance is written into current regulations⁵ and three have been approved as part of the state variance approval process.

- In regulation (IADPA 58.01.02 Section 260.02): The South Fork Coeur d'Alene River Sewer District
- Administrative: Cities of Page and Smelterville (Cd, Pb, Zn) and City of Mullan (Cd and Zn)

The Idaho Department of Environmental Quality (IDEQ) grants pollutant and discharger specific variances. In addition to meeting one of the six EPA identified criteria for considering a variance, applicants must submit documentation that treatment more advanced than required by technology-based effluent limitations have been considered and that alternative effluent control strategies have been evaluated.

⁴ Definition of Pollutant Reduction Plan (from the Technical Support Document): "...includes any actions to be taken by the permittee that would result in reasonable progress toward meeting the underlying water quality standard. Such actions may include proposed pollutant offsets or trading or other proposed pollutant reduction activities, and associated milestones for implementing these measures. Pollutant reduction plans will be tailored to address the specific circumstances of each facility and to the extent pollutant reduction can be achieved"

⁵ Variations from Idaho Water Quality Standards: <http://www.deq.idaho.gov/water-quality/surface-water/standards/variances.aspx>

As in other states, variances are subject to a public and intergovernmental involvement process. The duration of a variance may not exceed five years or the life of the NPDES permit. When a variance expires, the discharger must either meet the underlying standard or must re-apply for a new variance.

Florida

Variances: Individual variances across the state⁶

Florida follows the procedures for variances outlined in the EPA Water Quality Standards Handbook. In addition to meeting one of the six EPA identified criteria for consideration of variances, variance applicants must show that:

- There is no practicable means known or available for the adequate control of the pollution involved; and
- Compliance with the WQS will necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time.

The decision to approve a variance is subject to a public and intergovernmental involvement process, and variances are not in effect until they have been approved by EPA as part of a Federal rulemaking process. Depending on the reason granted, the duration of a variance may not exceed 24 months or the life of a NPDES permit (typically five years).

EPA's response to the comments received during the Florida rule making progress noted that variances could be adopted on a multiple-discharger basis and can be renewed so long as the State and EPA conclude that the variances are consistent with the CWA and implementing regulations.⁷

Great Lakes States (IL, IN, MI, MN, NY, OH, PN and WI)

Variances: there are two types of variances in the Great Lakes -

- Waterbody variance: IN, MI, and OH have established a waterbody variance (or "temporary standard") for Mercury. As long as a facility meets the requirements set forward in this rule, they are approved by the state and do not require approval from EPA.
- Individual variance: multiple individual variances have been issued.

The Great Lake Initiative provides EPA guidance on water quality rules for Great Lakes States and Tribes.⁸ Under this guidance, in addition to meeting one of the six EPA identified criteria for consideration of variances, applicants must:

⁶ Notices of intent to grant a variance are posted on the Florida Administrative Register. Online at: https://www.flrules.org/Gateway/View_notice.asp?id=7640125

⁷ Federal Register/ Vol. 75, No. 233 / Monday, December 6, 2010 / Rules and Regulations: <http://www.gpo.gov/fdsys/pkg/FR-2010-12-06/pdf/2010-29943.pdf>

⁸ Final Water Quality Guidance for the Great Lakes System; Final Rule available at: http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2007_01_05_tmdl_1995mar23fedreg-2.pdf

- Show that the variance conforms to the requirements of antidegradation procedures.
- Characterize the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with the original water quality standards. States and Tribes must be able to conclude that any such increased risk is consistent with the protection of the public health, safety and welfare.

Public notice of preliminary decision must be posted for public comment by the State or Tribe and notice sent to all other Great Lakes States and Tribes of the preliminary decision; and EPA must approve all variances. Most states have a variance process written into their state rules (e.g., WI) and can establish variances administratively (although variances still must undergo EPA approval). IN and OH do not have a variance process and must go through state rule-making for any variance.

The maximum duration of a variance is five years or the term of the NPDES permit. Variances can be renewed as long as the standards that justify consideration of a variance continue to be met. Renewals can be denied if the permittee did not comply with the conditions of the original variance.

Ecology's Preliminary Decision for Rule-making

At this time Ecology is considering draft minimum qualifications for granting variances. We need to determine what would go into rule versus guidance but the following is our current thinking:

1. Document that a variance is necessary:
 - Identify and justify applicable federal 131.10(g) reason(s) for allowing the variance.
 - For individual application of the variance, an analysis showing the discharger cannot meet criteria and why a variance is needed.
 - For broader application, a watershed assessment to identify sources contributing to the pollutant.
2. Granting a variance must include assurances that toxics reductions will occur:
 - Required actions would be specific and adaptable.
 - General requirements would be in rule language, details would be in guidance.
 - Permit requirements would include:
 - Pollution minimization requirements.
 - Milestones/dates for specific accomplishments.
 - Monitoring to measure effectiveness and compliance (e.g. ambient waters, effluent, sludge).
 - If a waterbody variance is considered, then require a detailed "to do" list for specific actions needed, and the responsible entity identified, to get non-permitted toxics out of the environment and water.
3. Variance must have accountability:
 - Interim criteria would be set to ensure measurable progress towards meeting criteria is being made.
 - Public review at issuance and a time-specified mandatory review thereafter to ensure that the variance is being complied with and reasonable progress is being made.

- Requirements must be enforceable, either in rule or in permits.
 - Regulated dischargers would be assured of compliance if they were complying with permit requirements or orders stipulated in the variance.
 - For variances that are broader than individual, such as granting a variance to a waterbody or statewide, the following would be required:
 - Watershed assessment to identify permitted discharges and other sources (e.g. nonpoint pollution) contributing to the pollutant.
 - Requirements for pollutant reduction plan for permitted discharges.
 - An implementation plan to deal with nonpoint pollution sources, including a schedule and actions needed to address those sources, and a commitment to implement.
 - Consequences if variance is not being complied with.
4. Duration of a variance must be articulated:
- Duration of a variance would not be longer than reasonably necessary to achieve compliance with the criteria in question:
 - Ecology would seek ability to issue longer duration variances with EPA, where justified.
 - Variances longer than 5 years would have a mandatory review and the ability to repeal the variance if compliance was not met.
 - Renewal of the variance would be addressed in rule.
5. Where appropriate, other sources must be dealt with in the variance:
- For individual variances, permit requirements would address non-point and other sources as appropriate to the permittee.
 - For waterbody variances, an implementation plan to deal with nonpoint pollution sources, including a schedule and actions needed to address those sources, would be required:
 - Regulatory and financial gaps that prevent implementation of the nonpoint pollution implementation plan would be identified.
 - Identify actions that need to be implemented. If a Chemical Action Plan exists for the pollutant of concern, then pertinent actions would be built into the variance.
 - A schedule and resources to implement nonpoint control actions would be included.
6. USEPA review and approval of variances:
- Option 1: Draft rule language would specify that Ecology issues variances for individual dischargers based on 40CFR131.10(g)(6), public process and tracking/enforcement specified; EPA review and approval would be required for all multiple discharger and waterbody variances.
 - Option 2: EPA review and approval required for all variances.

Additional Information

- WA Dept. of Ecology Supplemental Material from Policy Forum #3 (Feb. 8, 2013) - Application of variances and compliance schedules to existing, new, and expanding dischargers/discharges: <http://www.ecy.wa.gov/programs/wq/swqs/SupMaterialVariancesComplianceSched.pdf>

- Water Quality Standards Handbook - Chapter 5: General Policies (40 CFR 131.12) - Section 5.3
Variances from Water Quality Standards:
<http://water.epa.gov/scitech/swguidance/standards/handbook/chapter05.cfm#section3>
- Discharger-specific Variances on a Broader Scale: Developing Credible Rationales for Variances that Apply to Multiple Dischargers:
<http://water.epa.gov/scitech/swguidance/standards/upload/Discharger-specific-Variances-on-a-Broader-Scale-Developing-Credible-Rationales-for-Variances-that-Apply-to-Multiple-Dischargers-Frequently-Asked-Questions.pdf>
- Oregon Variance Compendium:
<http://www.deq.state.or.us/wq/standards/docs/toxics/humanhealth/rulemaking/VarianceCompendium110124.pdf>
- Oregon Issue Paper: Implementing Water Quality Standards for Toxic Pollutants in NPDES Permits, Human Health Toxics Rulemaking (2008-2011):
<http://www.deq.state.or.us/wq/standards/docs/toxics/humanhealth/rulemaking/NPDESIssuePaper.pdf>
- Variances from Idaho Water Quality Standards: <http://www.deq.idaho.gov/water-quality/surface-water/standards/variances.aspx>

Attachment 1**WAC 173-201A-420****Variance.**

(1) The criteria established in WAC 173-201A-200 through 173-201A-260 and 173-201A-600 through 173-201A-612 may be modified for individual facilities, or stretches of waters, through the use of a variance. Variances may be approved by the department when:

(a) The modification is consistent with the requirements of federal law (currently 40 C.F.R. 131.10(g) and 131.10(h));

(b) The water body is assigned variances for specific criteria and all other applicable criteria must be met; and

(c) Reasonable progress is being made toward meeting the original criteria.

(2) The decision to approve a variance is subject to a public and intergovernmental involvement process.

(3) The department may issue a variance for up to five years, and may renew the variance after providing for another opportunity for public and intergovernmental involvement and review.

(4) Variances are not in effect until they have been incorporated into this chapter and approved by the USEPA.

[Statutory Authority: RCW 90.48.035. WSR 11-09-090 (Order 10-10), § 173-201A-420, filed 4/20/11, effective 5/21/11. Statutory Authority: Chapters 90.48 and 90.54 RCW. WSR 03-14-129 (Order 02-14), § 173-201A-420, filed 7/1/03, effective 8/1/03.]