State of Oregon
Department of Environmental Quality Memorandum

Date: Aug. 15, 2013

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item D, Informational item: Water Quality Standards for Temperature
Aug. 21-22, 2013, EQC meeting

Why this is important

In response to a court order, EPA disapproved a key component of Oregon's water quality standard for temperature, which EQC adopted and DEQ has implemented since 2003. This report provides information on the consequences of EPA's disapproval on water quality permits and plans, DEQ's plan for moving forward and additional background on the standard and the issues raised by the court's opinion.

In addition, as required by the court order, EPA disapproved the general natural conditions criterion contained in Oregon's statewide narrative criteria and reviewed DEQ's Antidegradation Implementation Internal Management Directive. These actions are discussed briefly in this report.

EPA's action: Natural Conditions Criteria

On Aug. 8, 2013, EPA disapproved the natural conditions criterion, a key component of Oregon's water temperature standard. A court order issued in April required EPA to revise its prior approval of Oregon's temperature standard in a manner consistent with U.S. District Court Judge Acosta's Feb. 28, 2012, ruling and federal regulations. The court ruling and order resulted from litigation brought by Northwest Environmental Advocates challenging EPA's approval of Oregon's temperature standard in 2004. The judge's concerns are discussed below.

In its action letter, EPA identified several options DEQ could consider to remedy the disapproval. In the meantime, it is EPA's position that the remaining components of Oregon's temperature standard remain effective for federal Clean Water Act purposes, including the biologically-based numeric criteria, the human use allowance and the cold water protection provision.

When EQC adopted the temperature standard in 2003, it adopted a set of components with the clear intent that DEQ would be able to evaluate the natural potential of water bodies through the total maximum daily load, or TMDL, process. A TMDL is the calculated amount of pollutant a water body can receive and still meet Oregon water quality standards. It was never intended that the numeric criteria would be the ultimate goal for all water bodies. Rather, water temperatures recorded above of the numeric criteria would trigger an analysis and the development of water quality management plans for temperature. EPA would have oversight because it must approve the state's TMDLs. Through its action,

EPA is removing one provision of an integrated set of provisions intended to function together as the state's temperature standard. By removing the natural conditions criterion, the standard that was adopted by the commission is now incomplete and can no longer be fully implemented.

Effects of the action and DEQ's plan

DEQ will implement Clean Water Act programs based on the remaining temperature standard provisions to the extent it is legal and reasonable, until they are replaced by a new standard or are otherwise no longer effective under state or federal law. The remaining provisions include the "biologically-based" numeric criteria based on the scientific literature, the "human use allowance," which allows a small, biologically insignificant increment of warming from human activity, and the "cold water protection" provision, which limits human warming to a small increment for streams that stay colder than the numeric criteria all year.

Permits

Existing permits are not affected by this action, but may be when they are renewed.

Soon after the February 2012 court ruling vacated EPA's approval of Oregon's natural conditions criterion, DEQ stopped issuing wastewater discharge, or NPDES, permits that contain analyses or requirements based on natural conditions. This has hampered DEQ efforts to issue some priority individual NPDES permits, reduce the backlog of permits waiting to be renewed and issue permits on a watershed approach. DEQ has been working on other permits not affected by the temperature decision in the meantime.

Until there is resolution of related litigation challenging EPA approval of TMDLs based on the natural conditions criterion, DEQ intends to continue issuing NPDES permits in certain scenarios:

- For waters that are not temperature impaired, DEQ will issue or reissue permits as appropriate to protect cold water [340-041-028(11)].
- For temperature impaired waters with no approved TMDL, DEQ will continue to renew permits based on the pre-TMDL requirements in the current standard [OAR 340-041-0028(12) (b) (A)], which rely on the numeric criteria and the human use allowance rather than the natural conditions criterion. This continues current practice.
- For sources with an approved TMDL wasteload allocation that is based on the numeric criteria, DEQ will reissue the permit based on the wasteload allocation.
- For sources with an approved TMDL wasteload allocation based on the natural conditions criterion, DEQ will focus on permits where:
    - The source has no reasonable potential to exceed the numeric criteria or its wasteload allocation or
    - The permit is based on the numeric criteria.

DEQ expects that some sources will not be able to immediately comply with temperature limits based on the numeric criteria. In these cases, DEQ will investigate the ability to use a compliance schedule or a variance to provide a compliance pathway. Compliance schedules include a timeline for a discharger to meet permit requirements. Variances may be granted based on one of several justifications, including consideration of natural or physical conditions that prevent attainment of the use or widespread and substantial economic harm. A variance would require the discharger to develop a temperature reduction plan.

DEQ is committed to ensuring that water quality trading can be used as a tool where appropriate. DEQ used a compliance schedule for the city of Medford to enable it to pursue a water quality trading plan and restore riparian vegetation to mitigate effluent heat load in lieu of constructing other temperature reduction infrastructure.

Total maximum daily load plans and allocations

DEQ discontinued issuing temperature TMDLs when the court issued its ruling in February 2012. The legal impact of the EPA's disapproval of the natural conditions criteria on existing TMDLs remains unclear at this time. The answers to these questions are complicated by previous Northwest Environmental Advocates litigation under the Coastal Nonpoint Source Pollution Control Program, and pending litigation by Northwest Environmental Advocates, which seeks invalidation of all the TMDLs DEQ has completed since 2004.

DEQ cannot issue a TMDL based on the numeric criteria plus the human use allowance unless its analysis demonstrates that the waterbody will actually attain these standards. Natural conditions, such as solar radiation, absence of streamside vegetation, actual stream flow or air temperature, can make it impossible for the water bodies to meet the standards.

DEQ can continue to develop and issue TMDLs for water bodies where it demonstrates that the TMDL will lead to attainment of the biologically-based numeric criteria plus the human use allowance. DEQ can also work with state and local agencies to develop water quality management plans, which identify the load reductions and measures needed to reduce nonpoint source loads to the maximum extent practicable.

TMDLs are also needed to address water bodies impaired by pollutants other than temperature. DEQ will prioritize its TMDL resources to focus on these other needs in order to use public resources responsibly and conduct work with the greatest potential to benefit the environment.

Revising the temperature standard

DEQ recommends that the agency conduct a rulemaking process to revise Oregon's temperature standard once DEQ knows more about the outcome of Endangered Species Act consultation underway and the pending TMDL litigation.

In response to the temperature standard litigation filed by NWEA, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service were required to review and better address certain aspects of their Biological Opinions on the 2003 temperature standard. The revised Biological Opinions are due in late 2014. DEQ does not yet know the timeline for resolution of the temperature TMDL litigation.

DEQ's revised standard must address the court's concerns, be scientifically defensible and administratively workable. Protection of Oregon's native cold water communities, including threatened and endangered fish, and efficient use of state resources are paramount concerns. In addition, the standards must be able to be implemented in Clean Water Act programs, including wastewater discharge permits, 401 certifications, water quality assessments and TMDLs. DEQ will consider options that will enable the state to meet these objectives and consult with the commission on a preferred option for water quality standards development.

Once EQC adopts a revised temperature standard, which will likely take one to two years once the rulemaking process is initiated, EPA must consult with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service and then either approve or disapprove the standard. The new standard will not be effective for Clean Water Act purposes until it has been approved by EPA.

The role of the natural conditions provision

DEQ developed the natural conditions criterion provision to function as an integral part of a temperature standard that also included biologically-based numeric criteria, a cold water protection provision, and a human use allowance. The natural conditions criterion acknowledges the fact that many Oregon streams, at times, are naturally warmer than the numeric criteria and that these streams will not be able to attain the numeric criteria throughout the warm summer season**,** even if all human impacts are removed. Under the natural conditions criterion, when DEQ determined that a water body under natural conditions, without human impacts, could not meet the numeric criteria in the temperature standard, the natural temperatures became the goal for the waterbody.

The numeric criteria, which represent the points at which sub-lethal impacts to fish and other species begin to occur, were included in the standard to trigger basin plans that would address human-caused warming and to identify a biological goal that should be attained wherever possible. They were not intended to be the ultimate temperature targets for all water bodies. Similarly, the cold water protection provision limits human warming even when stream temperatures are colder than the numeric criteria.

Issues raised by the court opinion

The court raised several concerns about the natural conditions criterion in Oregon's temperature standard, which is a narrative criterion. According to federal regulation, narrative criteria can be established to "supplement" numeric criteria. The court found, however, that Oregon's natural conditions criterion supplants rather than supplements the numeric criteria because it results in numeric temperature goals for the waterbody that are less stringent than the default

statewide numeric criteria. The state and EPA had considered the narrative natural conditions criteria as supplemental to the numeric criteria because the provisions functioned together to form a scientifically valid and workable standard that addresses natural variability. EPA and DEQ both concluded that a provision addressing natural conditions was needed because EPA's science staff, technical workgroup and science peer review panel concluded that numeric threshold criteria alone are not scientifically valid and do not work for stream temperature.

When EPA approved DEQ's 2003 temperature standard, it relied on a conclusion that historical, pre-settlement water temperatures protected native cold water fish because the fish evolved and were abundant under those conditions until the last 100 to 150 years. The court disagreed with this conclusion because it discounts historical changes to salmonid populations and river conditions that may impact the ability of the fish to thrive at those same temperatures.

In addition, the court stated that the ability to estimate historical or natural water temperature was "rife with uncertainty." The court decision was based on the record EPA relied on when it approved the standard in 2004. There has been much improvement in the capability and experience in data gathering, analysis and modeling since that time.

Additional EPA actions

With its Aug. 8, 2013, action, EPA also disapproved the general natural conditions criterion included in Oregon's statewide narrative criteria. This provision applies to naturally-occurring substances or conditions of the water aside from temperature, such as iron, arsenic and other earth metals, nitrogen, phosphorus, dissolved oxygen and others. Similar to the temperature criterion, this provision allowed DEQ to recognize and account for situations where naturally occurring concentrations of a substance do not meet the water quality criteria.

The general natural conditions criterion has been in Oregon's water quality standards rules since the 1970s, and most other states have a similar provision. To date it has been used infrequently, but DEQ expects that as the agency completes more TMDLs for dissolved oxygen and earth metals, this provision would have been invoked as an efficient way to establish attainable targets in water bodies that could not meet numeric criteria due to natural conditions. Without this provision, it is likely DEQ will need to conduct a use attainability analysis and adopt site-specific criteria before completing a TMDL. This process is resource intensive and DEQ does not foresee having the resources necessary to do this work for the multiple water bodies around the state.

For permits that would have relied on this provision, DEQ will consider whether a compliance schedule, the intake credit or background pollutant allowance in DEQ's toxics rule or a variance would be a possible compliance pathway.

In a second letter dated Aug. 8, 2013, EPA set out the conclusions of its review of Oregon's Antidegradation Implementation Internal Management Directive. This is

not a formal EPA water quality standards review, and EPA's action does not change the effectiveness of Oregon's antidegradation policy rule.

The antidegradation policy is part of Oregon's water quality standards rules, as required by federal regulation. The rule describes the state's policy to prevent further degradation of Oregon waters by evaluating requests to add new or increased discharges of pollution to state waters and allowing those increases only if certain findings are made. DEQ's antidegradation policy rule was revised by EQC in 2003 and approved by EPA in 2004. The court upheld EPA's approval of the rule.

The Antidegradation Implementation Internal Management Directive provides guidance to DEQ staff on how to implement the antidegradation policy. The court ordered EPA to review the implementation methods contained in the directive to evaluate whether they comply with federal antidegradation regulations and to ensure that they do not circumvent the purpose of Oregon's antidegradation policy.

DEQ will consider and discuss EPA's comments internally and with EPA to ensure that DEQ understands EPA's concerns and the federal requirements, and to determine next steps. DEQ will also inform staff applying the antidegradation policy in a permit or 401 certification if the EPA review impacts work in progress.

Public outreach

DEQ posted a question-and-answer sheet on its water quality standards website, and has communicated directly with many parties to provide information on EPA's action, the temperature standard in effect following EPA's disapproval and how DEQ plans to implement the state's water quality program under the effective standard until a revised standard is effective.

DEQ will establish a public process for the temperature standard review that will allow people to provide input. DEQ will ensure that the alternatives considered undergo a credible and defensible scientific review. In addition, DEQ will work closely with legal counsel, EPA, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to assess the "approvability" of all options considered under both the Clean Water Act and the Endangered Species Act.

Next steps and commission involvement

There is no commission action needed at this time. DEQ will keep the commission apprised of progress and issues related to implementing the remaining effective temperature standard, and will inform the commission of any significant developments in the Endangered Species Act consultation and TMDL litigation. DEQ will develop a project plan and timeline for considering any revisions to the temperature standard or the general natural conditions criterion. Prior to embarking on a rulemaking process, staff will consult with EQC for direction and will ask how each of the commissioners would like to be involved in the process.

DEQ will also consider EPA's review of DEQ's antidegradation implementation procedures, determine how this affects current work and decide whether DEQ's

internal management directive needs to be revised. Staff will keep the commission informed on future actions to address implementation of the antidegradation policy.

Attachments

A. EPA disapproval letter
   - *Also available online:* *http://www.deq.state.or.us/wq/standards/docs/DisapprovalLetter.pdf*

B. EPA antidegradation review letter

C. DEQ's question-and-answer document on the natural conditions criterion
   - *Also available online:* *http://www.deq.state.or.us/wq/standards/docs/TempStandardNatCond.pdf*

Available online

1. February 2012 court opinion: http://www.deq.state.or.us/wq/standards/docs/temperature/NWEAcourtDecision20120228.pdf

Approved:

Division: _____

Section: _____

Report prepared by: Debra Sturdevant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND
WATERSHEDS

AUG 8 2013

Mr. Gregory Aldrich
Water Quality Programs Administrator
Oregon Department of Environmental Quality
DEQ Headquarters Office
811 SW 6th Avenue
Portland, Oregon 97204-1390

Re: Disapproval of Oregon's Water Quality Standards: Natural Conditions Criteria for Temperature OAR 340-041-0028(8); Statewide Narrative Natural Conditions Criteria OAR 340-041-0007(2)

Dear Mr. Aldrich:

The U.S. Environmental Protection Agency is, today, taking action on two of Oregon's water quality criteria, the "Natural Conditions Criteria for Temperature" (NCC), located at OAR 340-041-0028(8), and the Statewide Narrative "Natural Conditions" Criteria (SNC), located at OAR 340-041-0007(2) of Oregon's Water Quality Standards (WQS) regulations. This action is conducted pursuant to our authority under Section 303(c) of the Clean Water Act (CWA) and implementing regulations at 40 C.F.R. Part 131. In accordance with these authorities, the EPA disapproves Oregon's NCC and SNC.

Specifically, the EPA is disapproving the following provisions:

"OAR 340-041-0028(8): Natural Conditions Criteria. Where the department determines that the natural thermal potential of all or a portion of a water body exceeds the biologically-based criteria in section (4) of this rule, the natural thermal potential temperatures supersede the biologically-based criteria, and are deemed to be the applicable temperature criteria for that water body."

"OAR 340-041-0007(2): Where a less stringent natural condition of a water of the State exceeds the numeric criteria set out in this Division, the natural condition supersedes the numeric criteria and becomes the standard for that water body. However, there are special restrictions, described in OAR 340-041-0004(9)(a)(D)(iii), that may apply to discharges that affect dissolved oxygen."

In addition, today's disapproval action fulfills the EPA's obligation pursuant to an April 10, 2013 court order wherein the U.S. District Court for the District of Oregon (court) vacated the EPA's previous approvals of the NCC and SNC and remanded the matter to the EPA for action on the NCC and SNC under CWA Section 303(c) within 120 days of the order (*Northwest Environmental Advocates v. U.S. EPA, et al.*, Civil No. 3:05-cv-1876-AC). The remaining EPA-approved portions of Oregon's WQS, including the Biologically Based Numeric Criteria at OAR-340-041-0028(4)(a-f), are not subject to the EPA's action today and remain in effect for CWA purposes.

Background

The Oregon Department of Environmental Quality (ODEQ) submitted new and revised WQS, including the NCC and SNC, to the EPA for review and approval on December 10, 2003. The EPA subsequently approved the NCC and SNC, among other WQS, on March 2, 2004. In 2005, Northwest Environmental Advocates (NWEA) filed a lawsuit challenging, among other things, the EPA's approvals of the NCC and SNC. On February 28, 2012, the court issued an Opinion and Order on the 2005 lawsuit and held, among

other things, that the EPA's approvals of the NCC and SNC were arbitrary and capricious. On April 10, 2013, the court issued an order, stipulated to by NWEA and the EPA, to resolve this aspect of the litigation, vacating and remanding to the EPA its previous approvals of the NCC and SNC and requiring the EPA to take action pursuant to CWA Section 303(c) within 120 days. This disapproval letter fulfills the EPA's duty to take such action on the NCC and SNC.

Statutory and Regulatory Background

Section 303(c)(2)(A) of the CWA requires states and authorized tribes to submit new or revised WQS to the EPA for review. Under Section 303(c) of the CWA and its implementing regulations found at 40 C.F.R. Part 131, the EPA reviews those WQS and either approves them or disapproves them. With respect to water quality criteria, including the NCC and SNC, 40 C.F.R. Section 131.11(a)(1) provides, in part, that such criteria must be based on sound scientific rationale and contain sufficient parameters or constituents to protect the designated use(s). Any action to replace the NCC or SNC would constitute a change to Oregon's WQS and have to be reviewed and approved or disapproved by the EPA pursuant to CWA Section 303(c).

The EPA's Disapproval of Oregon's NCC

The court's February 28, 2012 Opinion and Order held that the EPA's approval of the NCC was arbitrary and capricious. The Opinion and Order stated, *inter alia*, that: (1) the NCC "supplants rather than supplements" the Biologically Based Numeric Criteria, Opinion and Order at 26; (2) the NCC was based on a flawed assumption that historically protective water temperatures would protect salmonids now, *id.* at 27; (3) the NCC attempts to restore historically higher water temperatures without restoring other conditions that previously allowed salmonids to thrive, *id.*; and (4) there are "difficulties of estimating the historical water temperatures upon which the NCC depends," which is a "process rife with uncertainty." *Id.* The Opinion and Order also discussed NWEA's contention that the NCC only protected historically warmer waters without also protecting waters that were naturally cooler than the numeric criteria. *Id.* at 24. The court ruled that the EPA had "been unable to articulate a rational[] basis for its approval of the NCC." *Id.* at 27. There was no objection to the stipulated agreement to the court's April 10, 2013 order, which set aside the EPA's approval of the NCC and ordered the EPA to take CWA Section 303(c) action on the NCC consistent with the court's decision and the requirements of the CWA and the EPA's regulations within 120 days. In light of the views expressed by the court in the Opinion and Order, the EPA is disapproving the NCC.

Remedy for the EPA's Disapproval of Oregon's NCC

Oregon has a number of available options to remedy the EPA's disapproval of the NCC. The EPA would be available to assist Oregon if it would like to pursue a remedy, which could include any of the following options.

One possible remedy is for Oregon to delete the NCC without any corresponding adoption of new or revised criteria. Oregon's Biologically Based Numeric Temperature Criteria (BBNC) are and would remain in effect for CWA purposes. The EPA believes that Oregon's BBNC and other temperature WQS, upheld by the court, protect salmonids and are consistent with the EPA's 2003 Guidance For Pacific Northwest State and Tribal Temperature Water Quality Standards[1] ("Temperature Guidance").

A second possible remedy option is for Oregon to develop additional numeric temperature criteria. In order for additional numeric temperature criteria to be developed, the best available relevant data would need to be considered and evaluated. The EPA encourages Oregon, as it does with all states, to consider

[1] EPA Region 10 Guidance For Pacific Northwest State and Tribal Temperature Water Quality Standards. EPA-910-B-03-002. April 2003. Available at: http://www.epa.gov/region10/pdf/water/final_temperature_guidance_2003.pdf

magnitude, frequency, and duration components in setting water quality criteria to protect against acute and chronic effects.[2] This may include establishing site-specific criteria accounting for specific characteristics, such as unique temperature regimes (see, e.g., Temperature Guidance), in different waterbodies. The EPA recognized in the Temperature Guidance that salmonids could be protected by site-specific criteria (i.e., refined BBNC) that account for the temperature regime of a particular location (e.g., diurnal, spatial variability; EPA, 2001[3]) or alternative criteria based on natural background temperatures. Site-specific criteria established in this manner would be subject to CWA Section 303(c) review.

A third possible remedy option is for Oregon to adopt into its WQS (directly or by reference) a binding methodology[4] that provides a transparent, predictable, repeatable, and scientifically defensible procedure for the protection of designated uses. This approach, known as a "performance-based" approach, relies on the adoption of a systematic process (i.e., a criterion derivation methodology) rather than a specific outcome (i.e., concentration limit for a pollutant) consistent with 40 C.F.R. Sections 131.11 and 131.13. Consistent with CWA Section 303(c) and the EPA's implementing regulations at 40 C.F.R. Part 131, the EPA would need to review any such binding methodology that Oregon develops as part of a performance-based approach. The EPA would expect Oregon to adopt comprehensive and detailed implementation procedures (methodologies, minimum data requirements, and decision thresholds) that establish a clear and predictable decision-making framework. The performance-based approach could be used to derive site-specific adjustments to numeric criteria or to translate a narrative criterion[4] into quantifiable measures. When such a performance-based approach is sufficiently detailed and has suitable safeguards to ensure predictable, repeatable outcomes, the EPA approval of such an approach also serves as approval of the outcomes as well. The EPA acknowledges that the universe of streams to which a performance-based approach may be applied could be constrained by the ability of the methodology to account for, evaluate, and develop appropriate metrics for the unique temperature characteristics found in those streams.

The EPA's Disapproval of Oregon's SNC

As stated above, the EPA is disapproving the SNC given the court's ruling on February 28, 2012. While the court did not expressly address the SNC in its February 28, 2012 Opinion and Order, it is likely that the court would have applied to the SNC one or more of the rationales that the court discussed in connection with holding that that the EPA's approval of the NCC was arbitrary and capricious. There was no objection to the stipulated agreement to the court's April 10, 2013 order, which set aside the EPA's approval of the SNC and ordered the EPA to take CWA Section 303(c) action on the SNC consistent with the court's decision and the requirements of the CWA and the EPA's regulations within 120 days. In light of the views expressed by the court in the Opinion and Order regarding the NCC, the EPA also is disapproving the SNC.

Remedy for the EPA's Disapproval of SNC

Similar to the NCC remedy options, Oregon has a number of available options to address the EPA's disapproval of the SNC [OAR 340-041-0007(2)]. The EPA would be available to assist Oregon if it would like to pursue a remedy, which could include any of the following options.

---

[2] EPA Water Quality Standards Handbook - Chapter 3: Water Quality Criteria. EPA-823-B-12-002; March 2012. Accessible at http://water.epa.gov/scitech/swguidance/standards/handbook/chapter03.cfm#section12

[3] EPA Issue Paper III: Spatial and Temporal Patterns of Stream Temperature (Revised), 2001. EPA-910-D-01-003, 2001 pp 2-9. Available at:
http://yosemite.epa.gov/R10/WATER.NSF/6cb1a1df2c49e4968825688200712cb7/5eb9e547ee9e111f88256a03005bd665/$FILE/Issue%203%20Spatial%20Temp.pdf

[4] EPA 2000. *EPA Review and Approval of State and Tribal Water Quality Standards*. Federal Register: April 27, 2000 (Volume 65, Number 82); Rules and Regulations; Page 24641-24653. Procedures to identify opportunities by which their adoption of criteria, as well as EPA's approval, can be streamlined.

Possible remedies include but are not limited to: 1) Oregon could delete the SNC without any corresponding adoption of new or revised criteria, with possible adoption of site-specific criteria in the future, or 2) Oregon could adopt a performance-based approach that establishes criteria utilizing a binding methodology (as described above). Note, however, that one approach is likely not suited to derive all pollutant targets and metrics given the breadth of pollutants over which the SNC originally applied. Individual methodologies for each pollutant or subsets of pollutants with similar sources and cycling would likely be necessary in order to ascertain the scientific defensibility of the methodology and the level of protection afforded to designated uses as a result of using the methodology.

Conclusion

In summary, the EPA will continue to work with Oregon in its development of WQS that meet the requirements of the CWA and its implementing regulations, including those described in this letter.

Please feel free to contact me at (206) 553-1855 if you have questions concerning this letter, or your staff may contact Rochelle Labiosa, the EPA's Oregon Water Quality Standards Coordinator, at (206) 553-1172.

Sincerely,

Daniel D. Opalski, Director
Office of Water and Watersheds

cc: Mr. Dick Pedersen, Oregon Department of Environmental Quality
Ms. Jennifer Wigal, Oregon Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND
WATERSHEDS

AUG 8 2013

Mr. Gregory Aldrich
Water Quality Programs Administrator
Oregon Department of Environmental Quality
DEQ Headquarters Office
811 SW 6th Avenue
Portland, OR 97204-1390

Dear Mr. Aldrich:

I am writing to inform you that the U.S. Environmental Protection Agency has completed its review of the portions of Oregon's March 2001 "Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications" (IMD) that are not incorporated into Oregon's water quality standards, as ordered by the U.S. District Court for the District of Oregon (court) on April 10, 2013, in the case of *Northwest Environmental Advocates v. United States Environmental Protection Agency*, Case No: 3:05-cv-1876-AC (D. Ore).

The EPA's water quality standards regulation at 40 CFR 131.12(a) requires states to adopt an antidegradation policy and to identify methods for implementing that policy. Both the policy and the implementation methods must be consistent with 40 CFR 131.12. Oregon's antidegradation implementation methods are contained in its IMD.

The results of the EPA's review are explained in detail in the enclosure, entitled: *The EPA's Review of Portions of Oregon's March 2001 Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications.* In its review, the EPA has concluded that many of the components of the IMD are consistent with 40 CFR 131.12. The EPA also has concluded that certain components of the IMD are not consistent with 40 CFR 131.12.

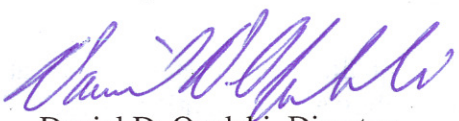
The portions of the IMD that the EPA reviewed in accordance with the court's order are not incorporated into Oregon's water quality standards (i.e., they are outside of Oregon's regulations). As explained in the preamble to the EPA's proposed antidegradation implementation methods for the State of Oregon (68 Federal Register 58775 [October 10, 2003]), antidegradation implementation "methods are not required to be contained in the State's regulation, but as they inform EPA's judgment regarding whether the State's antidegradation policy is consistent with the Federal regulations at 40 CFR 131.12, they are subject to EPA review. … When a State or authorized Tribe chooses to develop such methods as guidance or outside of regulation, EPA reviews the methods either in connection with the State or Tribe's submission of an amendment to its antidegradation regulations under CWA section 303(c)(3) or under its discretionary authority to review existing water quality standards under CWA section 303(c)(4)."

This letter and the enclosed document constitute the EPA's conclusions resulting from the review of the portions of Oregon's IMD that are not incorporated into Oregon's water quality standards regulation. Consistent with the court's April 10, 2013 order, this letter sets forth the EPA's conclusions from its review but does not constitute a formal approval or disapproval decision pursuant to 33 U.S.C. 1313(c)(3).

Section 303(c)(4)(B) of the Clean Water Act (CWA) requires the EPA Administrator to promulgate new or revised water quality standards when s/he determines that doing so is necessary to meet CWA requirements. This letter and enclosed document do *not* constitute a determination by the EPA Administrator that new or revised water quality standards are necessary to meet CWA requirements in accordance with CWA Section 303(c)(4)(B). Rather, by this letter and enclosed document, the EPA is informing the Oregon Department of Environmental Quality (ODEQ) of the EPA's review and conclusions consistent with the court's April 10, 2013 order.

The EPA looks forward to working with the ODEQ and would like to meet in the near future to discuss the EPA's review and conclusions. Please contact me at 206-553-1855, or your staff may contact Bill Beckwith of my staff at 206-553-2495, if you have any questions.

Sincerely,



Daniel D. Opalski, Director
Office of Water and Watersheds

Enclosure

The EPA's Review of Portions of Oregon's March 2001 Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications

August 8, 2013

On February 28, 2012 the Federal District Court for the District of Oregon (court) issued a decision on a 2005 lawsuit challenging the EPA's March 2, 2004 approval of water quality standards revisions submitted by the Oregon Department of Environmental Quality (ODEQ) on December 10, 2003. Among the specific issues challenged were the EPA's approval of Oregon's antidegradation policy and the EPA's handling of the non-binding portions of Oregon's antidegradation implementation methods (i.e., Oregon's March 2001 Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications or "IMD," the non-binding portions are guidance rather than statute or regulation). The court upheld the EPA's approval of Oregon's antidegradation policy, but held that the EPA failed to review the non-binding portions of Oregon's IMD. On April 10, 2013, the court entered an order adopting an agreement between the EPA and the plaintiff concerning the IMD. The court's order required the EPA to review those portions of Oregon's IMD that were not adopted as part of Oregon's water quality standards regulation, and provide conclusions to the State of Oregon by August 8, 2013:

> *EPA shall review those portions of the Oregon's Internal Management Directive for antidegradation implementation ("IMD") that were not incorporated into Oregon's water quality standards to ensure that the IMD describes the required elements and complies with federal antidegradation regulations such that it does not circumvent the purpose of Oregon's antidegradation policy. Within 120 days of entry of this Order, EPA will set forth its conclusions from this review in a letter to the State of Oregon, which shall not constitute a formal approval or disapproval decision pursuant to 33 U.S.C. § 1313(c)(3).*

This document contains the results of the EPA's review in accordance with the court's order. The EPA did not review pages 27 and 33-39 of the ODEQ's IMD, because those pages were adopted by ODEQ as part of its water quality standards at OAR 340-041-0004(6)(b) and OAR 340-041-0004(9)(a)(B):

> *The action is necessary and benefits of the lowered water quality outweigh the environmental costs of the reduced water quality. This evaluation will be conducted in accordance with DEQ's "Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications," pages 27, and 33-39 (March 2001) incorporated herein by reference* (emphasis added)

The EPA also did not review Appendix C, D, E, or F of the IMD because they are worksheets that accompany the analyses discussed in pages 33-39 ("Analysis of

Socioeconomic Benefits and Environmental Costs"). Nor did the EPA review Appendix A because it contains the antidegradation policy that was in regulation in Oregon at the time the IMD was written. Oregon's antidegradation policy has been revised since and is not included in the court's order.

The EPA's water quality standards regulation at 40 CFR 131.12(a) requires states to adopt an antidegradation policy and to identify methods for implementing that policy. Both the policy and the implementation methods must be consistent with 40 CFR 131.12. The state or tribe's policy must provide protection for all existing uses, hereafter referred to as "Tier 1" (40 CFR 131.12(a)(1)). The policy must also require the maintenance and protection of high quality waters ("Tier 2") unless the state finds "that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located," a process hereby referred to as "Tier 2 review" (40 CFR 131.12(a)(2)). Additionally, the policy must provide for the maintenance and protection of water quality in Outstanding National Resource Waters (ONRWs), identified by the state or tribe, hereby referred to as "Tier 3" (40 CFR 131.12(a)(3)).

The EPA reviewed Oregon's IMD for consistency with 40 CFR 131.12. This document outlines the EPA's review and conclusions first addressing when Oregon's antidegradation implementation methods are applicable; both with regard to the activities and waters covered by the methods as a whole (see section I), and with regard to when a particular Tier of antidegradation is applicable, i.e., existing use protection (Tier 1) in accordance with 40 CFR 131.12(a)(1), high quality water protection (Tier 2) in accordance with 40 CFR 131.12(a)(2), and ONRW protection (Tier 3) in accordance with 40 CFR 131.12(a)(3) (see section II). Section II.B.1 thru 4 includes significant discussion of the various components of the approach ODEQ uses to determine when Tier 2 is applicable. Second, the methods ODEQ uses to implement the three antidegradation tiers are discussed (see sections III, IV, and V), including the various components of a Tier 2 analysis (see section IV.A thru F). Rather than addressing Oregon's IMD section by section, this format is used to ensure that each of the components of 40 CFR 131.12 are addressed in the EPA's review. How antidegradation is addressed for general permits in ODEQ's IMD is also discussed (see section VI), as are provisions in ODEQ's IMD concerning water quality that is not better than the applicable water quality criteria (see section VII).

ODEQ's IMD is dated March 2001 and was developed as a companion to the antidegradation policy as it appeared in Oregon's water quality standards regulation at that time. Oregon's antidegradation policy was subsequently revised in 2003 and 2007; however, the IMD has not been revised accordingly. Thus certain references in the IMD to Oregon's antidegradation policy are out dated. A December 19, 2003 letter explained ODEQ's intent to use the 2001 IMD until it was revised (see Michael T. Llewelyn, ODEQ to Randy Smith, EPA, December 19, 2003):

> *Oregon intends to continue to follow the process set forth in the document Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications (March 2001).*

> *However, we note that this guidance is now somewhat out of date and needs to be revised to conform to the new rules*.

For the purpose of implementing antidegradation in Oregon, waters are classified as either "Outstanding Resource Waters" (ORW), "High Quality Waters" (HQW), or "Water Quality Limited Waters" (WQLW). ODEQ's IMD explains these three groups of waters in the context of the three tiers of antidegradation protection (see Tiers of Protection, page 5):

> *…in Oregon, waters can be classified as Outstanding Resource Waters, High Quality Waters, or Water Quality Limited Waters. The administrative rules state that in each class of water, beneficial uses will be maintained, which is consistent with Tier 1 protection. The policies for High Quality Waters and Water Quality Limited Waters also have stipulations that are consistent with Tier 2 protection, and the policy for Outstanding Resource Waters is consistent with Tier 3 protection.*

With the exception of the subject areas listed below, the EPA has determined that ODEQ's IMD is consistent with the federal antidegradation regulation at 40 CFR 131.12. While the EPA has identified portions of ODEQ's IMD that are inconsistent with 40 CFR 131.12, those findings do not represent an Administrator's determination in accordance with section 303(c)(4)(B) of the CWA. Rather, the EPA is informing ODEQ of the conclusions of the EPA's review consistent with the court's order.

The EPA has identified the following areas where ODEQ's IMD is not consistent with 40 CFR 131.12:

> ► Existing use protection, with regard to applicability and method for implementation (see sections II.A and III).
>
> ► The use of measurable and statistical significance when determining whether an activity would lower water quality in the implementation of Tier 2 and Tier 3 (see section II.B.2.a).
>
> ► Implementation of the requirement at 40 CFR 131.12(a)(2) that when allowing a lowering a of water quality "*…the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and cost-effective and reasonable best management practices for nonpoint source control.*" (see section IV.D).
>
> ► How antidegradation is addressed for general permits (see section VI).

In addition:

> ►To ensure consistency with 40 CFR Part 131,ODEQ should clarify its approach to addressing parameters in Water Quality Limited Waters, where water quality is

not better than necessary to meet the applicable criteria, when a lowering of water quality is proposed (see section VII).

► Clarification of how ODEQ interprets its definition of "Waters of the state" is necessary before the EPA can determine if the scope of ODEQ's IMD with regard the waters covered is consistent with the CWA and 40 CFR 131.12 (see section I).

I. General Applicability – Activities and Waters Covered.

Section I provides the EPA's review of the general scope of applicability of ODEQ's IMD, with regard to the waters and activities that are covered.

The EPA believes that the scope of ODEQ's IMD with regard to the type of activities it covers is consistent with the CWA and 40 CFR 131.12 as discussed below. However, clarification of how ODEQ interprets the parenthetical phrase "*except those private waters that do not combine or effect a junction with natural surface or underground waters*," in the definition of "Waters of the state," is necessary before the EPA can determine if the scope of ODEQ's IMD with regard the waters covered is consistent with the CWA and 40 CFR 131.12.

States are to adopt WQS that include an antidegradation policy and are to identify antidegradation implementation methods. Consistent with the scope of the CWA, those WQS and antidegradation provisions should apply to all waters of the US and at a minimum to discharges that require a federal permit or license and are subject to certification under section 401 of the CWA (i.e., CWA section 402 permits, CWA section 404 permits, and FERC licenses).

ODEQ's IMD indicates that it is applicable to NPDES permits (i.e., CWA section 402 permits) and other activities that are subject to certification under section 401 of the CWA (see "Applicability," page 2 and "Applicability," page 9):

> *This internal management directive must be reviewed and implemented by:*
> - *Staff issuing new or renewal NPDES permits, and*
> - *Staff issuing 401 water quality certifications*.
>
> *The Antidegradation Review must be considered for every DEQ water quality action, such as issuing an NPDES permit or water quality certificate.*

With regard to the waters covered, ODEQ's IMD includes a statement that its methods are to be followed in implementing Oregon's antidegradation policy and that the policy applies to "*surface waters of the State*" (see "Purpose," page 2):

> *This document provides methods and directions to be followed by the DEQ for implementing the Antidegradation Policy. Implementation of the policy provides a structured process for protecting, maintaining, and enhancing the*

> *ecological integrity of the surface waters of the State, and towards that end, defines conditions under which water quality can and cannot be degraded.* (emphasis added)

"Waters of the state" is defined in ODEQ's water quality standards regulation at OAR 340-041-0002(73) as follows:

> *"Waters of the State" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.*

II. Applicability of Particular Levels of Antidegradation Protection.

Section II provides the EPA's review of when each specific tier of antidegradation is applied in ODEQ's IMD, i.e. existing use protection (Tier 1), high quality water protection (Tier 2), and Outstanding National Resource Water protection (Tier 3), for consistency with 40 CFR 131.12.

A. Existing Use Protection (Tier 1) Applicability.

The EPA believes that the application of existing use protection in ODEQ's IMD is not consistent with 40 CFR 131.12(a)(1) for the reasons discussed below.

ODEQ's antidegradation implementation methods limit existing use protection (Tier 1) to instances where a proposed new or increased activity has the potential to lower water quality. This is narrower than the applicability of existing use protection in the federal antidegradation policy at 40 CFR 131.12(a)(1) which provides that in all cases existing uses and the level of water quality necessary for their protection are to be maintained and protected. Furthermore, where existing use protection is specified in ODEQ's IMD, it does not appear to be consistent with the federal policy because it appears that existing use protection is equated to simply ensuring that designated uses are protected.

In the IMD, when describing its antidegradation policy and the methods for implementing that policy, Oregon refers to an antidegradation review being applicable to "*all activities with the potential to affect existing water quality*" (see page 4 at "Purpose of the policy" and page 6 at "Integration of the policy into NPDES permitting"). At "Activities subject to review," page 14, ODEQ states that "*Any activity that proposes to discharge a new or increased load (beyond that presently allowed in an existing permit) or any other activity that will lower water quality is subject to an in depth antidegradation review.*" Consistent with this, the section titled "Renewal of NPDES permits," page 14, provides that proposed new or increased discharges are subject to an antidegradation review. Conversely, permit renewals at the same or lower discharge load

as the previous permit do not appear to be subject to an antidegradation review ("*permit renewals at the same or lower discharge load as the previous permit are not considered to lower water quality from existing water quality and therefore, the antidegradation review worksheet will consist of substantiation that there will be no lowering of water quality.*").

"Antidegradation Review" is defined broadly in Oregon's IMD as "…*the process by which the State determines that antidegradation requirements are satisfied for a given regulated activity that may have an effect on surface water quality*." Thus when ODEQ refers to an antidegradation review, or an "*in depth*" antidegradation review, not being required, the reference appears to include antidegradation as a whole, including Tier 1. When discussing the applicability of an antidegradation review, ODEQ does not distinguish between circumstances where a Tier 1 review only, or a Tier 2 review in addition to Tier 1, is required. "In depth review" is not defined in ODEQ's IMD, but its usage implies that an in depth review is a substantive review. Reviews that are not considered "in depth" appear to simply consist of documentation that an in depth (i.e., substantive) review is not required because no lowering of water quality is expected. This interpretation is supported by the Antidegradation Implementation Flow Chart (IMD pages 11-12) and the Antidegradation Review Sheet (IMD Appendix B, pages 51-57) which both lead directly to "*proceed with application*" once it is documented that a lowering of water quality will not occur.

Limiting the applicability of Tier 1 to cases where a lowering of water quality is being authorized is inconsistent with 40 CFR 131.12(a)(1) and the EPA's interpretation of its antidegradation regulation, as found in the July 7, 1998 Advance Notice of Proposed Rulemaking (ANPRM) (63 Fed. Reg. 36,742; 36,781) ("*All waters of the U.S. are subject to Tier 1 protection*" and "*Antidegradation policies are generally implemented for Tier 1 by a review procedure that evaluates any discharge to determine whether it would impair an existing use*."). In addition, in a September 5, 2008 letter explaining the EPA's existing use provisions, the EPA stated: "…*EPA's antidegradation provisions require any CWA authorization of a discharge or activity that may result in a discharge to protect the existing use*." (Denise Keehner, Director EPA's Standards and Health Protection Division to Derek Smithee, Oklahoma Water Resources Board, September 5, 2008). Therefore the EPA has determined that the applicability of Tier 1 protection in ODEQ's IMD is inconsistent with 40 CFR 131.12(a)(1) because the narrow scope does not provide for all discharges subject to the jurisdiction of the CWA to receive a Tier 1 review. "Discharge" as used by the EPA in this discussion is not limited to the discharge of pollutants as in the NPDES context, but rather has the broad meaning consistent with the applicability of section 401 of the CWA.

Other than the introduction section, which provides an overview of the three primary tiers of antidegradation in the federal policy, the sole reference to existing use protection in ODEQ's IMD is in the sections "Directions for High Quality Waters (HQWs)" and "Directions for Water Quality Limited Waters (WQLWs)," pages 21 and 25 respectively, in the context of allowing a lowering of water quality:

> *The discharger/applicant/source must provide assurance that the lowering of water quality will not result in a violation of any water quality standards in the HQW. The definition of a water quality standard includes water quality criteria (numeric and narrative) and beneficial uses. Existing uses must also be protected.* (for HQWs, page 21, emphasis added), and
>
> *The rule language indicates that all water quality standards must be met. For a WQLW, this refers to all water quality criteria other than that for which the waterbody is listed as water quality limited (or to the situation where "higher than standard" or advanced treatment technology must be used to protect beneficial uses).*
>
> *All beneficial uses except for those for which the standards are in violation must also be protected. In practice, a reviewer generally may conclude that beneficial uses are protected if all narrative and numeric water quality requirements are being met. Existing uses must also be protected.* (for WQLWs, page 25, emphasis added)

Even where existing use protection is referenced, however, it is unclear as to whether existing use protection in ODEQ's IMD is consistent with the federal antidegradation policy at 40 CFR 131.12(a)(1). On one hand, in the sections of ODEQ's IMD quoted above, protection of existing uses is stated as being in addition to ensuring that water quality criteria and "*beneficial uses*" are met, i.e., "*Existing uses must also be protected.*" This would be consistent with the federal policy for existing uses because regardless of Oregon's water quality criteria and definition of beneficial uses, existing uses would be protected. However, in the introduction section of the IMD, ODEQ implies that maintaining beneficial uses provides Tier I (existing use) protection ("*The administrative rules state that in each class of water, beneficial uses will be maintained, which is consistent with Tier 1 protection.*" page 5). This would only be consistent with the federal policy if "*beneficial uses*" includes existing uses, whether or not they are designated. Beneficial uses is not defined in Oregon's water quality standards regulation or IMD, though the term seems to be an abbreviation for designated uses, or designated beneficial uses, when used in the language quoted above from the "Directions for High Quality Waters (HQWs)" and "Directions for Water Quality Limited Waters (WQLWs)" sections ("designated beneficial uses" is a term defined in Oregon's water quality standards and IMD).

The federal antidegradation policy in conjunction with the federal definition of existing use provides for the maintenance and protection of existing uses, and the water quality necessary for their protection, whether or not they are designated uses.

> *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.* (40 CFR 131.12(a)(1))

> *Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.* (40 CFR 131.3(e))

Furthermore, notwithstanding the statement above concerning where ODEQ's IMD would seem to be consistent with the federal policy for protecting existing uses (at least in cases where water quality would be lowered), ODEQ does not define existing uses. Thus not only is there ambiguity as to whether ODEQ's IMD provides for protection of existing uses that are not designated, it is unclear if the time frame for defining existing uses is consistent with federal policy, i.e., uses that have been actually attained on or after November 28, 1975.

The EPA also notes that neither the Antidegradation Implementation Flow Chart (IMD pages 11-12), nor the Antidegradation Review Sheet (IMD Appendix B, pages 51-57), specify steps for ensuring that existing uses will be protected in any instance. Both of these sections of ODEQ's IMD include steps for ensuring that water quality standards will be met, and the EPA recognizes that water quality standards are described in the introduction section of ODEQ's IMD (page 4) as including an antidegradation policy in addition to designated uses and water quality criteria to protect the designated uses. Nevertheless, given that the IMD describes how the antidegradation component of Oregon's water quality standards is satisfied; the EPA does not read the term water quality standards, as it is used in the flow chart and review sheet, to include antidegradation. Rather, the EPA reads the term water quality standards as it is used in the Antidegradation Implementation Flow Chart and the Antidegradation Review Sheet as referring to water quality criteria and beneficial uses only (consistent with the narrative directions for High Quality Waters) or just water quality criteria (consistent with the narrative directions for Water Quality Limited Waters).

B. High Quality Water Protection (Tier 2) Applicability.

Section II.B includes the EPA's review for consistency with 40 CFR 131.12 of Oregon's approach to identifying Tier 2 waters (i.e., "parameter-by-parameter"); Oregon's approach to determining if an activity or discharge would lower the water quality, including the use of "measurable change" and "statistical significance," and consideration of "direction of change in water quality;" Oregon's exception from a Tier 2 review in certain circumstances for short term and temporary lowering of water quality; and how Oregon addresses "renewed permits," "historic discharges," and "illegal discharges" in the context of Tier 2. These provisions are factors in Oregon's determination of whether Tier 2 is applied to any particular water and to a particular activity or discharge.

1. Parameter-by-parameter Approach.

ODEQ's approach of applying Tier 2 protection in the IMD, i.e., on a parameter-by-parameter basis for new or increased discharges that would lower water quality, is consistent with 40 CFR 131.12(a)(1) for the reasons discussed below.

A careful reading of ODEQ's IMD is necessary to understand the scope of applicability of Tier 2 protection in Oregon. "Qualification Criteria" in the "Directions for High Quality Waters" (page 21) provide the following:

> *A High Quality Water is one that is not a Water Quality Limited Water. This interpretation is in contrast to some other States in which the waterbody is classified on a water quality parameter-by-parameter basis (thus, in these States, a waterbody can be simultaneously Water Quality Limited for one parameter but High Quality for other parameters). Therefore, in Oregon, waterbodies must have water quality that meets or is better than all water quality criteria in order to be classified as High Quality Waters (HQW)*

In the context of the federal antidegradation policy, "Tier 2" protection is generally synonymous with "high quality water protection" in accordance with 40 CFR 131.12(a)(2), and the statement quoted above would imply that Oregon only applies Tier 2 protection to waters that are in attainment for all of their water quality criteria, i.e., "*…waterbodies must have water quality that meets or is better than all water quality criteria in order to be classified as High Quality Waters (HQW).*" This would indicate that Oregon uses an approach to determining where Tier 2 protection applies that is commonly referred to as "waterbody-by-waterbody." However, ODEQ's description of its antidegradation policy in the IMD states, "*The policies for High Quality Waters and Water Quality Limited Waters also have stipulations that are consistent with Tier 2 protection*" (page 5), and the "Directions for Water Quality Limited Waters" provide the following (see "Evaluation of Environmental and Economic Effects Criteria," page 27):

> *OAR 340-041-0026(3)(b) acknowledges the value of unused assimilative capacity in Oregon's waterbodies and indicates that, in allowing a source to use any of that unused assimilative capacity, DEQ or the EQC should consider environmental and economic effects that the activity might cause. Under environmental and economic effects criteria, the discharger/applicant/source must demonstrate that there are no alternatives to lowering water quality in the WQLW, and that economic benefits of lowering water quality are greater than other uses of the assimilative capacity. Antidegradation policy prohibits discharge of pollution parameters related either directly or indirectly to the parameter causing the waterbody to be listed…<u>therefore, the water quality parameters considered under this section are those that are equal to or better than the water quality criteria. Implementation of this part of the antidegradation policy in WQLW will be essentially the same as that for HQW</u>.* (emphasis added)

Thus the directions for "High Quality Waters" and "Water Quality Limited Waters" read together indicate that waters in both groups receive Tier 2 protection for those parameters where the water quality is better than necessary to meet the applicable criteria. Applying Tier 2 protection wherever water quality is better than necessary to meet the applicable water quality criteria for any parameter is referred to as the "parameter-by-parameter" approach. The EPA notes that although ODEQ states that protection equivalent to Tier 2 is provided for parameters for which the water quality is "*<u>equal to</u> or better than the*

water quality criteria" (emphasis added); where water quality is just meeting the applicable criteria, i.e., "equal to," there is no high water quality to protect/remaining assimilative capacity to allocate for that parameter. Also, although the referenced discussion from page 27 of ODEQ's IMD refers to "OAR 340-041-0026(3)(b)" of Oregon's antidegradation policy prior to revision in 2003, the current policy contains similar provisions for "water quality limited waters" and, as discussed earlier, ODEQ has indicated that the 2001 IMD continues to apply. (The EPA is drawing attention to language from page 27 of ODEQ's IMD for informational purposes only to illustrate Oregon's overall approach to identifying where Tier 2 protection is applied. The court did not order the EPA to review pages 27 and 33-39 of the ODEQ's IMD, because those pages were adopted by ODEQ as part of its water quality standards at OAR 340-041-0004(6)(b) and OAR 340-041-0004(9)(a)(B).)

ODEQ's IMD also provides that new or increased discharges that would lower water quality are subject to an antidegradation review ("*Any activity that proposes to discharge a new or increased load (beyond that presently allowed in an existing permit) or any other activity that will lower water quality is subject to an in depth antidegradation review*," "Activities subject to review," page 14). As discussed earlier in the review of Tier 1 applicability, the EPA reads "in depth" to mean a substantive review. Thus "substantive review" would be a Tier 2 review in the context discussed here.

Applying Tier 2 review requirements only where an activity or discharge could lower water quality (cause degradation) is consistent with 40 CFR 131.12(a)(2) because the substantive Tier 2 review requirements of 40 CFR 131.12(a)(2) (e.g., "necessary to accommodate important economic or social development", etc.) only apply if the State is "allowing lower water quality." Application of Tier 2 on a "parameter-by-parameter" basis is also consistent with 40 CFR 131.12(a)(2). The EPA explained in its July 7, 1998 ANPRM (63 Fed. Reg. 36,782-83) that "pollutant-by-pollutant" (another name for "parameter-by-parameter") is an acceptable approach for identifying high quality or Tier 2 waters ("*The pollutant-by-pollutant approach may result in more waters receiving some degree of tier 2 protection because it would cover waters that are clearly not attaining goal uses (i.e., waters which are not supporting ''fishable/swimmable'' goal uses but that possess assimilative capacity for one or more pollutant).''*).

2. <u>Determination of Whether an Activity would Lower Water Quality.</u>

a. Use of Measurable and Statistical Significance

For the reasons discussed below, the EPA believes that the use of measurable and statistical significance in ODEQ's IMD when determining whether an activity would lower water quality is not consistent with 40 CFR 131.12(a)(2) and 40 CFR 131.12(a)(3).

In determining if a proposed new or increased activity would lower water quality, ODEQ's IMD provides for an evaluation of whether the change in water quality would be "measureable."

> *If the proposed activity would likely result in any measurable change in water quality away from conditions unimpacted by anthropogenic sources (outside the mixing zone, if existing), then the proposed activity will be considered to likely result in a lowering of water quality*. (see "Concept," page 16, emphasis added)

ODEQ's IMD then provides guidance for determining if a change in water quality would be measureable. This guidance includes the concept of determining if a change in water quality will be "statistically significant" (see "Measurable Change" pages 16 & 17, emphasis added).

> *A "measurable change" will be based either on criteria specified in Oregon Administrative Rules (see below for dissolved oxygen and temperature) or on best professional judgment (any of the following can be used in deciding the likelihood that an activity will result in a measurable change in water quality away from conditions unimpacted by anthropogenic sources): a) percentage change in ambient conditions at appropriate critical periods; b) the difference between current ambient conditions and the conditions that would result if the proposed activity were allowed; c) percentage change in loadings; d) percent reduction in assimilative capacity; e) nature, persistence, and potential effects of the pollutant parameter; f) potential for cumulative effects; g) predicted impacts on aquatic biota; and h) degree of confidence in any modeling techniques used.*
>
> *…If a discharger/applicant/source claims that the activity will not result in a lowering of water quality, then DEQ can require the source to submit data in support of this claim. These data should be collected by DEQ-approved methods in order to show that no statistically significant ($p<0.05$) change will result in water quality due to the proposed activity.*
>
> *Based on OAR 340-041-0026(3)(a)(C)(iii), an activity that results in more than 0.10 mg/L decrease in dissolved oxygen (at the edge of the mixing zone, if existing) will constitute a lowering of water quality. This limit comes from the rule definition for "no measurable reduction" of dissolved oxygen in Water Quality Limited Waters. For consistency, this limit will be applicable to all classes of surface waters.*
>
> *Based on OAR 340-041-0026(3)(a)(F)(ii), an activity that results in more than 0.25°F change in temperature (at the edge of the mixing zone, if existing) will constitute a lowering of water quality. This limit comes from the rule restriction for Water Quality Limited Waters. For consistency, this limit will be applicable to activities in all classes of waters.*

Because the application of "measurable" can allow for degradation to occur without a Tier 2 review, the application of measurable has the effect of being a de facto de minimis provision. However, unlike a de minimis provision where each insignificant lowering of water quality is counted against an appropriate cumulative limit on the amount of degradation that may be allowed without a Tier 2 review, un-measurable changes in

water quality are not considered in ODEQ's IMD as being any lowering of water quality at all. Proposed new or increased activities and discharges would not be subject to a Tier 2 analysis when the calculated change in water quality would not be considered measurable.

For example, in the case of the numeric values specified in the IMD, it appears that repeated decreases in dissolved oxygen of up to 0.1 mg/l, and repeated increases in temperature of up to 0.25 degrees Fahrenheit, could occur without considering if there is remaining assimilative capacity and without a Tier 2 review. "*Potential for cumulative effects*" is included as a factor to be considered when using best professional judgment in determining if there would be a measurable change in water quality; however, there is no framework in the IMD establishing when cumulative degradation would trigger a Tier 2 review.

The EPA has similar concerns with applying a test for statistical significance in determining if proposed new or increased activities and discharges would cause a lowering of water quality. If a statistical hypothesis test, for example, finds that a difference is statistically significant, it means that it is unlikely that the observed difference was due to random variation, so it is acceptable to treat the difference as if it is real. In contrast, if a statistical hypothesis test finds that a difference is not statistically significant, it is possible that the difference is due to random variation but it is also possible that the difference is real but the statistical hypothesis test was not powerful enough to show that the difference is statistically significant. Therefore, "not statistically significant" does not mean "no difference," and a determination that a proposed change in water quality would not be statistically significant does not mean that a lowering of water quality would not occur. In the case of NPDES permits for example, a proposed new or increased discharge is generally synonymous with a request to discharge new/additional loadings of pollutants and a properly calculated lowering of water quality should be considered real, even if the lowering of water quality would be very small.

Overlooking real but un-measurable and statistically insignificant degradation could result in allowing a significant cumulative lowering of water quality without Tier 2 review, which would be inconsistent with 40 CFR 131.12(a)(2). Because Tier 2 antidegradation provisions are generally applied to proposed new or increased activities and discharges, any potential lowering of water quality has not occurred and cannot actually be measured by sampling the receiving water. For this reason and those discussed above, it is appropriate to use the calculated change in water quality when implementing Tier 2.

Furthermore, un-measurable and statistically insignificant changes in water quality could be greater than de minimis, even of a magnitude that would exceed water quality criteria and impair uses. This is because there is no inherent relationship between the ability to analytically measure and statistically detect a lowering of water quality for a given parameter, and the concentration of a parameter that can cause an adverse effect.

ODEQ's IMD includes the statement "*A "measurable change" in water quality can be assessed by calculation of mass load or by modeling*" (see "Approach," page 16), and some of the factors listed in the IMD for assessing whether a measurable lowering of water quality would occur also seem to be focused on the calculated change, but the discussion as a whole implies that ODEQ would make an assessment of whether the calculated change in water quality would be measurable and statistically significant.

While ODEQ's IMD does not contain an explicit de minimis provision for applying Tier 2, ODEQ could include one in its antidegradation implementation methods if desired. The Tier 2 provision of the federal antidegradation policy at 40 CFR 131.12(a)(2) does not provide directly for de minimis provisions. Rather de minimis provisions are authorized pursuant to case law recognizing an "administrative law principle which allows an agency to create unwritten exceptions to a statute or rule for insignificant or *de minimis* matters." *Kentucky Waterways Alliance v. Johnson*, 540 F.3d 466, 483 (6th Cir. 2008). The EPA has addressed the subject of de minimis in several documents (see Proposed Water Quality Guidance for Great Lakes System, 58 Fed. Reg. 20,802; 20,902-906, April 16, 1993; Great Lakes System: Supplementary Information Document (SID), EPA-820-B-95-001, March 1995, pp. 205-213; Water Quality Standards Regulation, Advance Notice of Proposed Rulemaking, 63 Fed. Reg. 36,742; 36,7779-36,787, July 7, 1998; and Tier 2 Antidegradation Reviews and Significance Thresholds, Ephraim S. King, Director, EPA, Office of Science and Technology, to Water Management Division Directors Regions 1-10, EPA, August 10, 2005). Courts have also recognized that de minimis exemptions are permissible under the EPA's Tier 2 antidegradation regulation (see *Ohio Valley Environmental Coalition v. Horinko*, 279 F. Supp. 2d 732, 769 (W.Va. 2003) and *Kentucky Waterways Alliance v. Johnson*, 540 F.3d 466, 483 (6th Cir. 2008)). The EPA is available to provide further guidance concerning acceptable de minimis provisions should ODEQ elect to revise the IMD to address the concerns expressed above concerning the use of measurable and statistical significance when Oregon determines if water quality would be lowered.

Though discussed here under Tier 2 applicability, the determination of whether an activity would lower water quality is a fundamental step in ODEQ's IMD for application of Tier 1 and Tier 3 as well. The EPA's concerns about applying Tier 1 protection only where an activity would lower water quality are discussed earlier at "Existing Use Protection (Tier 1) Applicability." The concerns discussed above for Tier 2 waters are also relevant to Tier 3. This is because new or increased activities, and any associated lowering of water quality that is not considered measurable or statistically significant, could be allowed in Tier 3 waters. For example, the numeric values specified for determining if a change in water quality for dissolved oxygen or temperature would be measurable are stated as being "*applicable to all classes of surface waters*," which includes waters classified as ORWs/Tier 3 for purposes of implementing antidegradation in Oregon. De minimis lowering of water quality is not authorized by the federal Tier 3 policy at 40 CFR 131.12(a)(3) (The EPA does interpret 40 CFR 131.12(a)(3) to allow "short term" and "temporary" lowering of water quality as discussed in this document at "Maintaining and Protecting Water Quality in ONRWs").

b. Direction of Change

The EPA believes the consideration of "direction of change in water quality" in ODEQ's IMD is consistent with 40 CFR 131.12 for the reasons discussed below.

In determining if an proposed new or increased activity would lower water, ODEQ's IMD also considers whether "*the direction of change in water quality will likely be toward or away from conditions unimpacted by anthropogenic sources*" and provides that "*Only a change away from conditions unimpacted by anthropogenic sources should be considered a lowering of water quality*" (see "Measurable Change," page17). This approach is consistent with 40 CFR 131.12(a)(2) and 40 CFR 131.12(a)(3) because changes in water quality towards conditions un-impacted by anthropogenic sources are improvements in water quality (not lowering of water quality), and improvements in water quality are consistent with the intent to maintain and protect water quality at 40 CFR 131.12(a)(2) and 40 CFR 131.12(a)(3), and the CWA objective at §101(a) to "*…restore and maintain…the Nation's waters*." Regulations at 40 CFR 131.12(a)(2) and 40 CFR 131.12(a)(3) are implemented to address the lowering of water quality.

The EPA notes, however, that in the discussion of determining the direction of change in water quality, ODEQ's IMD includes the statement, **"***Detailed knowledge of the existing levels of water quality parameters, while preferable, is not necessary for DEQ to require the antidegradation review*" (see "Measurable Change," page 17). While the State may require an antidegradation review without such knowledge, authorization of new loadings and a lowering of water quality should not occur without sufficient knowledge of receiving water quality to ensure attainment of criteria to protect designated uses and ensure protection of existing uses. The requirements to meet water quality criteria and provide water quality necessary to protect existing uses imply the need to understand receiving water quality and whether there is remaining assimilative capacity to allocate to proposed new or increased discharges.

The determination of whether a water is high quality for a given parameter, whether there is remaining assimilative capacity for a parameter, and whether a proposed discharge would result in degradation, are important for ensuring that waters will not be "over allocated" if additional pollutant loadings are authorized. Such determinations often require modeling to characterize water quality effects that cannot be measured in the receiving water, such as the effects of authorized loadings that are not occurring and effects from proposed new loadings.

3. <u>Renewed Permits, Historic Discharges, and Illegal Discharges.</u>

The EPA believes that the approach in ODEQ's IMD to determining whether a Tier 2 review will be conducted for renewed permits, historic discharges, and illegal discharges is consistent with 40 CFR 131.12(a)(2), for the reasons discussed below.

As discussed above, ODEQ's IMD provides that "*any activity that proposes to discharge a new or increased load (beyond that presently allowed in an existing permit) or any*

other activity that will lower water quality is subject to an in depth antidegradation review" (see "Activities subject to review," page 14; as discussed earlier, the EPA reads "in depth antidegradation review" to include Tier 2 review). Conversely, ODEQ's IMD provides that "*Permit renewals with the same or lower discharge load as the previous permit are not considered to lower water quality from existing water quality*" (see "Renewal NPDES permits," page 14). Thus permit renewals with the same or lower authorized discharge load as the previous permit would not be subject to a Tier 2 review.

In a July 7, 2011 memorandum addressing Tier 2 review in the context of NPDES permit reissuance where no new or increased discharge is authorized, the EPA clarified that a Tier 2 review is not required in cases where there is no new or increased discharge from previously authorized levels:

> *…it is reasonable for states to require Tier 2 antidegradation review only when an NPDES permitting authority reissues a permit that authorizes new or increased discharges relative to those authorized by the prior permit. The reissuance of a permit without increasing the permitted discharge limit should not be considered to automatically result in a lowering of water quality, even where actual discharges are below permitted limits, and where a formal Tier 2 antidegradation review has never occurred. . . . Therefore a Tier 2 antidegradation review would not be required when a permitting authority reissues a permit that does not authorize new or increased discharges because the permit reissuance would not authorize a lower water quality.* (see "Antidegradation Requirements for High Quality Waters and Reissuance of NPDES Permits that Do Not Authorize New or Increased Discharges," Ellen Gilinsky, Senior Policy Advisor in the EPA's Office of Water, to the EPA Region 10 Office of Water and Watersheds, July 7, 2011)

Thus the EPA believes it is consistent with 40 CFR 131.12(a)(2) for a state to conclude that reissuance of a permit or license when there is no change in the authorized discharge does not lead to a lowering of water quality that requires a Tier 2 review.

ODEQ's IMD also addresses "Historic Discharges" that were not previously regulated, and "Illegal Discharges," as follows:

> *An historic discharge that DEQ was aware of and decided not to regulate in the past, and is now coming under permit regulation for the first time should be considered a permit renewal at the same or lower discharge load if the load is expected to be the same as or less than the historic discharge load.*
>
> *An historic discharge that is expected to have a load greater than the historic discharge load should be treated as a new or increased discharge, thereby requiring an in depth antidegradation review.* (see "Historic Discharges," page 15, emphasis added), and

> *Illegal discharges should not be considered historic discharges, and require an in-depth antidegradation review if the discharge is coming under permit regulation*. (see "Illegal Discahrges," page 15, emphasis added)

The EPA reads "*An historic discharge that DEQ was aware of and decided not to regulate in the past, and is now coming under permit regulation for the first time"* as referring to cases where an existing discharge has not previously been required by law to have a permit, but now is required by law to have a permit for the first time. This is in contrast to illegal discharges, which would include existing discharges that have been required by law to have a permit, but have not yet been issued a permit by the permitting authority.

The EPA believes that existing dischargers that did *not* previously require authorization, but are applying for a license or permit for the first time because regulations or a court decision require that their discharges be authorized, do not generally need to undergo a Tier 2 review, as long as the discharger is not proposing to lower water quality beyond the quality that currently exists in the receiving water. In such cases, not requiring a Tier 2 antidegradation analysis is consistent with 40 CFR 131.12(a)(2) because the permitting authority is not authorizing "lower water quality," given that the discharge has already occurred without the need for authorization – either by statute, regulation, or court decision. ODEQ's IMD appropriately treats existing dischargers coming under regulation for the first time, that are proposing to lower water quality beyond the quality that currently exists in the receiving water, the same as new or increased discharges that are subject to a Tier 2 review (i.e., "*An historic discharge that is expected to have a load greater than the historic discharge load should be treated as a new or increased discharge, thereby requiring an in depth antidegradation review."*).

Treatment of "illegal discharges" in ODEQ's IMD is also consistent with 40 CFR 131.12(a)(2) because the IMD provides that such discharges are subject to a Tier 2 review (i.e., "*Illegal discharges should not be considered historic discharges, and require an in-depth antidegradation review if the discharge is coming under permit regulation.*").

The EPA believes that it would not be appropriate to allow dischargers that previously required authorization to discharge but were discharging without such license to be granted a permit or license for the first time without a Tier 2 antidegradation review, if they have been discharging to high quality waters. Nor would it be appropriate to reissue a permit for discharges to high quality waters without a Tier 2 antidegradation review where a permit had expired and not been administratively extended. Furthermore, it would be inappropriate to exclude from Tier 2 review any discharger that had terminated its discharge at some previous time and was now seeking reauthorization, since at the time of the new permit issuance its loading would not have been accounted for. The EPA believes that ODEQ would not treat the situations described above as "historic discharges" that do not require a Tier 2 analysis. Where a permit has been administratively continued it would not need to undergo Tier 2 review as long as no new or increased discharge is proposed.

4. <u>Exception for Short Term and Temporary Lowering of Water Quality.</u>

For the reasons discussed below, the EPA believes that the "Unusual Circumstances" provision which allows for short term and temporary lowering of water quality without a Tier 2 review, during emergencies or to protect human health and welfare, is consistent with 40 CFR 131.12(a)(2).

The "Directions for High Quality Waters" in ODEQ's IMD include a provision that allows for exemption from Tier 2 review for short term and temporary lowering of water quality "*during emergencies or to protect human health and welfare*" (see "Unusual Circumstances," page 24). The full text of the provision is:

> *For unusual circumstances, the Director or designee may grant exceptions for short-term lowering of water quality during emergencies or to protect human health and welfare. Activities that lower water quality for one month or less will generally be considered to have temporary effects. The context for evaluating whether the exception may be granted is similar to that for Outstanding Resource Waters: a) the length of time during which water quality will be lowered; b) the percentage change in ambient conditions; c) the water quality parameters affected; d) the likelihood that long-term water quality benefits will accrue to the water body (e.g. an increase in sediments or turbidity resulting from removal of a culvert to allow for fish passage); e) the degree to which achieving applicable water quality standards during the proposed activity may be at risk; and f) the potential for any residual longterm influences on existing uses. The criteria for granting this exception are evaluated on a case-by-case basis.*

The EPA recognizes the ability for a state to allow "temporary" and "short term" degradation in the course of ensuring that the water quality of ONRWs (i.e., Tier 3, the most stringent level of water quality protection in the federal antidegradation policy), is maintained and protected (see 63 Fed. Reg. 36,785-87 and the EPA's WQS Handbook, section 4.7). Thus the EPA believes that it is reasonable to provide for a similar exception in Tier 2 waters because Tier 2 is a less stringent level of water quality protection than Tier 3.

Oregon's exception is limited in scope and time (i.e., "*the Director or designee may grant exceptions for short-term lowering of water quality during emergencies or to protect human health and welfare. Activities that lower water quality for <u>one month or less</u> will generally be considered to have temporary effects*" emphasis added). In the context of implementing the federal ONRW provision, the EPA has generally defined "temporary" and "short term" degradation in terms of "weeks and months, not years" (see 63 Fed. Reg. 36,785-87 and the EPA's WQS Handbook, section 4.7). "*One month or less*" is consistent with the EPA's interpretation of "temporary" and "short term" in the context of Tier 3 waters.

This exception to Tier 2 review is accompanied by factors to be used by OEDQ in determining if a proposed activity qualifies for the exception. While the IMD does not provide explicit insight as to how ODEQ interprets the various factors, the EPA expects that the factors would be interpreted consistent with the ultimate limitations on the extent to which water quality may be lowered in accordance with the federal antidegradation policy at 40 CFR 131.12, i.e., water quality criteria are to be met, designated uses are to be protected, and existing uses are to be protected.

C. Outstanding National Resource Water Protection Applicability (Tier 3, referred to as "Outstanding Resource Waters" by Oregon).

The approach to applicability of Tier 3 in ODEQ's IMD is consistent with the EPA's interpretation of 40 CFR 131.12(a)(3) in the July 7, 1998 ANPRM (63 Fed. Reg. 36,786) because the EPA recognizes that ONRW protection requires explicit designation (see section III.D.5.a "Designating ONRWs").

Oregon refers to Tier 3 as Outstanding Resource Waters (ORW), which in federal regulation is referred to as ONRWs. The applicability of Tier 3 ORW protection in Oregon requires that a water be designated as an ORW by Oregon's Environmental Quality Commission. This requirement is clear in ODEQ's IMD in the definition of ORW ("*Outstanding Resource Waters means those waters designated by the Environmental Quality…*, page 7 at "Definition of Key Terms") and in the "Directions for Outstanding Resource Waters" ("*The Environmental Quality Commission designates a waterbody as an Outstanding Resource Water after a process of nomination, review, and public comment*," page 19 at "Qualification Criteria").

III. Existing Use Protection (Tier 1) Review.

A. Processes for identifying existing uses and the water quality necessary for their protection.

For the reasons discussed below, the EPA concludes that ODEQ's IMD does not provide a method for ensuring existing use protection consistent with 40 CFR 131.12(a)(1).

The federal antidegradation policy in conjunction with the federal definition of existing use provides for the maintenance and protection of existing uses, and the water quality necessary for their protection, whether or not they are designated uses.

> *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. (40 CFR 131.12(a)(1))
>
> *Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards*. (40 CFR 131.3(e))

In a letter of September 5, 2008, responding to questions concerning existing uses, the EPA stated, "…*EPA interprets the definition of "existing use" to require consideration of the available data and information on both actual use and water quality*…," and "…*EPA's antidegradation provisions require any CWA authorization of a discharge or activity that may result in a discharge to protect the existing use*." (Denise Keehner, Director EPA's Standards and Health Protection Division to Derek Smithee, Oklahoma Water Resources Board, September 5, 2008).

As discussed earlier in the applicability section of this review document, ODEQ's IMD does not appear to address existing use protection in any case other than when a lowering of water quality is authorized in accordance with a Tier 2 review, and in that circumstance it is unclear if Oregon's existing use protection is consistent with 40 CFR 131.12(a)(1) and 40 CFR 131.3(e) (see "Existing Use Protection (Tier 1) Applicability"). Additionally, the IMD does not identify the method that ODEQ would use to ensure that exisiting uses are protected.

The "Directions for High Quality Waters" section includes a statement that could be considered as being at least part of a process for ensuring that existing uses are protected:

> *The definition of a water quality standard includes water quality criteria (numeric and narrative) and beneficial uses. Existing uses must also be protected. <u>If insufficient information is available, then DEQ should request the applicant to submit more specific information</u>*. (emphasis added, see "No violation of any water quality standards," page 21)

However the statement is limited to the HQW section of the IMD and limited to the context of lowering water quality. Furthermore, because it is unclear as to whether existing use protection in ODEQ's IMD is sufficiently comprehensive to be consistent with the federal antidegradation policy and definition of existing uses, it is also unclear whether any such information requests would address existing uses beyond protecting designated uses and meeting the associated water quality criteria in Oregon's water quality standards (see the EPA's earlier discussion in "Existing Use Protection (Tier 1) Applicability" concerning ODEQ's statement "*beneficial uses will be maintained, which is consistent with Tier 1 protection*"). The EPA recognizes that in many cases assuring attainment and maintenance of water quality criteria and designated uses will ensure protection of existing uses. Nevertheless, consistent with the definition of existing use at 40 CFR 131.3(e), the antidegradation provisions should provide for protection of existing uses even if they are not designated in Oregon's water quality standards, and provide for the possibility that the criteria in Oregon's water quality standards may not always ensure the water quality necessary to protect all existing uses.

The following is an example of language that could be added to the IMD, to address the absence of a method for ensuring existing use protection consistent with 40 CFR 131.12(a)(1):

> *Identification of existing uses and the water quality necessary for their protection shall be based on all available use and water quality-related information, including*

any use and water quality-related data and information submitted during the public comment period for the permit or license.

IV. High Quality Water Protection (Tier 2) Review.

As discussed in Section II.B, ODEQ's IMD applies Tier 2 protection on a parameter-by-parameter basis for new or increased discharges that would lower water quality. Section IV provides the EPA's review for consistency with 40 CFR 131.12 of Oregon's implementation methods once it is determined that Tier 2 is applicable, including the analysis to determine if the activity or discharge would provide important economic or social development; alternatives analysis to determine if a lowering of water quality is necessary; process for conducting public participation and intergovernmental review; process for assuring that the highest statutory and regulatory requirements for point sources and cost-effective and reasonable BMPs for nonpoint source control are achieved; assurance that the water quality will be adequate to protect existing uses; and assurance that any lowering of water quality will be limited to levels that meet the State's water quality criteria.

A. Analysis to determine if a proposed activity would provide important economic or social development in the area in which the affected waters are located.

The provisions in ODEQ's IMD reviewed by the EPA, that address whether a proposed activity would provide important economic or social development, are consistent with 40 CFR 131.12(a)(2) for the reasons discussed below.

In its July 7, 1998 ANPRM (63 Fed. Reg. 36,784), the EPA explained that absent important social or economic benefit, degradation under 40 CFR 131.12(a)(2)/Tier 2 must not be allowed and listed the following as examples of factors that may be assessed in determining if an activity would provide such benefit: "*(a) employment (i.e., increasing, maintaining, or avoiding a reduction in employment), (b) increased production, (c) improved community tax base, (d) housing, and (e) correction of an environmental or public health problem*."

Consistent with 40 CFR 131.12(a)(2), ODEQ's IMD recognizes that lowering of water quality must be associated with important economic or social development, "*is the lowering of water quality "important" i.e. will it result in widespread benefits*" (see "Socioeconomic Benefits vs. Environmental Costs," page 23 for HQWs and page 28 for WQLWs) and "*Important means that the value of the social and economic benefits due to lowering water quality is greater than the environmental costs of lowering water quality*" (see "Antidegradation Review Sheet," step 11, page 53 for HQWs and step 23, page 56 for WQLWs). ODEQ's IMD also specifies appropriate factors to consider regarding economic or social development associated with the proposed activity, such as "*creating or expanding employment*," "*increasing median family income*," "*increasing community tax base*," "*providing necessary social services*," and "*enhancing environmental attributes*" (see "Antidegradation Review Sheet," step 11, page 53 for HQWs and step 23, page 56 for WQLWs). Furthermore, ODEQ's IMD includes consideration of "environmental costs" that are weighed against social and economic benefits in

determining if those benefits are truly important in a given case (i.e., "*losing assimilative capacity otherwise used for other industries/development*;" "*impacting fishing, recreation, and tourism industries negatively*;" "*impacting health protection negatively*;" and "*impacting societal value for environmental quality negatively*," see "Antidegradation Review Sheet," step 11, page 53 for HQWs and step 23, page 56 for WQLWs).

The EPA has included references above to key parts of ODEQ's IMD that are relevant to determining if a proposed activity would provide important economic or social development and are consistent with 40 CFR 131.12(a)(2), for both HQWs and WQLWs. As the EPA discussed earlier under "High Quality Water Protection (Tier 2) Applicability," ODEQ's IMD indicates that both groups of waters receive Tier 2 protection for those parameters where the water quality is better than necessary to meet the applicable criteria.

B. Analysis to identify if it is necessary to lower water quality to realize the economic or social development associated with the proposed activity (i.e., alternatives analysis to determine if there is a least degrading feasible alternative that can be implemented to avoid or reduce the degree of degradation).

The provisions in ODEQ's IMD reviewed by the EPA, that address whether a lowering of water quality is necessary to provide for important economic or social development, are consistent with 40 CFR 131.12(a)(2) for the reasons discussed below.

40 CFR 131.12(a)(2) specifies that a State may allow lower water quality only if it finds that the following two conditions are satisfied: 1) the activity that would lower water quality provides "important economic or social development" and 2) lower water quality is "necessary to accommodate" such development.

The method in ODEQ's IMD for addressing the first condition is consistent with 40 CFR 131.12(a)(2) as discussed above. Addressing the second question involves an analysis of feasible alternatives to determine if the important economic or social development associated with the project could be realized without degradation, or with a reduced degree of degradation (see 63 Fed. Reg. 36,784).

In its July 7, 1998 ANPRM (63 Fed. Reg. 36,784), the EPA explained that it has recommended an analysis of pollution control/pollution prevention alternatives as an approach to determining if a lowering of water quality is necessary, and such an approach can be an effective means to maintaining and protecting remaining assimilative capacity of receiving waters. The EPA further recommended that in conducting alternatives analyses, States should ensure that all feasible alternatives to allowing degradation have been adequately evaluated and that the least degrading reasonable alternative is implemented. The EPA noted that where less-degrading alternatives are more costly than the pollution controls associated with the project proposal, the State should determine whether the costs of the less-degrading alternative are reasonable.

Consistent with 40 CFR 131.12(a)(2); ODEQ's IMD recognizes that in order to allow a lowering of water quality, the State must find that lower water quality is necessary to accommodate important economic or social development ("*is the lowering of water quality "necessary," i.e. no alternatives feasible,*" see "Socioeconomic Benefits vs. Environmental Costs," page 23 for HQWs and page 28 for WQLWs), and provides the following direction for alternatives analysis (including a list of alternatives to be considered "*at a minimum*"):

> *In evaluating the alternatives, the discharger/applicant/source must consider all known, available, and reasonable methods of prevention, control, and treatment to prevent the lowering of water quality. At a minimum, the following alternatives must be considered:*
>
> - *Improved operation and maintenance of existing treatment system*
> - *Recycling or reuse with no discharge*
> - *Discharge to on-site system*
> - *Seasonal or controlled discharges to avoid critical water quality periods*
> - *Discharge to sanitary sewer*
> - *Land application*
>
> (see "Reasonable alternatives must be considered," page 22 for HQWs and page 27 for WQLWs. The EPA is drawing attention to language from page 27 of ODEQ's IMD for informational purposes only to illustrate Oregon's overall approach to Tier 2 review. The court did not order the EPA to review pages 27 and 33-39 of the ODEQ's IMD, because those pages were adopted by ODEQ as part of its water quality standards at OAR 340-041-0004(6)(b) and OAR 340-041-0004(9)(a)(B).)

Furthermore, ODEQ's IMD specifies appropriate information that is to be considered when evaluating alternatives ("*The evaluation of alternatives should provide substantive information pertaining to the effectiveness, costs, and environmental impacts of the alternatives*." and "*Analysis of alternatives should include discussions of their technical feasibility and economic feasibility for the particular situation.*"), provides appropriate direction in selecting alternatives ("*If at least one of the alternatives to lowering water quality is technically and economically feasible, then the source should pursue that alternative rather than the activity that results in a lowering of water quality. If an alternative will still result in a lowering of water quality, then that alternative is subject to analysis of socioeconomic benefits and environmental costs*."), and provides ODEQ with the ability to ensure appropriate alternatives are evaluated ("*If an acceptable analysis has not been submitted, then DEQ will work with the applicant to develop an acceptable analysis of alternatives*."). (See "Evaluation of Alternatives," page 22 for HQWs; the same provisions with slightly different wording are included for WQLWs at "Evaluation of Alternatives," page 28.) Also, in discussing alternatives, ODEQ's IMD emphasizes the need for a lowering of water quality to be associated with "important economic or social development" consistent with 40 CFR 131.12(a)(2) ("*regardless of*

whether alternatives are technically or economically feasible, the lowering of water quality still must be shown to provide widespread socioeconomic benefits.").

Because ODEQ's IMD includes a method that directs the applicant to evaluate alternatives, and to choose a technically and economically feasible alternative to the proposed lowering of water quality if one exists, the EPA believes the method in ODEQ's IMD is consistent with 40 CFR 131.12(a)(2) and the Agency's interpretation of such regulation in its July 7, 1998 ANPRM (63 Fed. Reg. 36,784).

C. Process and timing for public participation and intergovernmental coordination.

The EPA believes that the approach in ODEQ's IMD for public participation and intergovernmental coordination is consistent with 40 CFR 131.12(a)(2) for the reasons discussed below.

The "Public Review & Intergovernmental Coordination" section of ODEQ's IMD (page 13) provides for public participation and intergovernmental coordination if the review of the applicants proposed discharge results in recommendation for approval:

> *Public participation and intergovernmental coordination will occur if the applicant review process yields a recommendation to approve the proposed activity. DEQ will then consider the various agencies' comments and public comments in reaching a final decision or recommendation to the Environmental Quality Commission regarding whether to authorize the proposed activity pursuant to the State's antidegradation requirements*.

In addition, ODEQ's IMD emphasizes the role of public participation and intergovernmental coordination in the final decision process for the proposed activity (see "Review Sheet," page 13):

> *The recommendation is designated 'preliminary' because it can be reversed on consideration of the intergovernmental coordination and public comment steps that are the next phase of the process*.

In the context of a Tier 2 review, the EPA reads "*recommendation to approve the proposed activity*" as meaning recommendation to approve a lowering of water quality. Thus, in the provision cited above from the "Public Review & Intergovernmental Coordination" section of ODEQ's IMD, a recommendation to approve a lowering of water quality would be subject to public participation and intergovernmental coordination. The EPA notes, however, that both the "Antidegradation Implementation Flow Chart," pages 11-12, and "Antidegradation Review Sheet," Appendix B, pages 51-57, of ODEQ's IMD, indicate that all preliminary decisions are subject to public participation and intergovernmental coordination before a final decision is made.

Furthermore, ODEQ's IMD provides addition detail concerning intergovernmental coordination and public participation:

> *In addition to the general public notice requirements specified below, the Department will make a reasonable attempt to identify state and local governments, federal agencies, and Native American tribes that would likely be affected or interested in the waterbody or action under review. The preliminary antidegradation decision/recommendation should be made available to these governmental entities, which will be given a reasonable opportunity to provide comments to DEQ.* (see "Intergovernmental Coordination," page 42, emphasis added), and
>
> *The public notice will contain at a minimum: 1) a substantive outline of the antidegradation review including the preliminary decision/recommendation; 2) a request for public input on particular aspects of the antidegradation review that might be improved based on public input; 3) notice that the antidegradation review sheet is available for review; 4) notice of any introductory public information available on Oregon's antidegradation policy; and 5) the formal reference to Oregon's antidegradation policy.* (see "General Public Notice," page 42, emphasis added)

ODEQ's IMD also provides that the antidegradation review may utilize existing public participation processes ("*Existing public involvement processes (e.g. those for issuing waste water discharge permits) may be used to provide this opportunity*," see "General Public Notice," page 42).

With regard to public participation and intergovernmental coordination, 40 CFR 131.12(a)(2) requires the following:

> *Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Department finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Department's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.* (emphasis added)

ODEQ's IMD is consistent with the EPA's Tier 2 regulation (40 CFR 131.12(a)(2)) and the EPA's WQS Handbook (section 4.8.2) because it provides an opportunity for the public and other governmental entities to comment on ODEQ's preliminary recomendation at an appropriate stage in the decision-making process (i.e., while changes can still be made).

D. Process for ensuring that the highest statutory and regulatory requirements for point sources are achieved and cost-effective and reasonable BMPs are achieved for nonpoint sources.

ODEQ's IMD is not consistent with this component of 40 CFR 131.12(a)(2) for the reasons discussed below.

40 CFR 131.12(a)(2) includes the following provision that is applicable when a lowering of water quality is being allowed:

> *Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and cost-effective and reasonable best management practices for nonpoint source control.*

The EPA has provided the following explanation of this provision (see Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a, August 1994, section 4.5, page 4-8):

> *The rationale behind the antidegradation regulatory statement regarding achievement of statutory requirements for point sources and all cost effective and reasonable BMPs for nonpoint sources is to assure that, in high quality waters, where there are existing point or nonpoint source control compliance problems, proposed new or expanded point sources are not allowed to contribute additional pollutants that could result in degradation. Where such compliance problems exist, it would be inconsistent with the philosophy of the antidegradation policy to authorize the discharge of additional pollutants in the absence of adequate assurance that any existing compliance problems will be resolved.*

In short, a state is to ensure that the existing "house is in order" before authorizing new loadings and the associated lowering of water quality. The EPA has also interpreted this component of 40 CFR 131.12(a)(2) as not requiring a state to establish best management practices (BMPs) for nonpoint sources where such BMP requirements do not exist ("*State and Tribal antidegradation rules need only include provisions to assure achievement of BMPs that are required under State or Tribal nonpoint source control laws and regulations,*" see the EPA's July 7, 1998 ANPRM (63 Fed. Reg. 36,784-85) and Memorandum from Tudor T. Davies, Director EPA Office of Science and Technology to EPA Water Management Division Directors, Regions I-X, Subject: Interpretation of Federal Antidegradation Regulatory Requirement, February 22, 1994).

ODEQ's IMD does not address this provision of 40 CFR 131.12(a)(2). The "Directions for High Quality Waters" and the "Directions for Water Quality Limited Waters" both include a "Best Available Treatment" provision, "*A discharger/applicant/source is expected to employ the best available technology economically achievable in limiting their effluent discharge;*" however, the use of "*discharger/applicant/source"* in the IMD seems to refer to the applicant for a new or increased discharge, not other sources. Furthermore, under the Clean Water Act "*best available technology economically achievable*" (BAT) refers to specific technology based requirements for certain industrial point source categories and does not represent the highest statutory and regulatory requirements for all point sources (see National Pollutant Discharge Elimination System

Permit Writers' Manual, EPA-833-K-10-001, September 2010, Appendix A-2). Also, there is no mention of nonpoint sources and BMPs.

ODEQ could address the above concern by adding the "highest statutory and regulatory requirements/cost-effective and reasonable best management practices" language from 40 CFR 131.12(a)(2) to the IMD, along with a description of how the language would implemented consistent with the EPA's interpretation.

E. Recognition that in allowing any lowering of water quality under Tier 2, existing uses must be protected.

For the reasons discussed below, the EPA cannot conclude that ODEQ's IMD is consistent with the requirement at 40 CFR 131.12(a)(2) to protect existing uses when allowing a lowering of water quality.

40 CFR 131.12(a)(2) requires that in allowing any lowering of water quality, the state shall "*assure water quality adequate to protect existing uses fully.*"

ODEQ's IMD is ambiguous as to whether it addresses protection of existing uses in the context of allowing a lowering of water. The "Directions for High Quality Waters" and "Directions for Water Quality Limited Waters" sections of ODEQ's IMD include the statement "*Existing uses must also be protected.*" However, neither the "Antidegradation Implementation Flow Chart" (IMD pages 11-12), nor the "Antidegradation Review Sheet" (IMD Appendix B, pages 51-57), specify steps for ensuring that existing uses will be protected in any instance. Furthermore, as discussed by the EPA in detail under "Existing Use Protection (Tier 1) Applicability," it is unclear as to whether ODEQ's IMD provides for protection of existing uses that are not designated, and unclear as to whether Oregon's time frame for defining existing uses is consistent with federal policy.

F. Recognition that in allowing any lowering of water quality under Tier 2, water quality must be maintained at levels that meet the State's water quality criteria.

For the reasons discussed below, ODEQ's IMD ensures that in allowing any lowering of water quality in accordance with 40 CFR 131.12(a)(2), water quality must be maintained at levels that meet the State's water quality criteria.

Independent of the antidegradation requirements of 40 CFR 131.12, states are to adopt designated uses consistent with the uses specified at section 101(a)(2) of the CWA, where attainable, and adopt water quality criteria that protect those designated uses (see 40 CFR 131.10 and 131.11, respectively). 40 CFR 131.12(a)(2) only provides for lowering of water quality that exceeds levels necessary to support the propagation of fish, shellfish, and wildlife and recreation in and on the water (i.e., the uses specified at section 101(a)(2) of the CWA), it does not provide authority to lower water quality below criteria established to protect such uses. As discussed in the EPA's WQS Handbook (section 4.5), in allowing any lowering of water quality in accordance with 40 CFR 131.12(a)(2), "*…water quality may not be lowered to less than the level necessary to fully protect the*

"fishable/swimmable" uses and other existing uses" (the uses specified at section 101(a)(2) of the CWA are commonly referred to as "fishable/swimmable" uses).

The "Directions for High Quality Waters" section of ODEQ's IMD (page 21) is consistent with the above discussion and 40 CFR 131.12(a)(2):

> *The discharger/applicant/source must provide assurance that the lowering of water quality will not result in a violation of any water quality standards in the HQW. The definition of a water quality standard includes water quality criteria (numeric and narrative) and beneficial uses.*

Likewise, the "Antidegradation Implementation Flow Chart" (IMD page 11) and the "Antidegradation Review Sheet" (IMD Appendix B, page 52, step 9) for HQWs include steps to ensure that water quality is not lowered below the applicable criteria, consistent with 40 CFR 131.12(a)(2) ("*Will all water quality standards be met?*" and "*Will all water quality standards be met and beneficial uses protected?*", respectively).

ODEQ's IMD is also consistent with 131.12(a)(2) when applying Tier 2 to the WQLWs, for those parameters where the water quality is better than necessary to meet the applicable criteria:

> *The rule language indicates that all water quality standards must be met. For a WQLW, this refers to all water quality criteria other than that for which the waterbody is listed as water quality limited (or to the situation where "higher than standard" or advanced treatment technology must be used to protect beneficial uses).*
>
> *All beneficial uses except for those for which the standards are in violation must also be protected. In practice, a reviewer generally may conclude that beneficial uses are protected if all narrative and numeric water quality requirements are being met.* (see "Directions for Water Quality Limited Waters," page 25)
>
> *Will all water quality standards other than for listed parameter be met?* and *Will all beneficial uses be protected?* (see "Antidegradation Implementation Flow Chart," page 12)
>
> *Will all water quality standards be met?* and *Will all beneficial uses be met?* (see "Antidegradation Review Sheet," Appendix B, pages 53-54, steps 14 & 15)

See section VII for the EPA's discussion of the statements from ODEQ's IMD quoted above, as they relate to Water Quality Limited Waters for parameters where the water quality is not better than necessary to meet the applicable criteria.

V. Outstanding National Resource Water (ONRW) Protection (Tier 3) Process.

A. Process for Designating ONRWs.

For the reasons discussed below, ODEQ's IMD is consistent with 40 CFR 131.12(a)(3).

ODEQ's IMD includes a statement of Oregon's process for designating an ONRW (ONRW is referred to as an Outstanding Resource Water (ORW) in Oregon):

> *The Environmental Quality Commission designates a waterbody as an Outstanding Resource Water after a process of nomination, review, and public comment.* (see Directions for Outstanding Resource Waters (ORWs), Qualification Criteria, page19)

The EPA believes that it is useful for states to identify the process for adopting ONRWs, but has not provided specificity for doing so in regulation or guidance. In its July 7, 1998 ANPRM (63 Fed. Reg. 36,785-87) the EPA explained: "*Regarding the process for adoption of ONRWs, the existing regulation requires the State or Tribe to provide an ONRW level of protection in their antidegradation policies, but there is no requirement that any water body be so designated or any specificity as to how that is to be done*."

The EPA notes that Oregon's water quality standards regulation provides additional detail on the process for designating an ORW, at OAR 340-041-0004(a) and (b) ("*The Department will develop a screening process and establish a list of nominated water bodies for Outstanding Resource Waters designation in the Biennial Water Quality Status Assessment Report (305(b) Report*)," and "*The Department will bring to the Commission a list of water bodies that are proposed for designation as Outstanding Resource Waters at the time of each triennial Water Quality Standards Review*."). The EPA is presenting these provisions of Oregon's administrative rule for informational purposes only. The EPA is not reviewing Oregon's antidegradation provisions adopted in rule at OAR 340-041-0004.

B. <u>Maintaining and Protecting Water Quality in ONRWs.</u>

ODEQ's IMD interprets the requirement that water quality be maintained and protected in ONRWs as prohibiting new or increased discharges that would result in anything more than a short term and temporary lowering of water quality. This is consistent with 40 CFR 131.12(a)(3) for the reasons discussed below.

In its July 7, 1998 ANPRM (63 Fed. Reg. 36,785-87), the EPA explained that it has interpreted the "*water shall be maintained and protected*" provision of 40 C.F.R. 131.12(a)(3) as requiring "*no new or increased discharges to ONRWs and no new or increased discharge to tributaries to ONRWs that would result in lower water quality in the ONRWs*," with the only exception being for short-term and temporary lowering of water quality. The EPA has generally defined "temporary" and "short term" degradation in terms of "weeks and months, not years" (see 63 Fed. Reg. 36,785-87 and the EPA's WQS Handbook, section 4.7).

Consistent with the EPA's interpretation of 40 CFR 131.12(a)(3), the "Directions for Outstanding Resource Waters" in ODEQ's IMD provide, "*This rule is interpreted to prohibit new or expanded sources from discharging directly to an ORW or upstream of an ORW if it results in a change in water quality within the ORW*." (see "No Lowering of Water Quality in ORWs," page 19) and "*Exceptions to this prohibition can be made by the EQC in response to emergencies or to protect human health and welfare if the effect on water quality is temporary. Activities that lower water quality for one month or less will generally be considered to have temporary effects*." (see "Exceptions," page 19).

The "Antidegradation Implementation Flow Chart' (page 11) and the "Antidegradation Review Sheet" (Appendix B, pages 51-52), in ODEQ's IMD, are also consistent with 40 CFR 131.12(a)(3) because they prohibit new or increased discharges that would result in anything more than a short term and temporary lowering of water quality in ORWs.

The "short term and temporary" exception to no lowering of water quality in ORWs is accompanied by factors to be used by OEDQ in determining if a proposed activity qualifies for the exception (see "Exceptions," pages 11-12):

> *Decisions on whether individual proposed activities qualify for exceptions may be based on: a) the length of time during which water quality will be lowered (e.g. no more than one month); b) the percentage change in ambient conditions (e.g. no more than 5%); c) the water quality parameters affected (e.g. magnitude of impact on the most sensitive beneficial uses); d) the likelihood that long-term water quality benefits will accrue to the waterbody (e.g. an increase in sediments or turbidity resulting from removal of a culvert to allow for fish passage); e) the degree to which achieving applicable water quality standards during the proposed activity may be at risk; and f) the potential for any residual long-term influences on existing uses.*
>
> *If the activity will likely result in a long-term or permanent decrease in water quality, then the activity is prohibited. In the instance of an discharge upstream of the ORW, such a source would be prohibited from having an impact on water quality in the ORW. Effects on water quality in the ORW due to upstream sources will be judged using such factors as a) predicted percentage change in ambient conditions during critical periods; b) comparisons of predicted new or expanded loading with existing loading; c) percentage change in assimilative capacity; d) characteristics of the pollutant parameter (e.g. persistence, toxicity, potential impacts); e) potential for cumulative effects; and f) the degree of confidence in modeling, if utilized. These determinations will be made on a case-by-case basis.*

While the IMD does not provide explicit insight as to how ODEQ interprets the various factors, ODEQ's statements "*This rule is interpreted to prohibit new or expanded sources from discharging directly to an ORW or upstream of an ORW if it results in a change in water quality within the ORW*," and "*If the activity will likely result in a long-term or permanent decrease in water quality, then the activity is prohibited*" are very explicit. The EPA expects that the factors would be interpreted consistent with these statements

and the ultimate limitations on the extent to which water quality may be lowered in accordance with the federal antidegradation policy at 40 CFR 131.12, i.e., water quality criteria are to be met, designated uses are to be protected, and existing uses are to be protected. For example, the factors "*e.g. magnitude of impact on the most sensitive beneficial uses*" and "*the degree to which achieving applicable water quality standards during the proposed activity may be at risk*" should be interpreted consistent with the requirement to ensure that water quality criteria are met and uses are protected. As discussed in the EPA's WQS Handbook (section 4.7), in allowing temporary and short term lowering of water quality in accordance with 40 CFR 131.12(a)(3), "*Such activities must not permanently degrade water quality or result in water quality lower than necessary to protect existing uses in the ONRW.*"

VI. Antidegradation Analysis for General Permits.

The EPA believes that the approach in ODEQ's IMD to addressing antidegradation in general permits is not consistent with 40 CFR 131.12(a)(3) for the reasons discussed below.

ODEQ's IMD provides that antidegradation reviews for general permits will occur at the time of permit development and issuance ("*Antidegradation reviews for general permits will occur at the time that DEQ renews the permit—not at the time the permit is assigned to an applicant," see "*Activities subject to review," page 14). The "Directions for General Permits" then explain resource limitations that affect ODEQ's ability to perform antidegradation reviews for general permits and presents an approach to address this (see "Considerations," page 30):

> *Therefore, unless there are data to indicate that activities under a general permit are likely to cause a significant lowering of water quality, such activities should be considered as not likely to cause a lowering of water quality for the purposes of the antidegradation review. If DEQ staff believe that an activity proposed under a general permit will result in a lowering of water quality, then DEQ should require the source/discharger to apply for an individual NPDES permit.*

Directions for "Renewed Permits" and "New Permits" add the following, respectively (page 30):

> *Renewal of general permits at the same or more stringent effluent limitations will be deemed to not cause a lowering of water quality (similar to an individual NPDES permit renewed for the same discharge load that is not considered to cause a lowering of water quality).*, and
>
> *Effluent limitations and operating conditions of the general permit should be designed to cause no lowering of water quality.*

A permit that does not authorize a lowering of water quality, including a permit reissuance that limits authorized loadings to the same levels that were previously

authorized, generally does not require Tier 2 antidegradation review in accordance with 40 CFR 131.12(a)(2) (see the EPA's discussions at "Parameter-by-parameter Approach" and "Renewed Permits, Historic Discharges, and Illegal Discharges"). Requiring dischargers that would otherwise be covered by a general permit to apply for an individual permit, and undergo a Tier 2 review if there is a proposed lowering of water quality, would also be consistent with 40 CFR 131.12(a)(2). However, the threshold stated in ODEQ's IMD for concluding whether a lowering of water quality would occur is "*significant lowering of water quality,"* and if a significant lowering of water quality is not likely, it is presumed that no lowering of water quality is likely. This is a concern for several reasons.

The EPA interprets the federal antidegradation policy at 40 CFR 131.12(a)(2) as allowing for insignificant or "de minimis" lowering of water quality without a Tier 2 review; however, any such application of de minimis needs to account for cumulative degradation from individual and multiple sources in the same water body and employ an appropriate cap on the cumulative amount of degradation that may be allowed without a Tier 2 review. ODEQ's IMD does not include such a cumulative cap on the extent to which degradation may be allowed without a Tier 2 review. Furthermore, as discussed earlier, Oregon's approach to determining if water quality would be lowered is itself a de facto de minimis provision without a cumulative cap (see the EPA's discussion at "Use of Measurable and Statistical Significance").

Also, the "Directions for General Permits" in ODEQ's IMD state that the same permit conditions apply to discharges in all of Oregon's three classifications of waters for antidegradation purposes ("*General permits…have effluent limits and monitoring requirements that are set at the same level within each permit issued regardless of the class of receiving water (e.g. ORW, HQW, WQLW),*" emphasis added). Thus it appears that the IMD's determination of whether a general permit would result in a significant lowering of water quality also applies to WQLWs, for parameters where water quality is equal to or less than criteria, and to ORWs. As discussed earlier, with the exception of "short term and temporary" degradation, the federal antidegradation policy does not allow for any lowering of water quality in Tier 3 waters (i.e., "ORWs" in Oregon). With regard to Oregon's WQLWs, the federal antidegradation policy does not authorize lowering of water quality below applicable water quality criteria in any circumstance, including where water quality is already less than applicable water quality criteria for a given parameter.

The EPA recognizes that the general permit directions for "Renewed Permits" (page 30) speak to setting water quality-based limits "*at levels that cause no lowering of water quality in any ORW*" and "*that prohibit increased discharge of the limited water quality parameter (or parameter related to the limited parameter) in a WQLW.*" However, these statements do not appear in the general permit directions for "New Permits;" seem to be inconsistent with the statement in the IMD that the same permit conditions apply to discharges in all of Oregon's three classifications of waters (ORW, HQW, and WQLW); and are subject the EPA's concerns with the IMD's approach to determining if water quality would be lowered.

In addition, the federal antidegradation policy at 40 CFR 131.12(a)(1) requires protection of existing uses in all cases, even if a permit does not authorize a lowering of water quality (see the EPA's discussion at "Existing Use Protection (Tier 1) Applicability"). The IMD's directions for general permits do not appear to address a review to ensure that existing uses will be protected, in any circumstance.

Furthermore, given that the IMD does not provide for an antidegradation review at the time an applicant requests coverage under a general permit, it is unclear how antidegradation would be addressed in the event that applications for coverage under a general permit are received for activities that were not considered at the time a general permit was issued.

VII. Water Quality Limited Waters where water quality is not better than the applicable criteria.

For the reasons discussed below, ODEQ should clarify its approach to addressing parameters in Water Quality Limited Waters, where water quality is not better than necessary to meet the applicable criteria, when a lowering of water quality is proposed.

As discussed earlier, ODEQ's IMD provides Tier 2 protection for those parameters where the water quality is better than necessary to meet the applicable criteria, for both High Quality Waters and Water Quality Limited Waters. ODEQ's IMD also ensures that in allowing any lowering of water quality in accordance with 40 CFR 131.12(a)(2), for those parameters where the water quality is better than necessary to meet the applicable criteria, water quality must be maintained at levels that meet the State's water quality criteria (see the EPA's discussion at "High Quality Water Protection (Tier 2) Applicability" and "High Quality Water Protection (Tier 2) Review," subsection F). In supporting the above conclusion concerning assurance that water quality would not be lowered below water quality criteria in accordance with 40 CFR 131.12(a)(2), the EPA cited in part the language below from ODEQ's IMD, at "Directions for Water Quality Limited Waters," the "Antidegradation Implementation Flow Chart," and the "Antidegradation Review Sheet."

> *The rule language indicates that all water quality standards must be met. For a WQLW, this refers to all water quality criteria other than that for which the waterbody is listed as water quality limited (or to the situation where "higher than standard" or advanced treatment technology must be used to protect beneficial uses).*, and
>
> *All beneficial uses except for those for which the standards are in violation must also be protected. In practice, a reviewer generally may conclude that beneficial uses are protected if all narrative and numeric water quality requirements are being met.* (see "Directions for Water Quality Limited Waters," page 25)

Will all water quality standards other than for listed parameter be met? and *Will all beneficial uses be protected?* (see "Antidegradation Implementation Flow Chart," page 12)

Will all water quality standards be met? and *Will all beneficial uses be met?* (see "Antidegradation Review Sheet," Appendix B, pages 53-54, steps 14 & 15)

However, in the context of addressing parameters in Water Quality Limited Waters where water quality is not better than necessary to meet the applicable criteria, the above statements from ODEQ's IMD appear internally inconsistent from section to section when describing the same review step, and raise concern that ODEQ's IMD may allow water quality to be lowered below water quality criteria in certain instances.

Where water quality is not better than necessary to meet the applicable criteria, the "Directions for Water Quality Limited Waters" imply that neither the water quality criteria, nor the related designated use need to be met (i.e., "*…For a WQLW, this refers to all water quality criteria <u>other than that for which the waterbody is listed as water quality limited</u>,*" and "*All beneficial uses <u>except for those for which the standards are in violation</u> must also be protected,*" emphasis added; as discussed in the EPA's review at "Existing Use Protection (Tier 1) Applicability," the EPA reads the use of "beneficial uses" in the IMD to mean designated uses). Likewise, the antidegradation implementation flow chart implies that not all water quality criteria need to be met in Water Quality Limited Waters (i.e., "*Will all water quality standards <u>other than for listed parameter</u> be met?*", emphasis added; as discussed at "Existing Use Protection (Tier 1) Applicability," the EPA reads "water quality standards" as used in the IMD when discussing WQLWs to mean water quality criteria). In contrast to the directions for water quality limited waters, however, the antidegradation implementation flow chart for Water Quality Limited Waters indicates that all designated uses are to be protected, because a "no" answer to the question "*Will all beneficial uses be protected?*" leads to "Deny Activity." Finally, in contrast to both the directions and the antidegradation implementation flow chart for Water Quality Limited Waters, the antidegradation review sheet addressing Water Quality Limited Waters indicates that all criteria and designated uses are to be met, because a "no" answer leads to "Deny Activity" for either question (i.e., "*Will all water quality standards be met?*" or "*Will all beneficial uses be met?*").

Only the antidegradation review sheet in ODEQ's IMD is consistent with the federal water quality standards regulation at 40 CFR Part 131 with regard to ensuring that water quality criteria will be met and designated uses will be protected, in the circumstance where water quality is not better than necessary to meet the applicable criteria and a lowering of water quality is proposed. Independent of the antidegradation provisions of 40 CFR 131.12, states are to adopt designated uses consistent with the uses specified at section 101(a)(2) of the CWA, where attainable, and adopt water quality criteria that protect those designated uses (see 40 CFR 131.10 and 131.11, respectively). The federal antidegradation policy at 40 CFR 131.12 does not provide a mechanism for allowing water quality to be less than necessary to meet the criteria adopted to protect designated uses. The regulation at 40 CFR 131.12(a)(2) only provides for lowering of water quality

that exceeds levels necessary to support the propagation of fish, shellfish, and wildlife and recreation in and on the water (i.e., the uses specified at section 101(a)(2) of the CWA), it does not provide authority to lower water quality below criteria established to protect such uses, or to further lower water quality that is already not meeting water quality criteria. As discussed in the EPA's WQS Handbook (section 4.5), in allowing any lowering of water quality in accordance with 40 CFR 131.12(a)(2), "*…water quality may not be lowered to less than the level necessary to fully protect the "fishable/swimmable" uses and other existing uses*" (the uses specified at section 101(a)(2) of the CWA are commonly referred to as "fishable/swimmable" uses).

Temperature Standards: Natural Conditions Criterion

Question and Answers

On Aug. 8, 2013, EPA disapproved a key provision of Oregon's temperature standard, the "natural conditions criterion." EPA's action was ordered by the Oregon Federal District Court on April 10, 2013 based on an earlier ruling in February 2012. Oregon DEQ can no longer use the natural conditions criterion to account for warmer temperatures in Oregon's rivers, lakes and streams. The court similarly sent back to EPA a general natural conditions narrative criterion, which EPA also disapproved on Aug. 8.

This document describes the current status of Oregon's water quality standards for temperature and natural conditions and DEQ's plan for implementing the water quality protection program following EPA's action. This topic will be discussed with the Environmental Quality Commission on Aug. 21. If DEQ receives policy direction from the commission or if other legal action significantly alters DEQ's ability to move forward as planned, we will inform the public.

What is the temperature "natural conditions criterion?"

The natural conditions criterion in the temperature standard accounts for the fact that some Oregon streams have water temperatures that are naturally warmer than the numeric criteria contained in Oregon's water quality standards. Under the natural conditions criterion, when DEQ determined that a water body under natural conditions, without human impacts, could not meet the numeric criteria in the temperature standard, the natural temperatures became the goal for the waterbody.

There is also a general natural conditions criterion that applied to other substances or conditions of water. Please see the Q&A on the general provision below.

How did DEQ apply the criterion?

Prior to the development of a water quality plan called a total maximum daily load – or "TMDL" – DEQ applies numeric criteria and other temperature standard provisions in permits, water quality assessments and other water quality programs. Where river or stream temperatures are warmer than the numeric temperature criteria, DEQ must develop total maximum daily load for the water body.

When DEQ developed a TMDL under the natural conditions criteria, DEQ collected data and conducted analysis to determine the natural temperatures for the water body. Where this analysis showed that the numeric criteria could not be met due to natural conditions, DEQ based future wastewater discharge permits and nonpoint source targets (for example, stream shade targets) on the natural condition temperatures.

Since EPA's approval of the natural conditions criterion in 2004, DEQ has used the criterion to develop at least 14 TMDLs around the state.

How does this decision affect Oregon's temperature standard?

Following EPA's disapproval of the natural conditions criterion, DEQ can no longer use the criterion in carrying out our water quality programs.

Does that mean the temperature standard no longer exists?

State of Oregon
Department of Environmental Quality

Water Quality Division
Standards Program

811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-5696
(800) 452-4011
Fax: (503) 229-6762
Contact: Debra Sturdevant
http://www.deq.state.or.us/wq/standards/standards.htm

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

No, the temperature standard still exists. Only the natural conditions method of calculating acceptable temperature levels has been revoked. DEQ must now use the remainder of the temperature standard, which includes numeric criteria, the human use allowance and the cold water protection criterion, for issuing permits and developing water quality management plans (TMDLs).

How will DEQ determine temperature requirements for permits and water quality plans?
DEQ will use the biologically based numerical values, the human use allowance, the cold water protection criterion and all other remaining provisions of the temperature standard. However, where these provisions are not attainable, DEQ will not be able to issue TMDLs and DEQ may need to use alternate compliance pathways for permitted sources.

What about existing water quality permits?
Existing permits are not immediately affected by this decision and remain valid. Permits that contain temperature requirements will be evaluated and revised if necessary when they are next renewed.

What happens to permits up for renewal?
Some permits up for renewal will be able to meet the remaining applicable provisions of the temperature standard. DEQ intends to move forward and renew these permits.

What will DEQ do with sources that can't meet the temperature standard without the natural conditions provision?
Sources that cannot meet permit limits for temperature at the time of permit renewal may be able to use a compliance schedule to allow time to identify and implement a solution. DEQ can also grant variances in situations where it can be demonstrated that the temperature standard is not attainable or feasible. DEQ will encourage water quality trading to offset heat loads in some circumstances. Permit renewals that will result in needed water quality improvements related to other pollutants, such as toxics or dissolved oxygen, will be prioritized for renewal.

How will DEQ handle recent water quality management plans (TMDLs) that used the natural conditions criterion? Won't this affect allowable temperature levels in future water quality permits?
DEQ will not incorporate recently approved TMDLs based on the natural conditions criterion into wastewater permits unless they result in a permit limit that is more stringent than a limit based on the numeric criteria and human use allowance.

Will DEQ revise the TMDLs that used the natural conditions criterion?
There is pending litigation on the temperature TMDLs and until that is resolved, the future status of existing TMDLs based on the natural conditions criteria is uncertain. DEQ does not know when this litigation will be resolved.

At present, nonpoint source temperature reduction targets from existing approved TMDLs continue to apply and should be implemented. Management practices and stream restoration to reduce temperatures in impaired waters are needed whether the ultimate regulatory goal is natural conditions or the numeric criteria. Also, the cold water protection criterion has not changed and is still effective.

Will the natural conditions criterion or something similar be restored at some point in the future?
The water quality standard for temperature must protect uses of the state's waters, be scientifically based and be administratively workable. The ability to address the natural variability of temperature through DEQ's regulatory programs remains important. DEQ may recommend that the Environmental Quality Commission revise the temperature standard or other

regulations to address this critical function in the future since the natural conditions criterion has been removed. However, any decision to revise water quality standards will be made within a rulemaking process, which will be deferred until more is known about pending legal and federal actions.

What is the general natural conditions criterion and what does the EPA disapproval mean for that provision?

Oregon's water quality standards also include a general natural conditions criterion. A similar criterion has been in the state's rules since the 1970s. This provision applies to any naturally occurring substance or condition of the water, such as iron, arsenic or other earth metals, nutrients (i.e. nitrogen and phosphorus), dissolved oxygen and others, where the natural conditions do not meet otherwise applicable criteria.

Following EPA's disapproval, DEQ can no longer use this criterion for wastewater permitting, TMDLs, water quality assessment or other federal Clean Water Act actions. Where a permit or TMDL cannot attain the numeric criteria due to natural conditions, DEQ will consider compliance schedules or variances if appropriate, or may consider adopting site specific water quality criteria.

What can people do to help protect Oregon's rivers, lakes and streams?

The innovative, good work being done by Oregon communities, watershed councils, landowners and others to improve water quality and restore stream habitat and streamside vegetation must continue.

Alternative formats

Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.