

## **USE OF THIS DOCUMENT**

This document provides guidance for conducting reviews of permits or licenses to determine compliance with the antidegradation provisions in Idaho's Water Quality Standards (WQS). Antidegradation reviews will be governed by existing requirements of the Clean Water Act (CWA), Environmental Protection Agency (EPA) implementing regulations, and the WQS. This document does not substitute for those provisions, regulations or rules. The recommendations in this guidance are not binding; Idaho Department of Environmental Quality (DEQ) may consider other approaches consistent with the CWA, EPA regulations and the WQS. Decisions regarding compliance with the antidegradation provisions in the WQS will be made on a case-by-case basis, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation. DEQ may vary from the recommended approach outlined in this document based upon site specific information and comments provided by the public and the permit or license applicant. DEQ may change this guidance in the future.

## **INTERIM ANTIDEGRADATION REVIEW GUIDELINES FOR IDAHO**

DEQ is currently undertaking rulemaking for antidegradation implementation. Until that rulemaking is completed, DEQ will consider the factors and procedures outlined in this document when implementing its antidegradation policy.

Antidegradation review will occur on a parameter-by-parameter basis. For each discharge, DEQ will generally defer to EPA's determination of the pollutants or pollutant parameters (hereinafter referred to as "pollutant") that should be evaluated for reasonable potential to cause or contribute to an exceedance of water quality criteria. DEQ will determine applicable beneficial uses and associated criteria for the receiving water body. For each pollutant in the discharge (regardless of whether there are effluent limits)<sup>1</sup> DEQ will consider the interim guidelines below.

### **I. Determining Applicable Beneficial Use / Criteria**

Among the first steps in an antidegradation review, DEQ must determine what applicable beneficial uses and criteria apply to the receiving water body. The steps below provide guidance for determining applicable beneficial uses.

- A. Does the receiving water body have any beneficial uses designated in Idaho water quality standards?
  1. If yes, those uses must be considered in the antidegradation review.

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<sup>1</sup> An antidegradation review will be performed for any pollutant that has effluent limitations or is examined for reasonable potential to cause or contribute to an exceedance of water quality criteria. For pollutants that are of concern but do not have sufficient monitoring data, DEQ may require (as part of the 401 water quality certification) the discharger to conduct effluent and instream water quality monitoring during the permit term so an antidegradation review can be conducted upon permit reissuance.

2. If no, the presumed uses of cold water aquatic life and contact recreation must be considered in the antidegradation review<sup>2</sup>.
- B. Has there been a subbasin assessment or some other review of beneficial uses for the receiving water body?
1. If yes, does the information indicate there are existing uses beyond those designated or presumed (e.g. salmonid spawning or domestic water supply)?
    - a. If yes, the existing uses must also be considered in the antidegradation review. Inform the DEQ WQS coordinator about the existing uses so the coordinator may queue use designation in next triennial review of water quality standards.
    - b. If no, the antidegradation review will cover the designated or presumed beneficial uses.
  2. If no, DEQ assumes that protection of the designated or presumed uses will protect existing uses.
- C. Determine the most stringent criterion applicable for those pollutants.

After determining the applicable beneficial uses and criteria, DEQ will consider the following sections sequentially for each pollutant.

## **II. Maintenance of Existing Uses for All Waters**

Under all circumstances, discharges must comply with numeric and narrative water quality criteria. Because the criteria are set at levels that protect designated uses, discharges that meet criteria will protect and maintain existing uses. (See Section I for a discussion of existing uses that are not designated or presumed.)

- A. Determine if the water body is impaired for the pollutant.
1. If no, proceed to Section III: High Quality Waters.
  2. If yes, proceed to B.

*The most recent EPA-approved Integrated Report will be a primary source of information for determining whether a water body is impaired. However, there may be situations where ambient water quality suggests the criteria are not being attained, yet the water body is not reported as impaired in the Integrated Report. If this is the case, inform the Integrated Report coordinator in the DEQ state office and assessment coordinator in the regional office of the situation so they can revise the Integrated Report appropriately in the next cycle. If data is not available or if it is insufficient, DEQ will assume the water body is high quality.*

- B. Is there a TMDL with an applicable WLA or reserve for growth?
1. If no, then proceed to C.

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<sup>2</sup> If the water body is determined to be man-made, then DEQ will apply the appropriate use as defined by the water quality standards.

2. If yes, then ensure the permit limits comply with the TMDL. Because the TMDL sets allocations at levels necessary to achieve compliance with water quality criteria and full support of uses, limits that are consistent with an applicable TMDL will protect and maintain existing uses.

C. Impaired water body without a TMDL.

1. Does the discharge (either effluent limits or the maximum projected effluent concentration for pollutants without limits) meet water quality criteria at the end-of-pipe?
  - a. If yes, the permit will maintain and protect existing beneficial uses (*\*Section 054 of the Idaho WQS have additional requirements beyond those of antidegradation for discharges to impaired water bodies for which a TMDL has not been developed. The permit must comply with these additional requirements.\**)
  - b. If no, the permit can not be authorized.

### III. High Quality Waters

Where the quality of water is better than that needed to support beneficial uses, then DEQ can only authorize a lowering of water quality when the discharge has shown such a lowering is necessary to accommodate important economic or social development in the area. Additionally, lowering of water quality will only be allowed upon demonstration that all other controls (as specified in the antidegradation policy) on point and nonpoint sources of pollution will be achieved. In all cases, the quality of water shall not be lowered to a condition that will not support applicable beneficial uses. The following subsections describe the factors and procedures DEQ will consider in order to implement, in the interim, this provision of Idaho's antidegradation policy.

A. Lowering of Water Quality

1. Reissued Permit
  - a. Are the proposed limits the same or more stringent than the current permitted limits?
    - i. If yes, conclude no lowering of water quality
    - ii. If no (permit limits have increased), go to Part III.A.2
    - iii. If the permit limits are new (in the permit for the first time), go to Part III.A.1.b
    - iv. If there aren't permit limits, go to Part III.A.1.c
  - b. Are there new limits for a pollutant that is currently in the discharge?
    - i. If yes, examine whether the proposed effluent limits allow for increased discharge of the pollutant in comparison to what is authorized under the current permit.
      - a. Because the establishment of water quality based effluent limits (WQBEL) will restrict the concentrations of pollutants in the effluent, DEQ will generally conclude that the establishment of a new WQBEL does not constitute lowering of water quality. However, if the necessity of a WQBEL is

due to an increase in the design flow of a discharge, then such a conclusion is not appropriate. Similarly the conclusion may not be appropriate for a new technology-based effluent limit (TBEL). In these two instances, DEQ will need to evaluate the discharge further, as described in Part III.A.1.b.i.b below.

- b. In order to characterize what is authorized under the current permit, DEQ will accept statistical procedures in the *Technical Support Document for Water Quality-based Toxics Control* (EPA 1991) calculating the maximum projected effluent concentration. For the proposed permit, DEQ will utilize the effluent limitation. The resulting instream water quality concentration assuming complete mix under critical conditions for both scenarios (current permit and proposed permit) will then be compared. If the instream water quality concentration under the proposed draft permit is worse than that which results from the current permit, then DEQ will evaluate whether the adverse change is measurable.
  - ii. If no, then go to Part III.A.2 (DEQ considers this to be a new discharge).
- c. Is the discharge of pollutants without effluent limits expected to increase?<sup>3</sup>
  - i. If no, then there is no lowering of water quality. This will be concluded when the facility is not proposing to increase its design flow or to change its influent quality or treatment processes such that there is an increase in the concentrations of the pollutant
  - ii. If yes, then go to Part III.A.2 (DEQ considers this to be an increased discharge).
- d. Considerations
  - i. Review both concentration and mass-based limits in the existing and proposed permits;
  - ii. Review design flow in the existing and proposed permits; and
  - iii. Review the statistical procedures used to characterize the effluent quality.

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<sup>3</sup> These are pollutants without TBELs and that did not have reasonable potential to exceed water quality criteria

2. New or Increased Discharges<sup>4</sup>
  - a. Does the proposed limit result in a measurable and adverse change in water quality?
    - i. If no, conclude no lowering of water quality.
    - ii. If yes<sup>5</sup>, then go to Part III.B.
  - b. Considerations
    - i. DEQ will evaluate whether the proposed discharge will result in a measurable change in the baseline water quality (concentrations) after allowing for full mix under critical conditions.
    - ii. A measurable change is one that can be detected using standard analytical techniques. For dissolved oxygen, a measurable change is considered to be 0.2 mg/L. For temperature, a 0.3 °C change is considered measurable. For other parameters, DEQ will consider the detection limit and precision for standard methods approved by EPA. This information is generally available from the National Environmental Methods Index.
    - iii. Only those measurable changes in concentrations considered to be “adverse” will constitute a lowering of water quality. Adverse simply means that the quality of the water is worsening. In some cases, adverse may mean an increase in concentrations (e.g. metals, ammonia); whereas in other cases, adverse may mean a decrease in concentrations (e.g. dissolved oxygen).

B. Is the discharge necessary?

1. Alternatives Analysis – the discharger should evaluate all feasible alternatives (treatment or otherwise) to minimize the degradation in receiving water quality and identify the least degrading alternative.
2. If the least degrading alternative is not preferred by the discharger, it is incumbent upon the discharger to justify their preferred alternative. Considerations should include:
  - a. Incremental cost effectiveness (cost per unit mass of pollutant removed);
  - b. Affordability; and
  - c. Cross-media / cross pollutant concerns.
3. DEQ will review the alternatives analysis and may concur or not concur with the dischargers preferred alternative.
  - a. If DEQ concurs, then go to Part III.C.

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<sup>4</sup> A new discharge is that which has not occurred before. An increased discharge occurs when it is allowable to discharge more of the parameter than what was previously or currently allowed.

<sup>5</sup> The discharge will be given the opportunity to decide whether it is more desirable to have effluent limits that do not result in a lowering of water quality or to go through the effort of demonstrating higher effluent limitations are necessary for important social or economic development in the area.

- b. If DEQ does not concur, DEQ will work with the discharger to provide additional information or identify a better, less degrading alternative.
- C. Is the discharge important for social or economic development in the area?
  - 1. The discharger must identify quantitatively (where possible) and/or qualitatively the positive and negative social, economic, and environmental impacts where the discharge is/will be located.  
Considerations should include:
    - a. Increased employment opportunities and tax base;
    - b. Provision of necessary services to the community;
    - c. Reduced assimilative capacity for future discharges; and
    - d. Impacts to direct and indirect uses of associated with the high water quality (e.g. fishing, recreation, tourism).
  - 2. DEQ will evaluate whether the information provided is adequate.
    - a. If DEQ determines the information is inadequate, DEQ will work with the discharger to ensure adequate information is submitted.
    - b. If DEQ determines the information is adequate, the information will be made available for public review and comment.
- D. Other Pollution Controls.
  - 1. Prior to allowing a lowering of water quality, the discharger must provide sufficient information that other required pollution controls for point sources and best management practices for nonpoint sources will be achieved in the watershed.
    - a. If DEQ has assurance this requirement is met, then DEQ may authorize a lowering of water quality.
    - b. If DEQ does not have assurance this requirement is met, then DEQ can not authorize a lowering of water quality.
- E. Intergovernmental / Public Participation
  - 1. The alternatives analysis and socio-economic justification will be made available for public review and comment. DEQ will also share the alternatives analysis and socio-economic justification with designated agencies as they are defined in Idaho Code section 39-3602.
    - a. After consideration of public comments and intergovernmental consultation, DEQ will make a final decision whether to allow the degradation.

#### IV. Special Resource Waters

Where a water body has been designated as a Special Resource Water (SRW), a new or increased discharge can not cause a lowering of water quality.

##### A. New or Increased Discharge.

1. Is the facility considered a new discharge<sup>6</sup>?
  - a. If yes, go to part IV.B of this section.
  - b. If no, go to part IV.A.2 of this section.
2. Is there an increase in the facility's design capacity?
  - a. If yes, then go to Part IV.B.
  - b. If no, then go to Part IV.A.3.

*DEQ considers an increase in mass-based effluent limits to be an increase in design capacity. Furthermore, in the absence of mass-based effluent limits, DEQ considers an increase in design flow or the increase in concentration-based effluent limits to be an increase in design capacity.*

3. Did the influent, treatment processes, or design flow change such that a different pollutant or greater loads of an existing pollutant will result in the discharge?
  - a. If yes, then go to Part IV.B.
  - b. If no, then the discharge is not considered new or increased and the SRW provisions are no longer applicable.

##### B. Lowering of Water Quality

1. Does the proposed limit result in a measurable and adverse change in water quality?
  - a. If no, conclude no lowering of water quality.
  - b. If yes, then DEQ can not authorize the discharge as proposed.
2. Considerations
  - a. DEQ will evaluate whether the proposed discharge will result in a measurable change in the baseline water quality at the edge of the mixing zone critical conditions.
  - b. A measurable change is one that can be detected using standard analytical techniques. For dissolved oxygen, a measurable change is considered to be 0.2 mg/L. For temperature, a 0.3 °C change is considered measurable. For other parameters, DEQ will use consider the detection limit and precision for standard methods approved by EPA. This information is generally available from the National Environmental Methods Index.
  - c. Only those measurable changes considered to be "adverse" will constitute a lowering of water quality. Adverse simply means that the quality of the water is worsening. In some

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<sup>6</sup> A new discharge is one that has not occurred before. It does not include pollutants that are in an existing discharge which are being limited for the first time or new regulation of an existing discharge.

cases, adverse may mean an increase in concentrations (e.g. metals, ammonia); whereas in other cases, adverse may mean a decrease in concentrations (e.g. dissolved oxygen).

**V. Outstanding Resource Waters**

DEQ does not have any water bodies designated as outstanding resource waters (ORWs). Because it is highly unlikely that ORWs will be designated in the interim, DEQ has not provided implementation guidance here.