

Idaho Antidegradation Implementation
Discussion Paper
“New or increased” discharges
June 7, 2010

Implementation of Idaho’s Antidegradation Policy is intended to protect existing beneficial uses and water quality necessary to support those uses and maintain waters of high quality from degradation due to anthropogenic causes. This paper introduces ideas for discussion and outlines the recommendations DEQ developed regarding discharges to high quality receiving water and the initiation of Tier II review and analysis.

The national pollutant discharge elimination system (NPDES) regulates point source pollution by requiring those entities with a discrete source of pollution to acquire a permit defining the limits on the quality and quantity of effluent that can be discharged to receiving waters. These NPDES permits are required to address antidegradation. Idaho’s Antidegradation Policy does not currently direct NPDES permit writers on how to do this. There are two issues of concern regarding antidegradation and NPDES permits;

- 1) Antidegradation analysis for new permits, and
- 2) Antidegradation analysis for renewal of permits for an existing facility.

All permits will receive a review of their degradation potential, but some will not lead to degradation. There are two approaches to deal with this. One is to use a permit application for a new or increased discharge as a prompt to initiate a Tier II review. Neighboring states that use this approach include Washington, Wyoming, Utah and Montana. Renewal permits for existing facilities that are not applying for an increase in discharge or pollutant concentrations would then be excused from the Tier II analysis on the basis they will not cause further degradation of water quality and the Tier II review would be complete with the finding that no degradation is occurring. The second is to conduct some level of Tier II analysis for all permits. Oregon is an example of a neighboring state that uses this second approach. Thus the nature of permit (is it a new discharge or an increased discharge or a renewal with no increase) would determine the extent and intensity of analysis. All neighboring states limit the extent of analysis for permits of existing facilities that are not expanding or increasing their discharge.

Summary of neighboring states:

Washington, Wyoming, Utah and Montana specifically address “new or expanded” in code, rule or guidance. Washington defines “expanded” as one of three contingencies:

- 1) A physical expansion of the facility (production or wastewater system expansions with a potential to allow an increase in the volume of wastewater or the amount of pollution) or activity;
- 2) An increase (either monthly average or annual average) to an existing permitted concentration or permitted effluent mass limit (loading) to a water body greater than 10%; or
- 3) The act of re-rating the capacity of an existing plant greater than 10%.

For stormwater discharges Washington defines “new or expanded” as changes in the amount of polluted stormwater runoff that would reach waters beyond the stormwater treatment network. As a surrogate measure of increased polluted runoff they use the change in impervious surface

area, or alternatively, a change in the use of existing impervious surface to activities known to contribute greater levels of pollutants in runoff.

Wyoming uses a significance threshold (see *Defining Significance Thresholds for Water Quality Degradation*) in determining if the source is new or expanded and Montana defines new or increased as an activity resulting in a change of existing water quality occurring on or after April 29, 1993. Montana's definition excludes the following:

- (a) sources from which discharges to state waters have commenced or increased on or after April 29, 1993, provided the discharge is in compliance with the conditions of, and does not exceed the limits established under or determined from, a permit or approval issued by the department prior to April 29, 1993;
- (b) nonpoint sources discharging prior to April 29, 1993;
- (c) withdrawals of water pursuant to a valid water right existing prior to April 29, 1993; and
- (d) activities or categories of activities causing nonsignificant changes in existing water quality pursuant to ARM 17.30.670, 17.30.715, 17.30.716 or 75-5-301(5)(c), MCA.

Interpretation of Montana's rules in their guidance directs the owner of a new or increased source for which no water quality protection practices are approved by the department to design and submit a viable plan for implementation of the necessary water quality protection practices for department review, modification, and approval prior to implementation.

Utah uses two levels of antidegradation review to determine the reasonable potential for degradation. A Level I review ensures that existing uses are maintained and protected. In addition this review evaluates criteria to determine if a Level II review is required. A Level II review is more in depth and fulfills the requirements of Tier II antidegradation.

Oregon applies antidegradation review to all DEQ regulated activities but the degree of analysis is different depending upon various contingencies. Documenting that an in depth review is not necessary is typically done for those activities that are shown to be permit renewals with no increase in load, or a historic discharge that is not applying for an increase in load.

Nevada does not define what is meant by "new or expanded" in code, rule or guidance.

Updates to Colorado's 2001 *Antidegradation Significance Determination for New or Increased Water Quality Impacts: Procedural Guidance* clarify what constitutes a new discharge. "A new discharge would include existing effluent proposed for discharge to a location outside of the mixing zone of the existing discharge; effluent proposed for discharge from an additional outfall; existing effluent to which new pollutants are added; or effluent proposed for discharge from a new facility (except for replacement facilities with effluent proposed for discharge to the same location).

Discussion Results:

Discussion of new and increased discharges led to the recommendations described herein. It was recommended that defining new and increased discharges in rule should be concise with more detailed meaning included in the implementation guidance.

Discussion of the two approaches (new or increased discharge prompting Tier II analysis, or different levels of Tier II analysis) resulted in DEQ staff recommending the use of new or increased discharges as a prompt for initiating Tier II review and evaluating if a Tier II analysis is needed. Reissued permits that do not call for an increase in discharge would not be analyzed beyond the determination they were not increased. This recommendation was made after discussing the benefits and detractions of both methods. It was determined that a simpler and easier to understand rule could be drafted using new or increased discharge permit applications as a prompt to initiate a Tier II review. Using permit applications as a starting point allows the State to determine how and when to commit resources to antidegradation review. Therefore a prudent approach to the Tier II analysis process is to focus on those permit applications that are for new or increased discharges. This led to the structuring of the proposed rule so that the question of a change in water quality is addressed in advance of the Tier 1 and Tier II antidegradation requirements.

The alternative of applying a Tier II review and analysis to all discharges to high quality waters similar to Oregon's approach appeared burdensome and unnecessary in those cases where there was no change to the permitted discharge. This alternative would require different reviews and analyses depending upon the nature of the permit renewal and the discharge. Discussion of this alternative led to a general recommendation that the limited resources available to the State would be best used by focusing on new or increased discharges rather than conducting Tier II analysis; including alternatives analysis and socioeconomic justifications, on all permit applications.

Since the recommendation was to focus on permit applications for new or increased discharges, defining what is meant by new discharges and what is meant by increased discharges was the next step. Discussion of new and increased discharges led to the evaluation of multiple scenarios. For example, would a facility that is getting a permit limit for the first time for a pollutant that has been in the discharge all along be considered a new or increased discharge? Another example would be a facility (such as BSU) that has been discharging legally without a permit but due to changes in regulations are now required to get a discharge permit. These scenarios and others were discussed in depth and the results are outlined in the sections below.

Defining new discharges:

New discharges will be those dischargers seeking a permit for any discharge or effluent component that has not been permitted prior to the effective date of this rule. This definition was the starting point for the definition as it appears in the draft language currently being worked on. It would include those facilities that have been discharging under a general permit and are seeking an individual permit and also facilities that in the past may not have been required to have a discharge permit at all but due to the changing landscape of regulation are required to apply for a discharge permit. In some of these cases the antidegradation review may require a full Tier II review and analysis of alternatives and socioeconomic necessity. In other cases the department may make the determination that there is no lowering of baseline water quality and therefore a full Tier II analysis is not required.

Another question addressed was "How will the adoption of numeric nutrient criteria affect current and future NPDES permits and the antidegradation review?" If the discharge has not

changed from one permit cycle to the next and the only difference is that there is a new criterion or effluent limit (as a result of new effluent limitation guidelines, decreased mixing zone size, or decreased criterion) to be addressed, it was decided that if there is no evidence the discharge quality or quantity has changed thus there is no reason to expect any degradation of the baseline water quality. The antidegradation Tier II analysis would be complete with a statement that there is no lowering of baseline water quality associated with this new effluent limit.

Defining increased or expanded discharges:

There were three different options for defining increased or expanded discharges reviewed. There were:

- Option 1 – do not define increased or expanded and leave it up to the permit writer.
- Option 2 – define increased or expanded similar in manner to Washington using operational capacity increases or loads. Include a method to allow for some operational variability before antidegradation review is prompted.
- Option 3 – grandfather in existing facilities at current permit limits and any increase or expansion beyond current permit limits prompts Tier II analysis.

Table 1. Pros and cons of options for dealing with new or increased discharges.

	Pro	Con
Option 1	<ul style="list-style-type: none"> • No need to negotiate definitions for expanded or increased discharges • 	<ul style="list-style-type: none"> • Leaves implementation open to interpretation and possibly inconsistency • May not catch new pollutants at existing facilities.
Option 2	<ul style="list-style-type: none"> • Would reduce the number of permits that need in depth antidegradation review • Could include a provision that requires dischargers that are renewing a permit to go through antideg review if there has been a significant change to criteria for pollutants being discharged. (?) 	<ul style="list-style-type: none"> • Allowing a 10% expansion may allow cumulative effects to degrade system if there are several facilities discharging to the same water. • Existing facilities with permit limits for a particular pollutant may end up discharging above criteria for that pollutant if the expansion of the facility is less than 10% but assimilative capacity for the waterbody is used up.
Option 3	<ul style="list-style-type: none"> • Allows facilities with permits to continue operating with limited to no change in the NPDES permitting process (no additional data requirements from dischargers that don't expand or introduce new pollutants). 	<ul style="list-style-type: none"> • Requires Tier II analysis for any change in permits limits above current limit • Would require negotiation on date used for grandfathering

All options shown above were discussed with Option 3 being the one recommended.

Increased discharges will be those that increase the discharge of the pollutant above the previously permitted level using either a load based or concentration based permit limit depending on how the permit is written. Those dischargers that increase the volume of discharge but reduce the concentration of pollutant such that there is no change in load would show that the net effect of these two actions is no lowering of baseline water quality and the Tier II antidegradation analysis is completed for that case.

Another question discussed was “How would DEQ deal with a facility that currently operates below permit limits but during renewal of permit, gives notice that it intends to begin operating at the current permit limit?” The general consensus was that these facilities are not considered new or increased discharges and should be allowed to operate at their permitted levels and design capacity regardless of the levels they are currently discharging at. It is believed that the permit was designed using the best available knowledge at the time to make sure that the discharge would not cause the water body to exceed criteria when operating at the permitted level.

Recommendations:

“*New discharge*” means any discharge which has not occurred before. A new limit added to an existing permit for a pollutant already present in the discharge, or new regulation of an existing discharge, does not constitute a new discharge.

“*Increased discharge*” means any change that would cause the load of the pollutant to increase above the previously established permit limit discharged to waters of the state.

Tier II review and analysis:

All new or increased discharges to waters of the State receiving Tier II protection shall undergo a Tier II antidegradation review. If there is shown to be no lowering of water quality for new or increased discharges the analysis is completed with the determination no lowering of water quality. If a lowering of water quality is predicted to occur then the discharger(s) will be required to complete a Tier II antidegradation analysis which includes an alternatives analysis and socio-economic justification for discharge at proposed levels as outlined in the Antidegradation Implementation Procedures.