Evaluation of Key Elements and Options for Antidegradation Policy Implementation Methods

DRAFT Workgroup Report

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The following chapter summarizes Workgroup discussions and recommendations for each of seven key issues identified by DEC as needing stakeholder input in order to develop sound, practical antidegradation implementation procedures. For each issue, there is a brief description of the issue, followed by pros and cons of various options discussed by the group for that issue, and

recommendations made by the workgroup. Where applicable, there is a discussion of dissenting views or lack of consensus regarding specific parts of a given issue.

A. Issue #1: What Triggers an Antidegradation Review?

A1. Description of Issue #1

A variety of issues come into play in deciding how and under what conditions antidegradation reviews are triggered. Many states handle certain aspects of antidegradation review differently (e.g., deferring antidegradation reviews for activities with a *de minimis* impact on water quality). Usually, in cases where there is potential for water quality degradation due to a new or expanded discharge (or when covering a previously un-permitted discharge under an NPDES permit), a review is warranted. Ideally, a comprehensive understanding of the ambient water quality based on monitoring data coupled by accurate projections of the impacts to the receiving water would be used to determine if a review is required. In reality, monitoring data for ambient conditions is often nonexistent or incomplete when an activity is proposed.

A2. Pros and Cons of Options Considered – Issue #1

Workgroup members acknowledged the value of conducting site-specific evaluations to determine whether a Tier 2 antidegradation review is necessary. Pros to this approach are that relatively few assumptions need to be made regarding whether an antidegradation review is needed because the approach utilizes site-specific information rather than estimates or assumptions. Cons to this approach are that projecting impacts to receiving waters is difficult enough for point source wastewater discharges where some ambient data may be available, but becomes very difficult when modeling the effects of multiple stormwater or other discharges into multiple receiving waters with little to no available data. Relative to the number of activities that could require review, there are few situations where there is sufficient ambient water quality data or accurate information about the discharge at the time a project or activity is proposed to make confident judgments about impacts of the activities onf receiving waters.

The Workgroup discussed approaches for identifying specific activities that would automatically trigger the review process. The selected approach should provide a justifiable presumption that the proposed activity could lower water quality, presumably in a measurable or significant manner. Considerations identified by the Workgroup for activities that might trigger an antidegradation review included:

- Type of activity – i.e., wastewater treatment discharges, various types of NPDES-permitted stormwater discharges, etc.
- Available dilution instream
- Persistence and potential effects of the pollutants of concern
- Potential increase in ambient concentrations predicted at the appropriate critical condition(s)
- Potential increase in loadings
- Potential reduction in available assimilative capacity
- Potential for cumulative effects

The Workgroup also discussed activities or conditions that should be exempt from antidegradation review. These included:

- Projects designed to improve the quality of surface waters
- Reissued individual NPDES permits with no change in discharge
- Modified individual NPDES permits with permitted discharges at or below that presently allowed in an existing permit
- Projects that do not otherwise lower the quality of a receiving water
- Activities that have an insignificant or de minimis impact on water quality, as long as a cumulative cap on pollutant loads or use of the available assimilative capacity was maintained.

Some of the above ideas were identified by the Workgroup as recommendations (see next section). In particular, the Workgroup approved the idea of basing the need for a review in part on the potential for the new expanded activity to cause some type of water quality degradation in the receiving waterbody. For example, a new small discharge to a large waterbody might not need an antidegradation review, or may require a much simpler review process than a similar discharge to a small stream in which available dilution is less. Similarly, a new or expanded discharge to a waterbody that serves as habitat for valued aquatic resources such as salmon may be more apt to require a review.

Another idea discussed was whether all new or expanded discharges should have antidegradation reviews, regardless of discharge size, risk factors, or types of activity. Pros to this approach are that DEC does not need to decide whether a review is necessary; any new or expanded activity would be reviewed. Cons raised are that this approach tends to dilute the review process because so many activities including perhaps many minor ones may need to be reviewed. The Workgroup agreed that reviews that are apparently *pro forma* only are probably unnecessary.

A related question discussed by the Workgroup in this regard was whether the extent of the permit review might vary with the type of activity or where the proposed activity is located (e.g., receiving waterbody characteristics that might make aquatic resources more vulnerable to potential lowering of water quality). This discussion was deferred to Issue #7: Should DEC Define Significant and/or *de minimis* Degradation (see Issue #7 in this Report).

The Workgroup discussed the idea of using a *de minimis* threshold in terms of allowable lowering of water quality to decide whether an antidegradation review is necessary for a new or expanded discharge. The Workgroup identified the Idaho example in which up to a 10% cumulative use of available assimilative capacity is allowed before requiring an antidegradation review; so long as 10% of the cumulative capacity has not been used, an antidegradation review is not required for a new or expanded discharge to that waterbody. Pros identified with this approach are that it is fairly straight forward, transparent, and could effectively focus DEC efforts on those situations that should be reviewed. Cons identified are that the 10% threshold is not necessarily tied to potential for effects on aquatic resources and designated uses in general. For example, it may not be known whether a 10%

lowering of water quality could cause detrimental effects on designated uses in a particular waterbody. Another con raised is that DEC needs to keep track of cumulative use of assimilative capacity, which could present some bookkeeping challenges. Finally, for some situations, the cumulative effects analysis needed for this approach might be so involved that it would be more efficient for DEC to do the antidegradation review for the proposed new or expanded activity.

In terms of General Permits (e.g., construction permits, log transfer facility permits), several options were discussed in response to the question of whether a new facility that complied with the general permit would trigger an antidegradation review. The Workgroup acknowledged that General Permits currently don't establish a maximum number of facilities or cumulative discharge flow or pollutant load as part of the permit. The general permit does, however, specify what can be discharged, in what types of waters, and other specifics that are designed to maintain and protect water quality and designated uses. One suggestion was that general permits establish the number of facilities covered under the permit; if an additional facility desires to be covered under the General Permit, an antidegradation analysis could be triggered. Workgroup members agreed, however, that discharges under a General Permit may be located all over the State and not near each other at all. Thus, it may not be reasonable to base a General Permit on a certain number of dischargers but rather whether certain important specifics about a new Notice of Intent(NOI) differ from assumptions or conditions specified in the General Permit.

Another idea suggested by the Workgroup was to evaluate the location of the proposed new discharge in light of whether other discharges are in the same area. If so, there is the possibility of cumulative effects, which might trigger an antidegradation review. If no other discharges are in the same area, and the new facility discharge will comply with the General Permit conditions, an antidegradation review may not be required. For CWA Section 404 permits, the antidegradation review could consist primarily of a review of the existing permit documents and a determination regarding whether or not that information provided sufficient data to make a determination on possible degradation.

A3. Workgroup Recommendations – Issue #1

(pasted from Recommendations document)

Recommendations:

- Activities regulated by ADEC under Clean Water Act Sections 401, 402, and 404 may be subject to antidegradation requirements and reviews (Feb, Mar).
- Antidegradation requirements apply only to new or expanded discharges or previously unpermitted discharges under the categories identified above, and not to reissued permits that already have had an antidegradation review (Feb, Mar).
- Increases in flows or pollutant concentrations of less than 10 percent should not be considered new or expanded discharges, but rather be categorized as de minimis increases not subject to Tier 2 antidegradation reviews (Feb).
    - The following alternatives were identified regarding the 10%: 1) based on permit limits, 2) based on loads, 3) allowing up to 10% reduction in assimilative capacity (Idaho example) (Mar).

- Tier 1 and Tier 2 antidegradation reviews and public notice for individual APDES permits, individual water quality certifications, or individual CWA 404 permits be conducted at the time of permit application review and drafting (Feb, Mar).
- For general permits, the antidegradation review and public notice procedures would be completed at the time the general permit is updated for reissuance (Feb, Mar).
- For new general permits, the antidegradation review should occur at the time of permit development and issuance (Feb, Mar).
  - A new applicant that complies with an existing GP and does not substantially increase discharges beyond DEC's assumptions should not require an antidegradation review (Mar).
  - DEC identifies assumptions/conditions in the GP and/or factsheet that lay out where an antidegradation analysis applies and where it does not – e.g., decision flow chart (Mar).
    - Factors for the flowchart: location of waterbody, # of discharges in the area, type of waterbody, water quality
    - Need to consider cumulative impacts
    - DEC should reserve right to require antidegradation analysis at the NOI stage
- The 404(b)(1) analyses performed by the U.S. Army Corps of the Engineers for CWA Section 404 permits, when available, should serve as the primary basis for the ADEC antidegradation review of impacts to nearby waters of the U.S. (Feb)
- Corps analysis should be looked at, but DEC cannot use that alone in lieu of its antidegradation review (Mar). No antidegradation analysis is required for the fill area (Feb, Mar).
- State certification of federal actions under CWA 401 should include a determination of whether an antidegradation analysis is needed (e.g., FERC licensing) (Mar).
- Discharges that are exempt from state permitting would not require an antidegradation analysis since they should not be discharging to federal waters (Mar).

Which waters does this review apply to (i.e., surface waters, groundwater, State waters, or federal waters)?

- Antidegradation requirements and reviews be restricted to waters of the U.S. in Alaska, as defined under the CWA (Feb, Mar). Cam will explore whether current statute clearly this says this now and what, if any, changes are needed.

What about other CWA decisions, e.g., impaired water listing, TMDLs? Not needed currently, but Cam and/or Bill to provide additional information at a later date.

The Workgroup recommended that activities regulated by ADEC under Clean Water Act Sections 401, 402, and 404 be subject to antidegradation requirements and reviews. This includes water quality certifications of NPDES permits; APDES general and individual permits; and the placement of dredged or fill material into waters of the U.S. under a US Army Corps of Engineers permit, which is usually overseen by ADEC through the water quality certification process. **Further discussion and recommendations concerning this point may be included in the report pending completion of certain action items for the Workgroup.**

The Workgroup further recommended that antidegradation requirements apply only to new or expanded discharges under the categories identified above, and not to re-issued permits that already have had an antidegradation review or have not changed in terms of flow, pollutant load, or water quality characteristics since the last permit issuance. Expanded discharges are those where past flow patterns are altered and/or pollutant concentrations or total loads are increased beyond previously permitted amounts. Discharges are not automatically assumed to require an antidegradation review when a facility (e.g., treatment plant) is expanded. The Workgroup recommended that increases in flows or pollutant concentrations of less than 10 percent not be considered new or expanded discharges, but rather be categorized as *de minimis* increases not subject to Tier 2 antidegradation reviews except with regard to cumulative impacts. **Further discussion and recommendations concerning *de minimis* and/or assimilative capacity may be included in later versions of the report pending completion of certain action items/additional discussion by the Workgroup.**

In terms of General Permits, the Workgroup recommended that DEC incorporate into permits the circumstances under which DEC would do an antidegradation analysis for a given NOI. This would make the antidegradation review process less ambiguous and more transparent to permittees and the public. The Workgroup also recommended that an antidegradation analysis should not be required for a new facility that complies with conditions in the General Permit unless there is either evidence of potential cumulative effects, due to the presence of other nearby discharges, or there are certain details about the NOI that differ from conditions specified in the General Permit.

ADEC will consult with legal staff to determine whether or not other activities permitted, approved, authorized, or regulated by non-ADEC State agencies (e.g., timber harvest on State lands) might require some sort of antidegradation review, at least at the policy level. The Workgroup recommended that if such review is required, it should be limited to programmatic coordination between ADEC and other agencies and reviews of water quality protection measures, and not include multiple reviews and approvals for the same activity by several different agencies.

B. Issue #2: What Information is Needed to Determine Baseline?

B1. Description of Issue #2

Determination of baseline water quality is a pivotal issue in antidegradation analyses because one uses baseline to determine current water quality and therefore, the Tier to which the waterbody belongs, and the degree of assimilative capacity that exists. The latter then helps inform the alternatives analysis and other aspects of the antidegradation review process.

Several questions need to be answered to properly frame and address this issue, including:

- How much information is needed to make the determination?
- Is statistical analysis needed?
- How do water quality exceedances determine the tier?
- How is seasonal variation in water quality addressed?
- How can costs be minimized?
- How do you determine if existing uses are being met without already having baseline water quality (BWQ) data on physical, chemical, and biological parameters?
- If the level of BWQ can be moved up as water quality improves, doesn't that affect the assimilative capacity?
    - It could be a disincentive for dischargers to improve their water quality
- How would Alaska determine BWQ for state wetlands when the water is mostly frozen?

B2. Pros and Cons of Options Considered – Issue #2

The Workgroup discussed the importance of understanding baseline water quality in the context of existing uses in a given waterbody. However, all agreed that monitoring data are relatively scarce for much of the State and that there are few options for obtaining better data due to the size and remoteness of many areas. The Workgroup did not reach a clear consensus on the types of conditions that would trigger the need for baseline data. Factors that were mentioned included: available dilution for the proposed discharge, types of potential contaminants that would be present, and the sensitivity or vulnerability of the waterbody (e.g., the presence of salmon spawning).

B3. Workgroup Recommendations – Issue #2

(pasted from Recommendations document)

How much information is needed to make the determination?

Recommendations:

- ADEC should retain the current baseline water quality practice under the antidegradation review procedure -- on a permit-specific basis, no one size fits all (Feb).
- For waters with little or no data, representative waterbodies could be used, with the understanding that most of the State's waters are not impacted by human activities (i.e., Tier 2) (Feb, Mar).
- Assumptions that baseline is zero should also be acceptable where it makes sense (e.g., the presence of bark in a log transfer location) (Feb).
- There is no need for a separate baseline water quality procedure (Feb).
- DEC should specify circumstances/factors that lay out the amount/type of baseline water quality needed, e.g., proportion of discharge to receiving water flow. Set some sideboards on what type of conditions would exist that require baseline water quality data where there might not be any (Mar).
- May not need to put specific requirements in regulation (Mar).
- DEC should have broad description of considerations in regulation they will use when making decisions for baseline water quality (Mar).

- Assume that all waters in AK are Tier 2 in terms of baseline water quality (Mar).

What is the obligation of the permittee to acquire baseline data? Does it depend on whether reasonable potential exists? Or the level of risk to water quality?

- Should depend on the level of risk to water quality and existing uses (Mar)

Is statistical analysis needed?

How do water quality exceedances determine the tier? What percentage of samples exceed? Is the exceedance persistent? How does this relate to the water quality criteria averaging period?

- If state listing policy for impaired waters speaks to these issues, it could be used as a starting point (Mar)

How is seasonal variation in water quality addressed?

How can costs be minimized?

- Coordinate with Tribes to acquire ambient monitoring data (Mar)
- Limit sampling to critical periods for the parameter – e.g., DO during summer months (Mar)

ADEC has an existing approach for determining baseline water quality under the current APDES permit program. In terms of developed areas, there is water quality data that can be used to determine baseline water quality. For somewhat developed areas, existing data plus data collected by permittees should be used to determine baseline water quality. Undeveloped areas (by far most of the waters in Alaska) should be classified as warranting Tier 2 protection (i.e., for high quality waters). In areas where naturally occurring substances such as metals and sediment exceed numeric water quality criteria, the "natural condition" can be used as BWQ.

The Workgroup recommended that ADEC retain the current baseline water quality practice under the antidegradation review procedure. The need for baseline data should be commensurate with the potential impacts of the proposed discharge. If available dilution is very high, not much baseline data may be needed unless multiple dischargers that will use a significant amount of assimilative capacity will be permitted. A large discharge to a small waterbody would require much more baseline information due to the greater vulnerability of the waterbody.

For waters with little or no data, the Workgroup agreed that representative waterbodies could be used, with the understanding that most of the State's waters are not impacted by human activities. Assumptions that baseline is zero in terms of anthropogenic pollutant load should also be acceptable where it makes sense. The Workgroup recommended that the current flexibility in requiring more data be retained, and that there is no need for a separate baseline water quality procedure. **Further discussion and recommendations concerning this point may be included in the report pending completion of certain actions items for the Workgroup.**

Since Alaska relies heavily on groundwater in some areas, the Workgroup requested more information as to whether or not antidegradation review should be done for new or expanded discharges with the potential of affecting groundwater.

C. Issue #3: How are Outstanding National Resource Waters (ONRWs) Designated?

C1. Description of Issue #3

Outstanding National Resource Waters (ONRWs) fall into Tier 3 of the Federal and Alaska Antidegradation Policy, which states that except for certain temporary changes, water quality cannot be lowered in such waters. The fact that only temporary decreases in water quality are allowed in ONRWs means that commercial and residential development is severely restricted in these watersheds. Many States recognize that waters in National or State Parks, and other similarly protected areas may be candidates for ONRWs and most of the ONRWs approved by States thus far are in such areas. Alaska has a wealth of such areas; therefore, a key question is what types of waters should qualify as ONRWs in Alaska?

C2. Pros and Cons of Options Considered – Issue #3

The Workgroups discussed options for reviewing and approving ONRWs nominated by the public. One option is to have DEC review and issue final approval on ONRW nominations. This option is infeasible because DEC does not have either the authority to do so under present State statutes, or the expertise. Also, it is possible that DEC would be deluged with nominations that would add tremendously to DEC's workload. A statutory change could perhaps be an option because then costs would be assigned to this process.

Another option is to have nominations by State agencies only. A pro to this option is that nominations are likely to have been thought out well and have sufficient documentation with which to make a decision. A con is that the public may not be involved in the nomination process to the extent that they would like.

Another option discussed was that the public nominate an ONRW through their legislator and the legislature would decide whether to authorize the ONRW. Pros with this idea are that the public would be involved in nominations and, since decisions about ONRWs could affect public interests, the

legislature would be an appropriate body to decide such things. Cons identified are that nominations via a legislator could get bogged down and that the legislator may not be in office long enough to see the nomination process through.

C3. Workgroup Recommendations – Issue #3

The Workgroup recommended that the process shown in Figure 1 should be followed. An interagency "Board" (comprised of ADFG, ADFW, ADEC, and ADNR) should review nominations from the public. It is understood there would be a cost for this Board and a bill would need to be approved by the legislature to establish this Board. Also, it is unclear who would appoint Board members. The Workgroup also recommended that ONRWs should be unique for Alaska, not as compared to the rest of the U.S. Nominations that meet the criteria eventually defined in DEC's Implementation Guidance would be referred to the legislature for public hearings and approval.

The Workgroup also discussed the possibility of adding a Tier 2.5 category for some Alaska waters. This additional tier would also require specific criteria for listing, examples of development allowed, increased protections required, etc. **Further discussion and recommendations concerning both Tier 2.5 and 3 may be included in the report pending completion of certain action items/additional discussion by the Workgroup.**

C. Data/Other Appendices?