DRAFT Nevada's Antidegradation Implementation Procedures

Jarbidge River above Jarbidge

Prepared by:
Nevada Division of Environmental Protection
Bureau of Water Quality Planning

March 2024

This page intentionally blank

DRAFT Nevada's Antidegradation Implementation Procedures

Contents

Figures

Attachments and Appendices

Acronyms and Abbreviations

AIP	Antidegradation Implementation Procedure
CFR	Code of Federal Regulations
Commission	Nevada State Environmental Commission (NAC 445A.077)
CWA	Clean Water Act
Department	Nevada Department of Conservation and Natural Resources (NAC 445A.080)
Director	Director of the Department of the Director's designee (NAC 445A.081)
Division	Nevada Division of Environmental Protection (NAC 445A.084)
EPA	United States Environmental Protection Agency
IBV	Interim Baseline Value
MS4	Municipal Separate Storm Sewer System
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRS	Nevada Revised Statutes
RMHQ	Requirement to Maintain Existing Higher Quality
TMDL	Total Maximum Daily Load

This page intentionally blank

Nevada's Antidegradation Implementation Procedures

1.0 Introduction

An antidegradation policy to protect high-quality waters and maintain existing water quality is a required component of state water quality programs. An antidegradation policy, along with beneficial use designations and numeric or narrative criteria to protect those uses, provides the fundamental structure of a state's water quality standards program. The goal of antidegradation is to protect existing water quality and preserve the unique attributes and conditions of high-quality waters that may be impossible to restore if degradation is allowed to occur.

The Nevada Department of Conservation and Natural Resources – Division of Environmental Protection (Department) has developed an antidegradation regulation that is applied on a statewide basis (Attachment 1). This antidegradation regulation meets the statutory requirements of Nevada's water pollution control law found at Nevada Revised Statute (NRS) 445A.520 and NRS 445A.565, and is consistent with the federal antidegradation policy found at Title 40 in the Code of Federal Regulations (CFR) § 131.12 (Attachment 2).

This document, *Nevada's Antidegradation Implementation Procedures (AIP)*, provides guidance on the sequence of steps the Department follows to evaluate whether a regulated discharge would degrade water quality in a receiving water. Regulated discharges include those that require an individual discharge permit, those covered under a general permit, or a Section 401 water quality certification pursuant to state or federal law. The information contained in this document is intended to provide guidance only and is not a substitute for the provisions of any other State laws, rules, or regulations. The AIP includes:

- How parameters of concern are identified;
- the procedure for determining baseline water quality of a receiving water;
- the process for identifying the level of antidegradation protection (i.e., the "tier") for parameters of concern in the receiving water;
- the approach for evaluating whether baseline water quality in the receiving water will be degraded; and
- the procedure for conducting an analysis of alternatives when degradation of high water quality conditions is predicted.

2.0 Tiers of Antidegradation Protection

The Department's antidegradation regulation is intended to maintain and protect water quality in the receiving water when a discharge into the water body is proposed. To implement this regulation, it is necessary to identify levels, or tiers, of antidegradation protection appropriate for each parameter in each receiving water. The state antidegradation regulation, R113-22, delineates four tiers of protection (Figure 1). Implementation of the antidegradation regulation involves applying tier 1 and tier 2 on a parameter-by-parameter (i.e., pollutant-by-pollutant) basis, whereas tier 2.5 and tier 3 apply to water bodies or segments thereof that have been designated by the Nevada State Environmental Commission (Commission) with the beneficial use of "extraordinary ecological, aesthetic or recreational value". (Currently, the only water body with the "extraordinary ecological, aesthetic or recreational value" beneficial use in Nevada is Lake Tahoe.) Each tier of protection has its own requirements for protecting existing water quality, as described below.

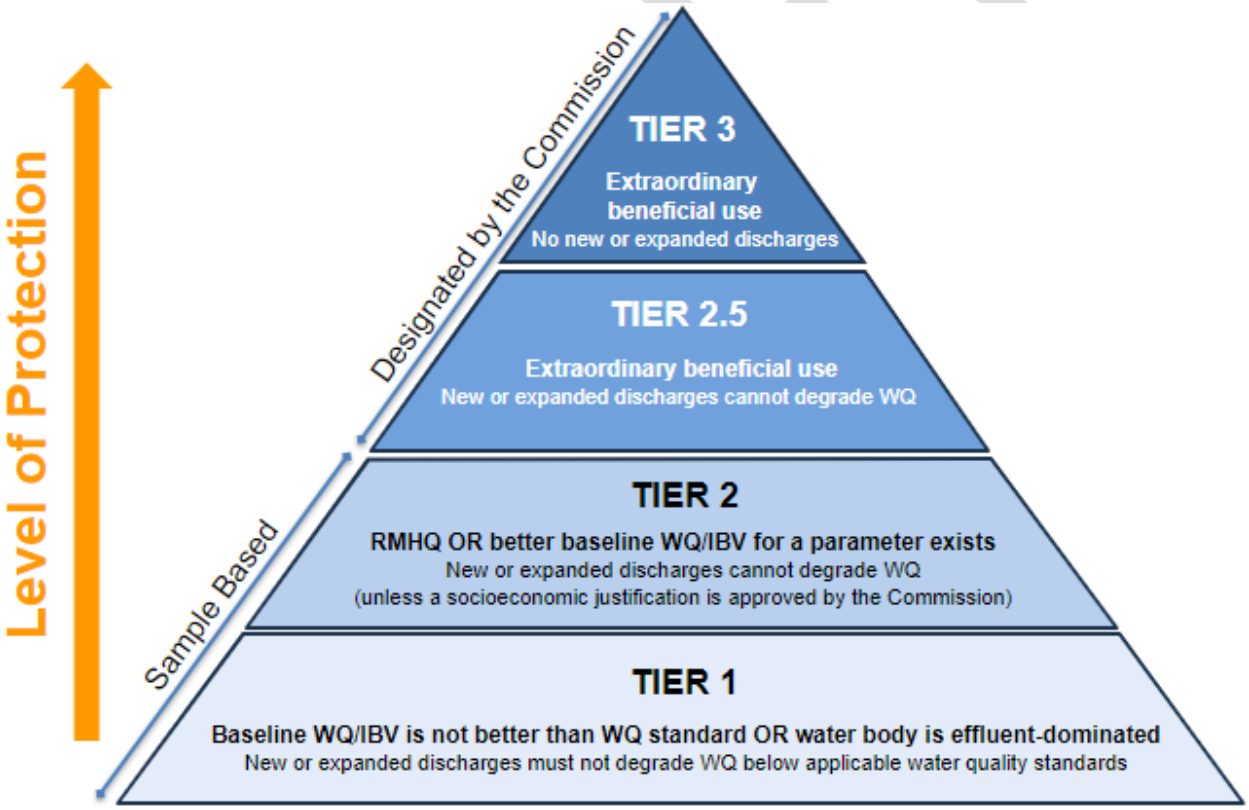

Figure 1. Levels, or tiers, of antidegradation protection proposed for Nevada surface waters.

Tier 1 Level of Antidegradation Protection

Tier 1 level of antidegradation protection provides a base level of protection for applicable water bodies. This antidegradation protection level applies when the baseline water quality or interim baseline value of a surface water or segment thereof, on a parameter-by-parameter

basis, is determined by the Department to not be better than the applicable water quality standard set forth in Nevada Administrative Code (NAC) 445A.11704 to 445A.2234, inclusive; or the surface water or segment thereof is an effluent-dominated water.

If a parameter of concern in a surface water or segment thereof is designated as having a tier 1 level of antidegradation protection, the Department:

(1) shall maintain and protect the water quality to meet the applicable water quality standard set forth in NAC 445A.11704 to 445A.2234, inclusive; and

(2) may authorize a new or expanded point source discharge if the Department determines that the water quality will not be degraded below the applicable water quality standards set forth in NAC 445A.11704 to 445A.2234, inclusive.

Tier 2 Level of Antidegradation Protection

Tier 2 level of antidegradation protection protects high-quality waters where data show that water quality is better than levels needed to protect beneficial uses. This level of antidegradation applies when the baseline water quality or interim baseline value (IBV) of a surface water or segment thereof, on a parameter-by-parameter basis, is determined by the Department to be better than the applicable water quality standard set forth in NAC 445A.11704 to 445A.2234, inclusive, for that surface water or segment thereof; or a requirement to maintain existing higher water quality (RMHQ) has been established by the State Environmental Commission (Commission).

If a parameter of concern in a surface water or segment thereof is designated as having a tier 2 level of antidegradation protection, the Department:

(1) Shall maintain and protect the baseline water quality or IBV, as applicable, or any RMHQ; and

(2) May authorize a new or expanded point source discharge that will degrade the baseline water quality or interim baseline value, as applicable, or any RMHQ if the discharge is approved by the Commission pursuant to section 17 of R113-22.

Tier 2.5 Levels of Antidegradation Protection

Tier 2.5 protects water quality and the special characteristics of water bodies designated with the beneficial use of "extraordinary ecological, aesthetic, or recreational value" (NAC 445A.122). This level of antidegradation protection applies when the surface water or segment thereof has been designated by the Commission as having a beneficial use of "extraordinary ecological, aesthetic or recreational value" and as having a tier 2.5 level of antidegradation protection. If a surface water or segment thereof is designated by the Commission as having a tier 2.5 level of antidegradation protection, the Department shall maintain and protect the baseline water quality or any RMHQ.

The Department shall prohibit any new or expanded point source discharge into or upstream of the designated tier 2.5 water if the Department determines the discharge will degrade the baseline water quality or any RMHQ or have a detrimental impact on an attribute of the designated water. The Department shall prohibit any new or expanded zone of mixing within the designated water since degradation of these waters is prohibited. IBVs cannot be established on a tier 2.5 water because degradation of these waters is prohibited.

The Department shall not prohibit a point source discharge that was authorized by the Department before the surface water or segment was designated as having a tier 2.5 level of antidegradation protection if the request to renew or modify the permit to discharge will not expand the point source discharge or alter the zone of mixing. The Department shall not deny an application for a storm water runoff permit or an application to modify or renew an existing storm water runoff permit if the Department determines that the applicant has demonstrated that the baseline water quality or any RMHQ will be maintained and protected. The Department shall not prohibit an activity authorized by the Department to restore, maintain or improve the water quality of the designated water.

Tier 3 Level of Antidegradation Protection

Similar to tier 2.5, tier 3 protects water quality and the special characteristics of water bodies designated with the beneficial use of "extraordinary ecological, aesthetic or recreational value" (NAC 445A.122). This level of antidegradation protection applies when the surface water or segment thereof has been designated by the Commission as having a beneficial use of "extraordinary ecological, aesthetic or recreational value" and as having a tier 3 level of antidegradation protection.

If a surface water or segment thereof is designated by the Commission as having a tier 3 level of antidegradation protection, the Department shall maintain and protect the baseline water quality or any RMHQ. Except as otherwise provided in subsection 5 of section 18 of R113-22, the Department shall prohibit any new or expanded point source discharge into the designated water; any new or expanded point source discharge that occurs upstream of the designated water if the Department determines that the discharge will degrade the baseline water quality or any RMHQ or have a detrimental impact on the designated water; and any new or expanded zone of mixing within the designated water. IBVs cannot be established on a tier 3 water because degradation on these waters is prohibited.

The Department shall not prohibit a point source discharge that was authorized by the Department before the surface water or segment thereof was designated as having a tier 3 level of antidegradation protection if the request to renew or modify the permit to discharge will not result in an expanded point source discharge or alter a zone of mixing associated with the point source discharge. The Department shall not deny an application for a storm water runoff permit or an application to modify or renew an existing storm water runoff permit if the

Department determines that the applicant has demonstrated that the baseline water quality or any RMHQ will be maintained and protected. The Department shall not prohibit an activity authorized by the Department to restore, maintain, or improve the water quality of the designated water.

2.1 Implementation of Nevada's Antidegradation Regulation

The Department will conduct an antidegradation review when a permit application is submitted for a new or expanded point source discharge to a surface water. The purpose of the antidegradation review is to evaluate whether the discharge has the potential to degrade baseline water quality in the receiving water. Regulated discharges include point source discharges to receiving surface waters (National Pollutant Discharge Elimination System [NPDES] and State Water Pollution [WPC] Permits), discharges covered under general permits, and discharges regulated under federal permits that are subject to State water quality certification under Section 401 of the Clean Water Act (CWA).

Implementation of the proposed antidegradation regulation is intended to be forward-looking and will apply when a new or expanded discharge to a surface water is proposed, and at the time of permit renewal if a major modification is proposed. Permit renewals that maintain existing permitted flow, the same effluent limitations, the same composition of parameters of concern in the discharge, and other conditions and requirements as the previous authorized permit will not be subject to antidegradation review. If a discharge permit has an approved zone of mixing, renewal of the zone of mixing will not be subject to antidegradation review provided the permittee does not propose to alter the authorized zone of mixing.

The Department will conduct an antidegradation review if a permit application meets one of the following conditions:

1. A new point source discharge.
2. A permit renewal or modification that will result in an expanded point source discharge, which includes, without limitation, a proposed:
    a) Increase of the maximum flow of the discharge;
    b) Increase in the concentration of any parameter of concern in the discharge;
    c) Increase in the load of any parameter of concern to the receiving water;
    d) Change in the composition of the discharge which would require different effluent limitations; or
    e) Relocation of the discharge.
3. A new or altered zone of mixing.

A categorical antidegradation review will be conducted when a new general permit is issued, or an existing general permit is renewed to ensure permit conditions and requirements meet

antidegradation requirements. Therefore, discharges authorized by general permits will not be required to undergo an antidegradation review as part of the "notice of intent" submittal for coverage under the general permit. An overview of the antidegradation review procedure for general permits is contained in Section 4.1 of the AIP.

For the purposes of a storm water runoff permit antidegradation review, the Director shall presume that the applicant will comply with all the permit conditions and any requirements of Nevada's antidegradation regulation including, without limitation, the development of a storm water management plan with best practices as defined in NAC 445A.306 to prevent, eliminate, or reduce the pollutants in storm water discharges to meet all antidegradation requirements. The antidegradation requirements for activities covered under storm water runoff permits are contained in Section 4.2 of the AIP.

Antidegradation review requirements for Section 401 water quality certifications are highly dependent on the activity being regulated. Antidegradation reviews of Section 401 water quality certifications for regulated activities covered under federal license or permit will be made on a case-by-case basis and are discussed in more detail in Section 4.3 of the AIP.

Implementation of Nevada's antidegradation regulation will require consultation, coordination, and cooperation between the Department and applicant/permittee to ensure that relevant issues are addressed early in the review process. The comprehensive antidegradation review analysis to inform the decision of whether the Department will issue a discharge permit will require determination of baseline water quality for parameters of concern in, and assessing projected impacts of the discharge to, the receiving water. If applicable, the antidegradation analysis may also include analyzing possible treatment alternatives and evaluating economic or social benefits for a determination to be made by the Commission whether to issue a discharge permit.

It is recommended that an applicant/permittee meet with the Department in a pre-application conference well in advance of submittal of a permit application. Timely notification and early consultation with the Department will help ensure that issuance of permits can proceed without disruption to facility design, construction, or other activities planned by the applicant/permittee.

Public review is an important part of the permit review process, particularly if a discharge will be permitted into a high-quality water body that is assigned a Tier 2 level of antidegradation protection for any parameters. The antidegradation review, as well as decisions regarding authorizing a proposed discharge, will be open to public comment as part of the Department's permitting process. The Department must provide public notice and a 30-day public comment period for each draft permit in accordance with NAC 445A.234 and 40 CFR 124.10. The

antidegradation review will determine the appropriate permit limits or conditions that must be set to satisfy antidegradation protection requirements.

3.0 Antidegradation Review Procedures

Antidegradation reviews shall be conducted on a parameter-by-parameter basis for any "parameter of concern", meaning any parameter with a water quality standard set for the in NAC 445A.11704 to 445A.2234, inclusive, or that has been determined by the Department to be of concern. This applies to both chemical and physical attributes of the water body that have criteria defined in NAC 445A.11704 to 445A.2234.

The general steps taken to complete an antidegradation review are as follows (Figure 2):

- STEP 1 – Identify the parameters of concern expected to be present in the proposed discharge.

- STEP 2 – Establish the baseline water quality (or IBV) in the receiving water for each parameter of concern in the point source discharge.

- STEP 3 – Determine the appropriate tier of antidegradation protection for each parameter of concern in the receiving water.

- STEP 4 – Evaluate whether the levels of parameters of concern in the proposed discharge are at levels equal to or less than the antidegradation tier protection levels for the parameters in the receiving water body and if higher water quality conditions will be maintained.

- STEP 5 – If the antidegradation review determines that a discharge will degrade an established RMHQ, baseline water quality, or IBV, for a parameter of concern with a tier 2 level of protection, the applicant shall perform an analysis of alternatives and evaluation of social or economic importance factors to demonstrate why lowering of water quality conditions is necessary, subject to the permittee's decision to do such to receive a discharge permit. This process is outlined in section 17 of R113-22.

Figure 2. Steps to follow when evaluating a new discharge permit.

3.1 STEP 1. Identify Parameters of Concern

Antidegradation reviews will require applicants/permittees to identify parameters of concern expected to be in the discharge, estimated flow rates, and expected effluent pollutant concentrations.

The applicant will be required to supply sufficient information and data related to the water quality of the discharge to allow the parameters of concern to be identified.

For new discharges, effluent quality should be based on the anticipated effluent quality using all information available to the applicant at the time of preparing a permit application. To characterize the anticipated effluent quality from new facilities it may be necessary to review information from existing facilities with similar types of processes and treatment systems.

In certain circumstances, the Department may have reason to believe that an additional unidentified constituent might be present in the discharge and may require testing to verify the presence of the constituent.

3.2 STEP 2. Determine the Baseline Water Quality for Parameters of Concern in the Receiving Water

The baseline water quality of a receiving water provides the yardstick against which any predicted degradation associated with a regulated point source discharge is measured. "Baseline water quality" means the existing water quality for each parameter of concern in a surface water or segment thereof or for which a RMHQ has been established. Baseline water quality is established by the Department based on not less than 20 samples collected approximately 90 days apart over a period of at least five years at a location designated by the Department. This characterization will show the level of antidegradation protection appropriate for parameters of concern in the receiving water.

All readily available water quality data determined by the Department to be of acceptable quality may be used to characterize baseline water quality. Because the Department operates a monitoring program aimed at characterizing and assessing the ambient water quality of surface waters across the State, the Department may possess data to fully or partially characterize baseline water quality for any parameter of concern. However, in cases where data does not exist, the proposed discharger will be required to develop and implement a sampling and analysis plan (SAP) to be approved by the Department. The Department recommends that applicants/permittees use the Environmental Protection Agency's Sampling and Analysis Plan – Guidance and Template when developing SAPs for baseline water quality/IBV establishment (https://www.epa.gov/quality/sampling-and-analysis-plan-guidance-and-template-v4-general-

projects-042014). The data collected may then be used by the Department to characterize baseline water quality for a parameter of concern. The SAP must be submitted no later than 90 days prior to the applicant's proposed commencement of sampling activities and must be approved by the Department. For this reason, it is highly recommended that a discharge applicant contacts the Department early in the process to help ensure that issuance of permits can proceed without disruption to facility design, construction, or other activities planned by the applicant/permittee.

Receiving waters where baseline water quality of individual parameters of concern are better than the water quality standards will be subject to Tier 2 antidegradation protection. For waters that have RMHQs established for certain parameters, the baseline water quality of the parameter will be set at the RMHQ.

An effluent-dominated water means a surface water or segment hereof that consists of greater than 80 percent wastewater effluent for at least 300 days of the year. Determining baseline water quality for parameters of concern in an effluent-dominated water will not be necessary. Per the Department's antidegradation regulation, tier 1 level of antidegradation protection would apply to parameters of concern in effluent-dominated waters, unless a RMHQ has been promulgated or a Total Maximum Daily Load (TMDL) has been approved for a particular parameter.

For lakes and reservoirs, the Department will consider seasonal impacts, water-level fluctuations, or other factors deemed important to establish baseline water quality. Critical water levels of lakes and reservoirs will be determined on a case-by-case basis.

The need for baseline water quality characterization will not be required for discharges authorized by general permits unless there are pollutants of concern reasonably expected in the discharge that may cause loss of support of a designated beneficial use or cause degradation to a surface water or segment thereof with the beneficial use of "extraordinary ecological, aesthetic or recreational value" (i.e., a tier 2.5 or tier 3 water). Steps taken to conduct an antidegradation review during the permitting process are described in Section 3.4 of the AIP.

The characterization of the water quality of the receiving water, as discussed in Section 3.1 of the AIP, will provide the data to determine the baseline water quality or IBV for the pollutants of concern in the receiving water.

The Department's most recent Water Quality Integrated Report may be used to determine whether the receiving water has been identified as an impaired water body (Category 4 or 5) on the CWA Section 303(d) List. Where the receiving water is identified as Category 4 or 5 for a parameter of concern, determining the baseline water quality of the parameter in the receiving water will not be necessary. For parameters for which a TMDL has been approved, the effluent

permit limitation for these parameters of concern will be based on the TMDL waste load allocation, if applicable, and or the water quality criterion for the parameter. Where the receiving water is identified as Category 5 for a parameter of concern, the corresponding effluent permit limit would be based on the applicable water quality criterion, and there would be no need to establish baseline water quality for the parameter of concern.

3.2a STEP 2. Establishing Interim Baseline Value (IBV)

In the case where a permit to discharge is sought and there is insufficient data to determine baseline water quality for a parameter of concern, an IBV may be used until sufficient data exists to establish baseline water quality. An IBV is the interim estimate of baseline water quality for each parameter of concern in a surface water or segment thereof when the baseline water quality has not yet been established. The IBV is established by the Department based on not less than eight samples collected approximately 90 days apart over a period of at least two years. The sample data used to establish an IBV must be collected and analyzed in accordance with a SAP approved by the Department.

IBVs will be valid for a period of no longer than one year beyond the timeframe required to establish the baseline water quality or until a RMHQ is approved by the Commission. Once an IBV is established, the applicant will continue collecting water quality data until sufficient data exists to establish baseline water quality, or as otherwise specified in the discharge permit.

The intent of the IBV is to allow projects to proceed prior to baseline water quality being established for water bodies lacking data. The IBV serves as the permit discharge limitation until sufficient data exists to establish baseline water quality. If baseline water quality is better than the criterion, the Commission may establish a RMHQ for that pollutant of concern.

IBVs are not applicable to waters with tier 2.5 or tier 3 level of antidegradation protection. This is because long-term degradation of tier 2.5 or tier 3 waters is prohibited, and the potential exists for water quality to be degraded over a three-year period in the case where baseline water quality is less stringent than an IBV.

3.3 STEP 3. Determine Tier of Antidegradation Protection for Parameters of Concern

The appropriate tier of antidegradation protection for each parameter of concern in the discharge will be determined by comparing the parameter of concern's baseline water quality or IBV to the applicable water quality criterion. Because the antidegradation review is conducted on a parameter-by-parameter basis, a receiving water may have some parameters of concern assigned a tier 1 protection level, while other parameters of concern may be assigned a tier 2 protection level.

Tier 1 protection will be provided for any pollutant of concern in the receiving water with baseline water quality or IBV that is the same or worse than the applicable water quality criterion. Tier 1 protection will be assigned to a parameter of concern covered by a TMDL, if the receiving water is impaired for the parameter, or if the receiving water is an effluent dominated water.

Tier 2 protection will be provided for any parameter of concern in the receiving water with an established RMHQ, or for which baseline water quality or IBV is better than the applicable water quality criterion.

Tributary Waters

If the receiving water is not a designated water named in NAC 445A.123 through 445A.2234, but is tributary to such a water, the "tributary rule" (NAC 445A.1239) will be used to determine the applicable water quality standards for the receiving water.

Non-Designated/Non-Tributary Waters

If the receiving water is not a designated water nor tributary to a designated water, the Department will determine what the appropriate beneficial uses are for the water. Once sufficient data exists, the Commission may designate the surface water and assign beneficial uses and criteria to protect beneficial uses.

3.4 STEP 4. Evaluate the Effect of Discharge on the Receiving Water Quality

For this step of the antidegradation review process, the Department evaluates whether the level in the point source discharge for any parameter of concern will meet their applicable tier protections in the receiving water. The antidegradation review must be comprehensive to include all parameters of concern projected to be present in the discharge and will evaluate each parameter on an individual basis.

If it is demonstrated that the new or expanded point source discharge will not degrade water quality conditions in the receiving water, no further analysis will be required to authorize the discharge.

For a receiving water in which a parameter of concern is assigned tier 1 antidegradation protection, the point source discharge would not cause water quality degradation if the concentration of the parameter at the point of discharge meets the water quality standard for the parameter. As previously discussed, if a TMDL exists for a parameter of concern, the permit limit will be set based on the associated TMDL waste load allocation for the parameter, if applicable, or the water quality criterion for the parameter.

Tier 1 antidegradation protection will be assigned when the parameter of concern in the receiving water is an impairment (baseline water quality exceeds the water quality standard) and a TMDL has not been developed. A zone of mixing to meet tier 1 antidegradation protection (i.e., the applicable water quality criterion) is not permissible for a new or expanded point source discharge when the receiving water is already impaired for the parameter of concern.

If a parameter of concern in the receiving water is assigned tier 2 antidegradation protection, the point source discharge will not degrade water quality conditions if the concentration of the parameter at either the point of discharge or the downstream edge of an approved mixing zone is the same or lower than the RMHQ, baseline water quality, or IBV value. Statutory and regulatory requirements require that the effect of a point source discharge on the water quality conditions in a receiving water be evaluated at either the point of discharge or the downstream point of an approved zone of mixing. NRS 445A.565 does not authorize a "de minimis" exemption which would allow the Department to differentiate between discharges that will have an insignificant effect on baseline water quality from those that will have a significant impact. Pursuant to NAC 445A.296, an authorized zone of mixing would include a downstream point (or boundary) designated by the Director where the parameters of concern levels in the discharge would need to meet applicable tier protections in the receiving water.

If the analysis indicates that the new or proposed point source discharge will cause water quality degradation in the tier 2 receiving water, the discharge may be allowable if specific conditions are met. The applicant can seek authorization for the discharge by submitting the additional information outlined in Section 3.2.5 of the AIP.

Similarly, a new or expanded discharge into a water that has been designated with tier 2.5 antidegradation protection would follow the above procedural steps depending on the tier protection levels assigned to the parameters of concern. The tier protection levels would be based on concentrations of the parameters in the tier 2.5 receiving water. The Department's antidegradation regulation stipulates that water quality conditions in waters with a tier 2.5 protection level must be maintained and protected. The concentration of parameters of concern in the effluent at the point of discharge that do not meet tier 2.5 protection levels will be viewed as degrading water quality which is prohibited.

Any new or expanded point source discharge into a water that has been designated with tier 3 antidegradation is prohibited except as otherwise provided in subsection 5 of section 18 of R113-22.

A point source discharge upstream of a tier 2.5 or tier 3 surface water or segment thereof is allowable if the antidegradation review demonstrates that the water quality conditions in the

downstream tier 2.5 or tier 3 water will not be degraded. As explained in Section 3.2.3 of the AIP, when such is proposed, it will be necessary to evaluate the baseline water quality for both the upstream water (tributary) and the downstream tier 2.5 or tier 3 water. The tier of antidegradation protection assigned to each parameter of concern will be based on the more stringent parameter baseline concentration: the upstream (tributary) water or the downstream tier 2.5 or tier 3 water. The evaluation of the discharge may require that the concentration of a parameter of concern in the effluent meet the baseline water quality of the parameter in the upstream tributary rather than the downstream tier 2.5 or tier 3 water.

Certain parameters, such as alkalinity and dissolved oxygen, are an exception to the rationale described above. Alkalinity and dissolved oxygen are "greater than" standards, meaning an increase in their levels in the receiving water is generally an improvement to water quality. In addition to these exceptions, acceptable values of pH lie within a range of values, and both increases or decreases may affect water quality conditions and will be evaluated on a case-by-case basis.

Where the new or expanded discharge is into a receiving water that is not a designated water named in NAC 445A.1252 through 445A.2234, but is a tributary to such a water, the "tributary rule" (NAC 445A.1239) will be used to determine the water quality standards that apply to the receiving water (tributary) and the appropriate tier of antidegradation protection for the parameters of concern in the discharge. A similar evaluation as described above would be followed to evaluate the effect of the discharge on the tributary water quality conditions.

3.5 STEP 5. Additional Analysis and Evaluation

This step applies only if a new or expanded discharge is determined to not meet antidegradation protection levels for parameters of concern in a tier 2 receiving water and the applicant/permittee desires to pursue an exemption from meeting the tier 2 protection effluent limits. The applicant/permittee will be responsible for identifying and evaluating alternatives to comply with tier 2 antidegradation requirements. It is recommended that an applicant/permittee meet with the Department well in advance of submitting an analysis of alternatives to ensure that all relevant topics are included in the analysis. If degradation of the baseline water quality cannot be reasonably avoided, the applicant/permittee may present a justification that the proposed activity/discharge is necessary to accommodate important economic or social benefits. It is recommended that an applicant/permittee meet with the Department well in advance of submitting an economic or social justification to ensure that all relevant topics are included in the justification. The Commission then determines whether the economic or social benefit to be gained from the proposed activity justifies degradation of higher water quality conditions.

NRS 445A.565 allows degradation of higher water quality conditions only after important social or economic benefits have been demonstrated by the applicant/permittee and the Commission has agreed that degrading the water quality of the receiving water is justifiable because of economic or social considerations. The Commission will ensure that the quality of the receiving water body is not degraded below water quality criteria necessary to protect existing beneficial uses.

3.5.1 Analysis of Alternatives

Before the Department continues with review of a permit application for a discharge that will degrade water quality for a tier 2 parameter of concern, the applicant/permittee will be required to evaluate whether any less-degrading alternatives are feasible. The analysis of alternatives focuses on alternatives directly related to protecting water quality that are economically, environmentally, and technologically reasonable. The overall goal of this analysis is to identify whether a less-degrading alternative, based on the above, could be reasonably and economically implemented to prevent degradation of the receiving water, or if not, to reduce the levels of the parameters of concern in the discharge.

The analysis may identify multiple reasonable alternatives. Alternatives may include, but are not limited to, the following:

- Pollution prevention.
- Improved operation and maintenance of the existing treatment system.
- Alternative treatment technologies, including advanced or innovative biological, physical, and/or chemical treatment.
- Collection system improvements.
- Recycling/reusing wastewater.
- Land application.
- Regionalization.
- Groundwater recharge.
- Seasonal or controlled discharges to avoid critical periods.
- Relocation or reconfiguration of the outfall or diffuser.
- Reduction in the scope of the proposed activity.
- An alternative that does not result in the discharge.

The analysis of alternatives should be comprehensive and consider the following in evaluating less-degrading alternatives:

- Amount of degradation reduced.
- Cost-effectiveness of pollutant removal.
- Cost of pollution reduction versus overall environmental gain.
- Affordability of alternatives.

If the analysis of alternatives indicates that a more reasonable alternative could be implemented rather than allowing degradation of water quality to occur, the Department will work with the applicant/permittee to revise the permit application or modification based on the revised project design.

If the analysis of alternatives does not identify a technologically feasible and economical alternative that would result in reduced water quality degradation, a project justification as described in section 3.2.5.2 of the AIP must be prepared and submitted to the Department for approval by the Commission.

Analysis of alternatives completed as a requirement of other permitting activities may be acceptable, subject to Department approval, for antidegradation review purposes. Whenever a new project is being planned, analysis of alternatives is standard engineering practice during project design. Projects that require a CWA 404 permit are already subject to U.S. Army Corps of Engineers and EPA requirements to consider alternatives.

3.5.2 Justification of Social or Economic Importance

If the analysis of alternatives indicates that degradation of the receiving water is unavoidable and changing project design is not feasible, the applicant/permittee will be required to justify that the water quality degradation is necessary to accommodate important social or economic development in the area where the water body is located. This justification, submitted to the Department, must demonstrate the social and/or economic benefits resulting from the activity are important to the affected community and/or the State.

The following steps are recommended in EPA guidance and reference documents to show social or economic justification:

- Identify the affected community.
- Describe the important social or economic development that will result from the project or activity.
- Determine the overall environmental, social, and economic benefits in comparison to the degradation of water quality that will result.

A project that is socially justified is one that is important to the social development of the local community in at least one aspect (e.g., population growth or job growth), or results in improvements of important community service needs (e.g., construction of new wastewater treatment plant, public water supply project, or improved transportation infrastructure). An economically justified project will promote economic development of the local community and would cover how the costs associated with water quality degradation are offset by benefits to the community. A cost-benefit analysis may be required. The Department will evaluate the

submitted information to determine whether the discharge associated with the proposed project is important from an economic or social perspective to justify continuing with the permitting process. When information provided in the applicant's justification is not sufficient to determine the social or economic benefits or environmental impacts associated with the proposed activity, additional information may need to be submitted.

During this evaluation, the Department will give precedence to any land-use determinations made by local governments or land-use planning authorities that may contradict the land use associated with the project. The evaluation will also consider any information and comments submitted during the public notification period by the public or affected stakeholders that are contrary to the social or economic justification submitted by the applicant/permittee. Public comments submitted to the Department will be made available and discussed during the Commission hearing. Additional public input may be solicited at other points in the permit development process, if deemed appropriate by the Department.

3.5.3 State Environmental Commission Hearing

For the purposes of NRS 445A.565, the Commission will hold a public hearing to consider the justification based on the economic or social importance of a proposed discharge that demonstrates why the water quality degradation is necessary, and if the analysis of alternatives sufficiently evaluated reasonable and practicable alternatives that would prevent degradation or result in less degradation. During the hearing, the Commission may approve issuance of a permit by the Department that will result in the degradation of water quality for a tier 2 pollutant of concern with the following determinations:

- The water quality degradation is justifiable because of important economic or social factors; and
- The highest and best degree of waste treatment available under the existing technology, consistent with the best practice in the particular field under the conditions applicable and the economic capability of the project is used to prevent or reduce degradation of the water quality in the receiving water; and
- All cost-effective and reasonable best management practices for diffuse source pollution control required in accordance chapter 445A of NRS are achieved to prevent, eliminate, or reduce the impacts to the water quality of the parameter of concern in the receiving water.

Pursuant to NRS 445A.520, if the Commission approves issuance of the permit that will result in degradation of better water quality, the lower effluent limits would, at a minimum, be set at water quality criteria to protect the designated beneficial uses of the receiving water.

No degradation of baseline water quality can result from a point source discharge into a tier 2.5 water or upstream of a tier 2.5 or tier 3 water. Therefore, approval of a less restrictive effluent limit for parameter in a new or expanded discharge to a water with the beneficial use of "extraordinary ecological, aesthetic or recreational value" and assigned a protection level of tier 2.5 is not allowed. Similarly, approval of a less restrictive effluent limit for parameter in a new or expanded discharge upstream of a water with the beneficial use of "extraordinary ecological, aesthetic or recreational value" is not allowed.

3.5.4 Documentation of Antidegradation Review Findings and Public Input Process

The federal rules on antidegradation (40 CFR 131.12(a)(2)(i)) specify that states must involve the public in any decisions pertaining to when tier 2 protection is (or is not) provided, and the factors considered in the decision. This requirement is to be met by including an antidegradation discussion in the fact sheet issued for each discharge permit for which public input is solicited. If the discharge is determined not to degrade baseline water quality for a parameter of concern with tier 2 protection, sufficient evidence will be presented in the fact sheet to support the finding.

In cases where the Commission approves a discharge permit projected to degrade baseline water quality, a public hearing would be held for the Commission to decide whether sufficient evidence and justification warrants less restrictive permit limits be approved. Public comments on the proposed action would be considered during the Commission hearing.

4.0 Antidegradation Policy: General Permits, Municipal Separate Storm Sewer System Permits, and 401 Certifications

This section provides additional information and details with respect to antidegradation reviews for general permits and storm water permits.

4.1 General Permits

General permits are issued to address a class of discharges where standardized permit conditions and limitations ensure that the permitted discharges will meet water quality standards. Antidegradation reviews for discharges authorized by general permits will occur for the entire class of general permittees when the general permit is issued. Antidegradation reviews will focus on pollutants of concern that may contribute to water quality impairment.

Dischargers who submit a notice of intent for coverage under a general permit will be presumed to be meeting the antidegradation requirements if they comply with permit conditions and any requirements deemed necessary by the Department to minimize water

quality degradation. However, if a discharger submits a notice of intent for coverage under an issued general permit and the discharge will be to a receiving water with tier 2 protection levels for certain water quality parameters, the Department may require the discharger to undertake additional control measures such as additional monitoring, more frequent site visits, and more rapid stabilization of exposed areas to minimize degradation to ensure the better water quality will not be degraded. In circumstances where the discharge has reasonable potential to degrade better quality, the Department may require the discharger to obtain an individual permit.

When a general permit is renewed, the Department will evaluate whether the terms or conditions of the current permit are protective of water quality for the class of discharges covered by the permit. If necessary, permit conditions and requirements may be modified during the renewal to ensure that discharges minimize any water quality degradation and comply with antidegradation requirements.

The general permits for storm water discharges require a different approach to ensure water quality degradation is avoided. Compliance with terms of the general permits—in particular, the implementation of storm water runoff controls to minimize storm water effects on the water quality of receiving waters—is required to maintain authorization to discharge under the general permit. During reissuance of these general permits, new and innovative control measures that have demonstrated to be effective in removing contaminants from storm water runoff may be incorporated into the permits as best management practices to protect water quality.

If a notice of intent is filed for coverage under a storm water general permit that involves a tier 2.5 or tier 3 water, the applicant is required to demonstrate the baseline water quality or any RMHQ will be maintained and protected. If successfully demonstrated, the Director may:

(a) Approve the application or notice of intent, as applicable;
(b) Issue the general permit or approve the notice of intent; or
(c) Require the group or specific discharger to apply for an individual permit pursuant to NRS 445A.480.

4.2 Municipal Separate Storm Sewer System Permits

An individual storm water permit for a municipal separate storm sewer system (MS4) meets antidegradation requirements if the permittee complies with all permit conditions, including development of a storm water management plan with best practices, as defined in NAC 445A.306, to prevent, eliminate or reduce the pollutants in storm water discharges and meet all antidegradation requirements.

4.3 401 Certifications

The Department issues 401 Water Quality Certifications for Federal Dredge and Fill 404 Permits. For 401 Certifications, the permittee submits the 404 permit application, site maps, and a list of the best management practices to be used in the project. The 404 permit application includes an analysis of alternatives. Best management practices are an integral part of the project to protect receiving water quality during project work. If the proposed project involves a water body with tier 2 parameter(s) of concern, the Department will evaluate if the project causes degradation of baseline water quality. The 401 certification may include additional conditions to ensure that the degradation water quality is either temporary or insignificant.

This page intentionally blank.

Attachment 1

Federal Antidegradation Policy 40 CFR 131.12

40 CFR § 131.12 Antidegradation Policy.

(a) The State shall develop and adopt a statewide antidegradation policy. The antidegradation policy shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceed 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 State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State'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. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(i) The State may identify waters for the protections described in paragraph (a)(2) of this Section on a parameter-by-parameter basis or on a water body-by-water body basis. Where the State identifies waters for antidegradation protection on a water body-by-water body basis, the State shall provide an opportunity for public involvement in any decisions about whether the protections described in paragraph (a)(2) of this Section will be afforded to a water body, and the factors considered when making those decisions. Further, the State shall not exclude a water body from the protections described in paragraph (a)(2) of this Section solely because water quality does not exceed levels necessary to support all of the uses specified in Section 101(a)(2) of the Act.

(ii) Before allowing any lowering of high water quality, pursuant to paragraph (a)(2) of this Section, the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives

identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Act.

(b) The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State's policy and with paragraph (a) of this Section. The State shall provide an opportunity for public involvement during the development and any subsequent revisions of the implementation methods, and shall make the methods available to the public.