

# Utah Antidegradation Reviews: Implementation Guidance

**DRAFT for COMMENT**

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## Table of Contents

1.0 Introduction .....	4
2.0 The Antidegradation Process .....	4
<b>2.1 Assigning Protection Categories .....</b>	<b>5</b>
2.1.1 Category 1 Waters.....	5
2.1.2 Category 2 Waters.....	6
2.1.3 Category 3 Waters.....	6
<b>2.2 Procedures for Assigning Protection Categories.....</b>	<b>6</b>
2.2.1 Material to Include with a Nomination.....	6
2.2.2 Considerations for Appropriate Data and Information to Include with Nominations to Increase Protection of Surface Waters .....	7
2.2.3 Considerations for Appropriate Data and Information for Consideration to Decrease Protection of Surface Waters.....	7
2.2.4 Public Comment Process for Proposed Reclassifications .....	8
2.2.5 Reclassification Decision Making Process .....	8
3.0 Antidegradation Review General Procedures ...	10
<b>3.1 Overview of Antidegradation Review Procedures .....</b>	<b>10</b>
<b>3.2 Level I Antidegradation Reviews .....</b>	<b>10</b>
<b>Figure 1.</b> The general process for determining whether a Level II review is required for DWQ UPDES permit. Special considerations for other permits are discussed in Section 3.6 of this guidance document. ....	<b>11</b>
<b>3.3 Level II Antidegradation Reviews.....</b>	<b>12</b>
3.3.1 Activities that are Considered to be New or Expanded Actions .....	12
3.3.2 Actions Regulated by the DWQ.....	12
3.3.3 Activities that are not Considered to Result in Degradation .....	12
3.3.4 Activities that are Considered to be Temporary and Limited .....	13
<b>3.4 Responsibilities for Completing Level II ADR Documentation .....</b>	<b>14</b>
<b>3.5 Timing of Level II ADRs .....</b>	<b>14</b>
<b>3.6 Special Permit Considerations .....</b>	<b>15</b>
3.6.1 General Permits .....	15
Figure 2. Suggested process for completing a Level II Antidegradation Review (ADR). ....	16
3.6.2 §401 Certifications.....	17
3.6.3 Individual Stormwater Permits .....	18
<b>3.7 Public and Interagency Participation in ADRs .....</b>	<b>19</b>

3.7.1	Public Notification Process.....	19
3.7.2	Intergovernmental Coordination and Review.....	19
4.0	Identification of the Parameters of Concern....	20
5.0	Alternatives Analysis of Level II ADRs.....	22
<b>5.1</b>	<b>Development of a Scope of Work for Level II ADR Alternatives Analysis .....</b>	<b>22</b>
<b>5.2</b>	<b>General Considerations for Selecting Treatment Alternatives .....</b>	<b>23</b>
<b>5.3</b>	<b>Special Project-Specific Scoping Considerations .....</b>	<b>24</b>
5.3.1	Considerations for Minor Expansions to Existing Facilities	24
5.3.2	Considerations for Permit Renewals to 1C Waters .....	25
5.3.3	Considerations for new facilities or expansion of existing facilities for Discharges with Minimal Potential for Degradation of the Receiving Water .....	25
<b>5.4</b>	<b>Finalizing the Alternatives Work Plan.....</b>	<b>26</b>
<b>5.5</b>	<b>Materials to be Submitted with Alternative Analyses ..</b>	<b>26</b>
<b>5.6</b>	<b>Procedures for Evaluating the Preferred Alternative.....</b>	<b>27</b>
5.6.1	Applicant Ranking of Treatment Alternatives .....	27
5.6.2	Review and Selection of the Preferred Alternative .....	29
5.6.3	Opportunity for Public Comment and Review of the Preferred Alternative.....	30
6.0	Implementation Procedures for Development of a Statement of Social, Environmental, and Economic Importance (SEEI) .....	31
<b>6.1</b>	<b>Regulatory Framework.....</b>	<b>31</b>
<b>6.2</b>	<b>Important Considerations in developing SEEs .....</b>	<b>32</b>
6.2.1	Effects on Public Need/Social Services.....	33
6.2.2	Effects on Public Health/Safety .....	33
6.2.3.	Effect on Quality of Life .....	33
6.2.4.	Effect on Employment .....	33
6.2.5	Effect on Tax Revenues .....	34
6.2.6	Effect on Tourism .....	34
6.2.7	Preservation of assimilative capacity .....	34
6.2.8	Other Factors .....	34
<b>6.3</b>	<b>Review and Approval of SEEs.....</b>	<b>34</b>
<b>6.4</b>	<b>Public Comment Procedures.....</b>	<b>34</b>

## 1.0 Introduction

The central goals of the Clean Water Act and the Utah Water Quality Act are to protect, maintain, and restore the quality of Utah's waters. One way in which this is accomplished is through Utah's water quality standards, which consist of: 1) designated uses (e.g., aquatic life, drinking water, recreation), 2) water quality criteria (both numeric and narrative), and 3) antidegradation policy and procedures. The intent of the antidegradation component of our standards is to protect existing uses and to maintain high quality waters. Our water quality criteria create a floor below which uses become impaired, whereas our antidegradation policy protects water quality in waters where the quality is already better than the criteria.

Utah's antidegradation policy (UAC R317-2-3) does not prohibit degradation of water quality, unless the Water Quality Board has previously considered the water to be of exceptional recreational or ecological significance (Category 1 or Category 2 waters). Instead the policy creates a series of rules that together ensure that when degradation of water quality is necessary for social and economic development, every feasible option to minimize degradation is explored. Also, the policy requires that alternative management options and the environmental and socioeconomic benefits of proposed projects are made available to concerned stakeholders.

This document provides the implementation procedures for Utah's antidegradation rules. Utah's Division of Water Quality (hereafter DWQ) is required by Federal Code (40 CFR §131.12(a)) to develop an antidegradation policy and implementation procedures. These procedures and associated rules (UAC R317-2-3) meet these requirements. The implementation procedures discussed in this document were developed in a collaborative process among stakeholders to identify procedures that would meet the intent of antidegradation rules, while avoiding unnecessary regulatory burdens. This first draft of implementation procedures focuses on Utah Pollution Discharge Elimination System (UPDES) permits except for general permits. General permits must meet ADR requirements and implementation procedures for general permits will be forthcoming in future drafts of this **guidance**.

**Comment [A1]:** This draft seems to take a reasonable initial approach to general permit issuance but as indicated below, the section on general permits needs to be clarified and simplified consistent with the antidegradation rules.

## 2.0 The Antidegradation Process

Antidegradation reviews (ADRs) are required, as part of the permitting process, for any action that has the potential to degrade water quality.

Activities subject to ADRs include any activities that require a permit or water quality certification pursuant to federal law. The ADR process involves: 1) classification of surface waters into protection categories, and 2) documenting that activities likely to degrade water quality are necessary and that all State and Federal procedures have been followed to ensure that reasonable steps are taken to minimize degradation.

The overarching goal of ADRs is summarized in rule R317.2.3.1 as follows:

*“Waters whose existing quality is better than the established standards for the designated uses will be maintained at high quality unless it is determined by the Board, after appropriate intergovernmental coordination and public participation in concert with the Utah continuing planning process, allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. However, existing instream water uses shall be maintained and protected. No water quality degradation is allowable which would interfere with or become injurious to existing instream water uses.”*

## **2.1 Assigning Protection Categories**

Utah’s surface waters are assigned to one of three protection categories that prescribe generally permissible water quality actions. These levels of protection are determined by their existing biological, chemical and physical integrity, and by the interest of stakeholders in protecting current conditions. Antidegradation procedures are differentially applied to each of these protection categories on a parameter-by-parameter basis.

### **2.1.1 Category 1 Waters**

Category 1 waters (as listed in R317-2-12.1) are afforded the highest level of protection from activities that are likely to degrade water quality. This category is reserved for waters of exceptional recreation or ecological significance, or that have other qualities that warrant exceptional protection. Once a waterbody is assigned Category 1 protection, future discharges of wastewater into these waters are not permitted. However, permits may be granted for other activities (e.g., road construction, dam maintenance) if it can be shown that water quality effects will be temporary and that all appropriate Best Management Practices (BMPs) have been implemented to minimize degradation of these waters.

### 2.1.2 Category 2 Waters

Category 2 waters (as listed in R317-2-12.2) are also afforded a high level of protection, but discharges to these waters are permissible, provided no degradation of water quality will occur. In practice, this means that all wastewater parameters should be at or below background concentrations of the receiving water or the pollution will be temporary and best management practices can be used to minimize pollution effects. As a result of this stipulation, the Level I and Level II ADR provisions discussed in these implementation procedures are not required for Category 2 waters.

**Comment [A2]:** Note: without this language the Category 2 guidance would be more stringent than that for Category 1. In fact, Category 1 rules establish “[p]rojects such as, but not limited to, construction of dams or roads will be considered where pollution will result only during the actual construction activity, and where best management practices will be employed to minimize pollution effects.” R317-2-3.2. The Category 2 program tracks Category 1 and also allows for certain point source discharges. See notes below on possible rule revision to Category 1 approach that eliminates prohibition on discharges.

### 2.1.3 Category 3 Waters

All surface waters of the State are Category 3 waters unless otherwise designated as category 1 or 2 in UAC R317-2-12. Discharges that degrade water quality are permitted for Category 3 waters provided that 1) existing uses are protected, 2) the degradation is necessary, 3) the activity supports important social or economic development in the area where the waters are located, and 4) all statutory and regulatory requirements are met in the area of the discharge. Antidegradation rules also apply for any proposed new or expanded discharge that is likely to degrade water quality. ADRs require that these proposed actions demonstrate that such proposed projects are necessary to accommodate social and economic development, and that all reasonable alternatives to minimize degradation of water quality have been explored. These implementation procedures provide details about how ADRs are implemented to meet these requirements.

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## 2.2 Procedures for Assigning Protection Categories

The intent of Category 1 and Category 2 protection classes is to protect high quality waters. Any person or DWQ may nominate a surface water to be afforded Category 1 or 2 protections by submitting a request to the Executive Secretary of the Water Quality Board. DWQ generally considers nominations during the triennial review of surface water quality standards. The nominating party has the burden of establishing the basis for reclassification of surface waters, although DWQ may assist, where feasible, with data collection and compilation activities.

**Comment [A3]:** The law provides that the Board has the authority to classify waters. These provisions don't change that authority but formalize a nomination approach that is generally consistent with current practice.

### 2.2.1 Material to Include with a Nomination

The nomination may include a map and description of the surface water; a statement in support of the nomination, including specific

**Comment [A4]:** The guidance should clarify the same sorts of data requirements apply to nominating Category 1 and 2 waters as for designating impaired waters listings.

reference to the applicable criteria for unique water classification, and available, relevant and recent water quality or biological data.

### **2.2.2 Considerations for Appropriate Data and Information to Include with Nominations to Increase Protection of Surface Waters**

The Water Quality Board may reclassify a waterbody to a more protected class, following appropriate public comment. Evidence provided to substantiate any of the following justifications that a waterbody warrants greater protection may be used to evaluate the request:

- The location of the surface water with respect to protections already afforded to waters (e.g. on federal lands such as national parks or national wildlife refuges).
- The ecological value of the surface water (e.g., biological diversity, or the presence of threatened, endangered, or endemic species)
- Water quality superior to other similar waters in surrounding locales.
- The surface water is of exceptional recreational or ecological significance because of its unique attributes (e.g., Blue Ribbon Fishery)
- The surface water is highly aesthetic or important for recreation and tourism.
- The surface water has significant archeological, cultural, or scientific importance.
- The surface water provides a special educational opportunity.
- Any other factors the Executive Secretary considers relevant as demonstrating the surface water's value as a resource.

The final reclassification decision will be based on all relevant information (as determined by DWQ) submitted to or developed by DWQ.

### **2.2.3 Considerations for Appropriate Data and Information for Consideration to Decrease Protection of Surface Waters**

The intent of Category 1 and Category 2 protections is to prevent future degradation of water quality. As a result, downgrades to surface water protection classes are rare. However, exceptional circumstances may exist where downgrades may be permitted to accommodate a particular project. For instance, in Utah most surface

waters in the upper portions of National Forests are afforded Category 1 protection, which may not be appropriate in specific circumstances. Project proponents may request a classification with lower protection; however, it is their responsibility to provide sufficient justification. Examples of situations where a reclassification with less stringent protections might be appropriate follow:

- Failure to complete the project will result in significant and widespread economic harm.
- Situations where the surface water was improperly classified as a Category 1 or Category 2 water because the surface water is not a high quality water (as defined by the criteria outlined in 2.2.3).
- Water quality is more threatened by not permitting a discharge (e.g., septic systems vs. centralized water treatment).

**Comment [A5]:** Note that EPA suggests (April 26, 2010 comments) that Utah may be able to eliminate the prohibition on discharges to Cat. 1 waters because 40 CFR 131.12(a)(2) requires only that water quality in these waters be maintained (not that all discharges be precluded). The suggestion makes sense; DWQ could consider the approach as part of the 2011 triennial review rulemaking.

Requests for downgrades to protection should provide the most complete and comprehensive rationale that is feasible. The request for a reduction in protection may also be considered in concert with the alternatives evaluated through an accompanying Level II ADR. Proposed projects may require more stringent protections that may not be considered feasible elsewhere to ensure protection of high quality waters.

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**Comment [A6]:** Use of term “may” because isn’t it possible the request could come without the context of a Level II ADR? E.g., discharge exempted from Level II ADR because temporary and limited?

**Comment [A7]:** May need to clarify this sentence.

#### 2.2.4 Public Comment Process for Proposed Reclassifications

All data and information submitted in support of reclassification will be made part of the public record. In addition to public comment, the DWQ will hold at least one public meeting in the area near the nominated water. If the issues related to reclassification are regional or statewide in nature or of broader public interest, the Division will consider requests for public meetings in other locations. Comments received during this meeting will be compiled and considered along with the information submitted with the nomination will be submitted to appropriate local planning agencies.

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**Comment [A8]:** As noted above, reclassification should be based on an assessment of data subject to appropriate quality control, e.g., similar to the minimum data requirements identified in the listing methodology for impaired waters. It would seem that there ought to be the same sort of rigor applied to reclassifying waters from an antidegradation perspective.

#### 2.2.5 Reclassification Decision Making Process

The final reclassification decision will be based on all relevant information submitted to or developed by the DWQ. All data will be presented and discussed with the Water Quality Standards Workgroup. DWQ then submits its recommendations regarding reclassifications to the Water Quality Board who makes a formal decision about whether to proceed with rulemaking to reclassify the waterbody. The proposed

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**Comment [A9]:** Seeking further clarification that the decision (regarding which reclassification requests should be forwarded to the Board) is DWQ’s.

reclassification is a rule change, and as such will trigger normal public notice and comment procedures.

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## **3.0 Antidegradation Review General Procedures**

### ***3.1 Overview of Antidegradation Review Procedures***

ADR reviews for Category 3 waters are conducted at two levels, which are referenced in R317-2-3 as Level I and Level II reviews. Figure 1 provides an overview of the overall ADR process.

Level I reviews are intended to ensure that proposed actions will not impair "existing uses". Level II ADRs assure that degradation is necessary and that the proposed activity is economically and socially important. Level II ADRs are required for any activity that is not temporary and limited in nature and is likely to result in degradation of water quality. The central tenet of these reviews is to ensure that the discharge is necessary, water quality standards will not be violated, and that alternatives to minimize degradation are considered.

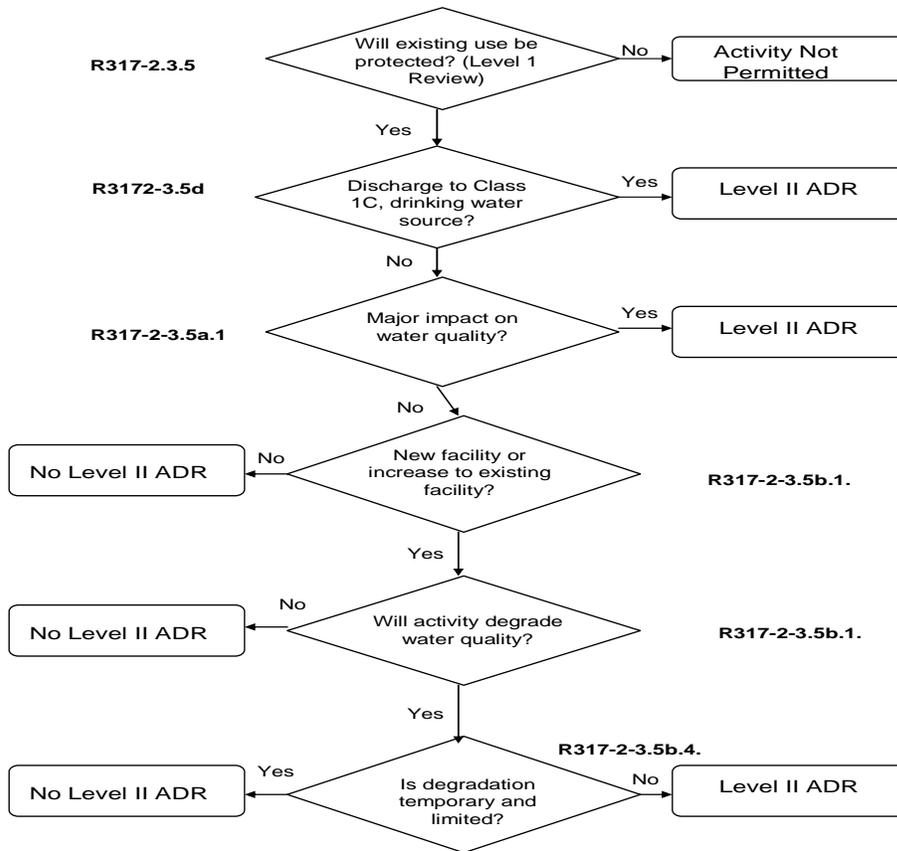
### ***3.2 Level I Antidegradation Reviews***

Level I reviews are intended to ensure that proposed actions will not impair "existing uses". Existing uses means those uses actually attained in a water body on or after November 28, 1975 (UAC R317-1), whether or not they are included in the water quality standards. For instance, if a stream currently only contains warm water fish species, whereas it supported a trout fishery at some point after 1975, the "existing use" criteria would be those for Class 3a (cold water fish and organisms in their necessary food chain).

Neither State nor federal regulations permit impairment of an existing instream use, and the Level I review simply asks whether there are existing uses with protection requirements that are more stringent than the currently designated uses (R317-2-13). DWQ is currently unaware of any discrepancies between the existing uses and the designated beneficial use classes in R317-2-6.

Water quality permits will not be issued if the proposed project will impair existing uses.

DWQ staff conduct Level I reviews as the first step in any permitting action by comparing the concentration predicted by the waste load analyses after mixing to the water criterion for the designated uses (R317-2-13) and more restrictive existing uses. The permit applicant is responsible for submitting adequate data for DWQ to conduct the Level I ADR. More information and permit applications are available at [http://www.waterquality.utah.gov/UPDES/updes\\_f.htm](http://www.waterquality.utah.gov/UPDES/updes_f.htm) .



**Comment [A10]:** The reference to “increase in existing facility” is potentially confusing. The language should be clarified to state that a Level II ADR requirement only applies to changes to (increases in) concentration/loading in the effluent discharge, not to any level of physical expansion. For example, there could be no change in any constituent concentration or load despite an increase in facility size/design. The Level II ADR requirement would not apply to that situation.

**Figure 1.** The general process for determining whether a Level II review is required for DWQ UPDES permit. Special considerations for other permits are discussed in Section 3.6 of this guidance document.

### 3.3 Level II Antidegradation Reviews

A Level II ADR is required if the receiving water is designated with a 1C Drinking Water Source Use or the Executive Secretary determines that the discharge may have a major impact on water quality. Otherwise, all of the following conditions must apply before a Level II ADR is required for a proposed activity: 1) it must be a new or expanded action, 2) it must be an action that is regulated by the DWQ, and 3) the action must have a reasonable likelihood of degrading water quality. Additional details for each of the preceding requirements are provided below.

**Comment [A11]: IMPORTANT CLARIFICATION:** If a new ADR can be required whenever a new treatment option becomes available, the process is replete with uncertainty and inconsistent with the regulations that limit the ADR to circumstances associated with new or increased discharges.

**Deleted:** The Executive Secretary may require an updated ADR if an ADR was previously conducted for a major impact discharge but e.g., a proven feasible treatment method that was not previously considered has the potential to significantly reduce the degradation.

#### 3.3.1 Activities that are Considered to be New or Expanded Actions

New actions refer to facilities that are being proposed for construction, or actions that are initiated for the first time. Expanded refers to a change in permitted or design concentration or flow and corresponding pollutant loading. In general, Level II ADRs will be conducted based on the design basis of the facility, so subsequent Level II reviews would typically occur during facility planning and design for construction. Periods when treatment systems are being designed, redesigned, or expanded are often ideal opportunities for implementing new technologies or evaluating long-term strategies for pollution control. The intent of this provision is that any level of physical expansion would qualify an action for a Level II ADR.

**Comment [A12]: IMPORTANT CLARIFICATION:** If a new limit is added to a permit (e.g., newly promulgated standard) but there is no corresponding change in load/concentration of that constituent in an existing discharge, the Level I ADR should suffice. Compare with Section 3.3.3.c (which appears to echo information provided by EPA in January, 2010).

**Deleted:** This includes limits added to the permit for the first time.

#### 3.3.2 Actions Regulated by the DWQ

Activities subject to ADR requirement include all activities that require a permit or certification under the Clean Water Act. Special considerations for General Permits, §401 Certifications, and Stormwater Permits are provided below.

**Comment [A13]:** See comments below on organization of 401 certification section. Notably, UPDES permits include storm water permits.

#### 3.3.3 Activities that are not Considered to Result in Degradation

Level II ADRs are not required for projects that are not likely to result in degradation of the receiving water. A regulated discharge activity may not be considered to result in degradation if:

- Water quality will not be further degraded by the proposed activity (R317-2-3.5b(1)). Examples include:
  - a. The proposed concentration-based effluent limit is less than or equal to the ambient concentration in the receiving water during critical conditions; or

- b. A UPDES permit is being renewed and the proposed effluent concentration and loading limits are equal to or less than the concentration and loading limits in the previous permit; or
- c. A UPDES permit is being renewed and new effluent limits are to be added to the permit, but the new effluent limits are based on maintaining or improving upon effluent concentrations and loads that have been observed, including variability; or
- d. A new or renewed UPDES permit is being issued, and water quality-based effluent limits are not required for a specific pollutant because it has been determined that the discharge will not cause, have reasonable potential to cause, or contribute to an exceedance of a State water quality standard for the pollutant. To avoid inadvertently authorizing degradation without conducting an ADR, DWQ will develop criteria in future iterations of this guidance that will identify when these pollutants may be degrading water quality.
  - The activity will result in only temporary and limited degradation of water quality (see Section 3.3.4); or
  - Additional treatment is added to an existing discharge and the facility retains their current permit limits and design capacity; or
  - The activity is a thermal discharge that has been approved through a Clean Water Act §316(a) demonstration.

**Comment [A14]:** This makes sense. See notes above regarding conforming 3.3.1. to this concept.

**Comment [A15]:** What does this mean? Right now, a discharge will be evaluated with a Level 1 ADR, i.e., wasteload analyses are assessed based on the concentration of the constituent after mixing and compared to the water quality criterion. EPA maintains that even if no RP, there could be an increase in a "pollutant" above background and that should be evaluated. The proper response should maintain that if there is no change in a facility's discharge, it is presumed that no Level II is required for any parameter (as provided for in the off-ramp provisions) for a renewed permit. A new permit ADR Level 1 will assess constituents of concern; it is presumed those constituents reflect the constituents to be considered for ADR purposes.

### 3.3.4 Activities that are Considered to be Temporary and Limited

A level II review may not be required if the Executive Secretary determines degradation from a discharge qualifies as temporary and limited following a review of information provided by the applicant (R317-2-3.5b(3) and (4)). The information provided by applicant should include:

- length of time during which water quality will be lowered. As a general rule of thumb, temporary means days or months not years;
- percent change in ambient conditions;
- pollutants affected;

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- likelihood for long-term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments);
- whether fish spawning, or survival and development of aquatic fauna will be affected (excluding fish removal efforts);
- degree to which achieving the applicable Water Quality Standards during the proposed activity may be at risk; and
- potential for any residual long-term influences on existing uses.

U.S. Fish and Wildlife Service and the Utah Division of Wildlife Resources should be consulted to determine if the timing of the project potentially will affect fish spawning. Clean Water Act Section 402 general permits, CWA Section 404 nationwide and general permits, or activities of short duration may be deemed to have temporary and limited effects on water quality. See Section 3.6 for additional detail.

### ***3.4 Responsibilities for Completing Level II ADR Documentation***

Early and frequent communication should occur between applicants and DWQ staff. The applicant is responsible for compiling the information required for the selection of Parameters of Concern (Section 4.0), Alternatives Analysis (Section 5.0), and the Statement of Environmental, Social, or Economic Development (Section 6.0) and selecting the preferred option. The applicant is also responsible for recommending the parameters of concern and the preferred alternative to DWQ. However, DWQ staff will assist where possible and provide timely comments to draft material to avoid delays in the permitting process. Much of this information is compiled for other purposes such as a Facility Plan. The suggested process for conducting Level II ADRs is shown in Figure 2.

### ***3.5 Timing of Level II ADRs***

ADR issues should be considered as early in the permitting or design process as possible. Properly timed Level II ADRs are the most efficient use of time and resources. For instance, many discharges already consider many of the requirements of Level II alternative analyses (Section 5.0) while planning for construction of new facilities or upgrades/expansion to existing facilities. Early planning also allows time to develop an optional work plan which clearly defines a scope of work for developing alternatives. The work plan minimizes miscommunication between DWQ staff and applicants and documents decision points critical to the ADR. The work plan may be put out for public comment, at the applicant's discretion, so that stakeholder

concerns can be addressed early in the process, which is much easier and less time consuming than addressing concerns at the end of the permitting process. Finally, early notification provides sufficient time for the DWQ and applicants to work together to ensure that sufficient data are available to generate defensible permit limits.

The DWQ suggests that whenever possible applicants initiate ADR processes one year or longer prior to the desired date of a permit. The actual time required to complete the ADR is dependent on the complexity of the ADR.

### **3.6 Special Permit Considerations**

Most of the implementation procedures discussed in this document are clearly applicable to UPDES permitting procedures. However, the DWQ also issues other types of permits, which have special ADR considerations.

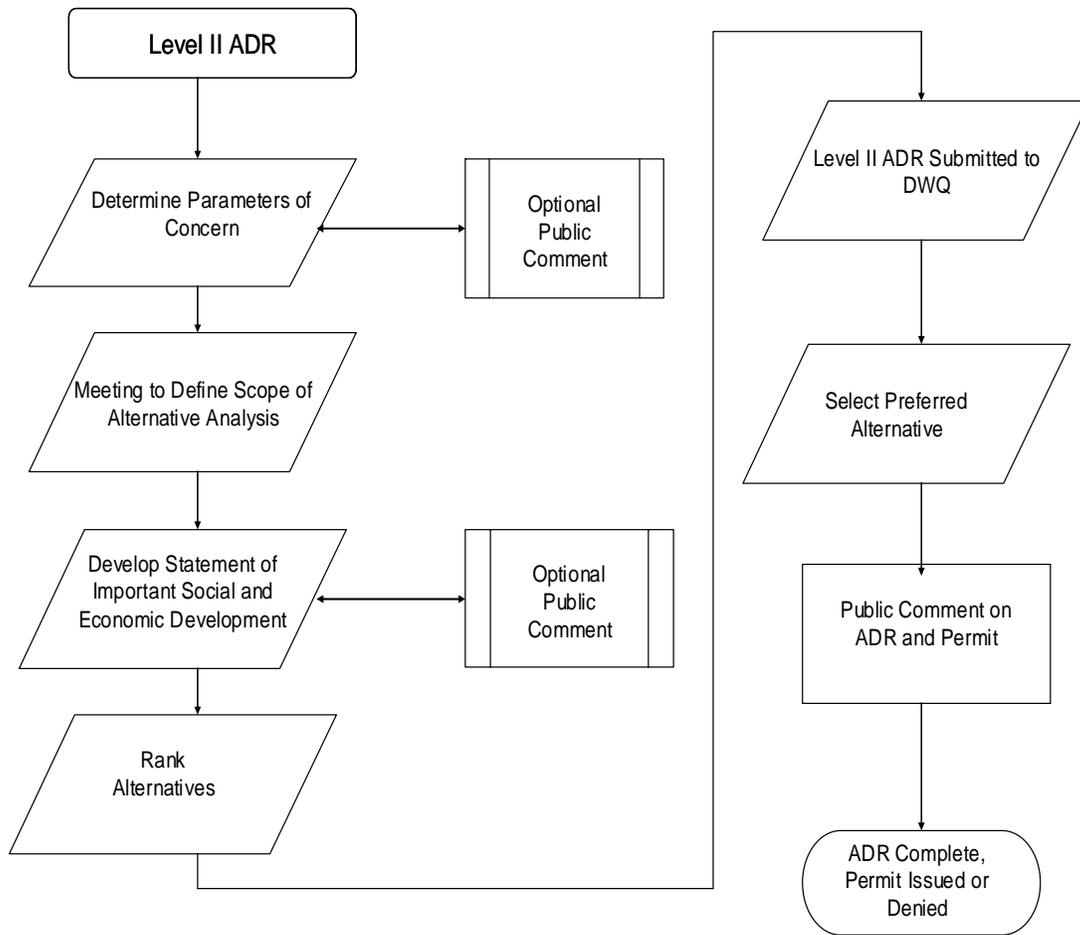
#### **3.6.1 General Permits**

A number of discharges to surface waters are authorized under general UPDES permits issued by the DWQ:

- Animal Feeding Operations (AFOs),
- Construction dewatering or hydrostatic testing,
- Municipal stormwater,
- Industrial stormwater,
- Drinking water treatment plants, Private on-site wastewater treatment systems
- Stream alteration permits,
- Construction sites one acre or larger,
- Coal mining operations and,
- Discharge of treated groundwater.

**Deleted:** treatment

**Comment [A16]:** This is not a UPDES permit and not issued by DWQ. This permit ought to be identified under the 401 section?



**Figure 2.** Suggested process for completing a Level II Antidegradation Review (ADR).

The Executive Secretary will determine the need for a Level II ADR for General Permits on a case-by-case basis until this implementation guidance is updated to fully address General Permits. New and reissued General Permits may require evaluation of the potential for degradation as a result of the permitted discharges. DWQ anticipates expanding and revising the ADR guidance for general permits in future iterations.

**Comment [A17]:** Seems like there needs to be more definitive statement concluding that the currently effective and most anticipated general permits do/would not trigger ADR Level II. See Utah Admin. R317-8-3.5c (indicating that general permits are presumed to have a temporary and limited effect on water quality and therefore are exempted from a Level II ADR). Utah's rules give DWQ additional foundation to maintain that general permits are off-ramped if there is "factual basis" to support such an assessment. The guidance ought to also clarify that ADR is evaluated at general permit issuance and not with respect to each individual activity being covered by a general permit.

### 3.6.2 §401 Certifications

Section 404 of the Clean Water Act regulates the placement of dredged or fill material into the "waters of the United States." The U.S. Army Corps of Engineers (Corps) administers the §404 permit program dealing with these activities (e.g., wetland fills, in-stream sand/gravel work, etc.) in cooperation with the EPA and in consultation with other public agencies.

**Comment [A18]:** Consider possible alternative organization. For example this section could have different categories of authorizations by DWQ identified separately under the 401 certification section, e.g., 404 NWP's (exempted from Level II ADR, see notes above); regional general 404 permits (exempted from Level II ADR, see notes above); individual 404 permits (evaluate Level II ADR but assess availability of off-ramps and use 404(b)(1) and related Corps' documentation as evidence for Level II ADR finding). It is critical that the 404(b)(1) analysis documenting the basis for the Corps' individual permit issuance be identified as the basis for DWQ's ADR analysis.

DWQ participates with the Resource Development Coordinating Committee (RDCC) which is a clearinghouse for information on activities affecting state and public lands which includes all waters of the state. Utah Code Title 19 Chapter 05??? Section 102 defines waters of the state as all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs. The RDCC includes representatives from the state agencies that are generally involved or impacted by state and public lands management. Utah Code (63J-4-501 *et seq.*) instructs the RDCC to coordinate the review of technical and policy actions that may affect the physical resources of the state and facilitate the exchange of information on those actions among federal, state, and local government agencies.

**Comment [A19]:** Seems unnecessary to try and define scope of 404 program in this context.

In order to ensure that antidegradation and other water quality protection requirements are considered, reviewed and met in a comprehensive and efficient manner (consistent with the RDCC approach), the requirements will be addressed and implemented through the permitting and §401 water quality certification processes. Under this approach, applicants who fulfill the terms and conditions of applicable §404 permits and the terms and conditions of the corresponding §401 water quality certification will have fulfilled the antidegradation requirements. Additional antidegradation considerations may be incorporated into §404 permits and the corresponding §401 certifications at the time of permit issuance at the discretion of the Executive Secretary.

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**Deleted:** including small streams and wetlands adjacent or connected to "waters of the United States

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For minor activities covered under §404 general permits (e.g., road culvert installation, utility line activities, bank stabilization, and other activities covered by NWRPs and regional general permits), antidegradation requirements will be deemed to be met if all appropriate and reasonable BMPs related to erosion and sediment control, project stabilization and prevention of water quality degradation (e.g., preserving vegetation, stream bank stability and basic drainage) are applied and maintained. Applicants desiring to fulfill ADR requirements under this approach will be responsible for ensuring that permit requirements and relevant water quality certification conditions are met.

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Utah manages its §401 water quality certification program to ensure that the placement of dredged or fill material into surface waters do not create any long-term unmitigated water quality impairments or significant degradation of surface waters. Under the BMP-based approach adopted by Utah, regulated activities for which mitigation has been certified by the state pursuant to §401 of the Clean Water Act will not be required to undergo a separate Level II review.

### 3.6.3 Individual Stormwater Permits

Comment [A20]: Shouldn't this section be amended to address all stormwater permits rather than just MS4s?

Urban areas with populations greater than 100,000 based on the 1990 census (Phase I MS4 communities) were required to apply for an individual UPDES storm water permit. Urban areas with populations determined from 2000 census data are considered Phase II MS4 communities. Storm water discharges from Phase II MS4s are authorized by individual or general UPDES storm water permits. However, neither Phase I or Phase II MS4s authorized under individual storm water permits are required to meet the same antidegradation requirements that apply to other individual UPDES permits outlined in Section 3.3.1.

Comment [A21]: This is confusing. Does it apply to MS4s and other individual storm water permittees?

ADRs for individual UPDES storm water permits will be based on an adaptive management approach. This approach may include routine monitoring of storm water quality or the qualitative assessment of BMPs at representative outfalls to adequately characterize storm water discharges. The permittee will then evaluate whether storm water quality is being maintained, improving, or degrading and whether best-management-practices (BMPs) identified in the permittee storm water pollution prevention plan are effective at controlling the discharge of pollutants. Future ADRs of individual UPDES storm water permits will consist of an analysis of the effectiveness of the BMPs and compliance with the requirements of the storm water permit.

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Comment [A22]: Why repeat this? Should there be a general statement that compliance with the terms of the individual storm water permit (or individual permit provisions related to storm water) constitutes compliance with the ADR requirements? Storm water should typically be exempt from Level II ADR review because its impacts are generally temporary and limited.

### **3.7 Public and Interagency Participation in ADRs**

Public participation is an important part of the ADR process. Public notice of antidegradation review findings, solicitations of public comment and maintenance of antidegradation review documents as part of the public record help ensure that interested parties can be engaged and involved throughout the review process. In addition, intergovernmental coordination and review is required prior to any action that allows degradation of water quality in a surface water.

#### **3.7.1 Public Notification Process**

Ultimately, the completed ADR and associated documentation will be made available for public comment through the processes required for UPDES permits. However, the applicant may opt for earlier reviews upon completion of a work plan that defines the parameters of concern and the alternatives to be considered for the Level II ADR alternatives analysis. The primary purpose of these optional early reviews is to identify stakeholder project concerns early in the permitting process. If an early review is conducted, concerned members of the public should use this work plan comment period to identify general concerns with the proposed activity, additional parameters of concern that warrant consideration, or additional treatment alternatives that should be considered.

#### **3.7.2 Intergovernmental Coordination and Review**

Intergovernmental coordination is required prior to approving a regulated activity that would degrade a surface water. This coordination will be conducted at a level deemed appropriate by the Executive Secretary and will include any governmental agency requesting involvement with the ADR.

**Comment [A23]:** Isn't this redundant with the RDCC paragraph identified above?

## 4.0 Identification of the Parameters of Concern

Parameters of concern are a measured characteristic of the discharge that will be evaluated in the Level II ADR. Only parameters in the discharge that exceed, or potentially exceed, ambient concentrations (and the currently permitted loads or design) should be considered in selecting the parameters of concern. The initial starting point should be the priority pollutants (EPA Form 2c <http://www.waterquality.utah.gov/UPDES/EPAForm2C.pdf>), but other parameters may be added or removed depending on the nature of the proposed project and the characteristics of the receiving water. The following are considerations for selecting parameters of concern:

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1. Are there any parameters in the effluent or expected to be in the effluent that exceed ambient concentrations in the receiving water? In some cases, the applicant may elect to collect water quality data to reduce uncertainty and assist DWQ in determining existing ambient concentrations.
2. Is the parameter already included in an existing permit?
3. Are parameter concentrations and/or loads exceeding or projected to exceed the current permitted load or design basis?
4. Are there any parameters that are considered to be important by DWQ or the general public? For instance, nutrients may be of concern for some surface waters. For discharges to Class 1C drinking water sources, any substances potentially deleterious to human health should be considered.
5. Are there parameters in the effluent that are known to potentially degrade the designated conditions of the receiving water?

The applicant should review all available data, from the discharge and the receiving water, and prepare a list of parameters which will be evaluated. The list of parameters of concern and supporting rationale should be submitted to DWQ. DWQ will review the list and provide preliminary approval pending public comment. Meetings between the

applicant and DWQ ~~are~~ anticipated to be the most efficient way to resolve differences regarding parameters to be ~~considered in~~ the ADR.

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Once the list of parameters of concern has been agreed to between DWQ and the applicant, the list could be made available to the public by DWQ for an optional comment period (see Section 3.5). After a 30-day comment period, the list may be refined or approved. This list and associated rankings will form the basis for further activities of the ADR and will ultimately be used to select the least degrading project alternative (Section 5).

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## 5.0 Alternatives Analysis of Level II ADRs

As the name suggests, the alternatives analysis requires, to the extent feasible, documentation of the costs and environmental benefits of alternative treatment options. The purpose of an alternatives analysis is to identify the reasonable less degrading alternatives for projects that are determined to have economic and social importance (Section 6.0).

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Comment [A24]: Language of rules. R317-2-3.5c. It isn't a 404(b)(1) analysis.

### 5.1 Development of a Scope of Work for Level II ADR Alternatives Analysis

The intent of this section is to provide a collaborative process to define a scope of work for a Level II review which allows for analysis and document preparation.

The first suggested step in the scoping process will be to convene a meeting between the applicant, project consultants, and DWQ to review the requirements found in R317-2-3.5 as shown below:

***“For proposed UPDES permitted discharges, the following list of alternatives should be considered, evaluated and implemented to the extent feasible:***

- (a) innovative or alternative treatment options***
- (b) more effective treatment options or higher treatment levels***
- (c) connection to other wastewater treatment facilities***
- (d) process changes or product or raw material substitution***
- (e) seasonal or controlled discharge options to minimize discharging during critical water quality periods***
- (f) pollutant trading***
- (g) water conservation***
- (h) water recycle and reuse***
- (i) alternative discharge locations or alternative receiving waters***
- (j) land application***
- (k) total containment***
- (l) improved operation and maintenance of existing treatment systems***
- (m) other appropriate alternatives...***

***An option more costly than the cheapest alternative may have to be implemented if a substantial benefit to the stream can be realized. Alternatives would generally be considered feasible where costs are no more than 20%***

*higher than the cost of the discharging alternative, and (for POTWs) where the projected per connection service fees are not greater than 1.4% of MAGI (median adjusted gross household income), the current affordability criterion now being used by the Water Quality Board in the wastewater revolving loan program. Alternatives within these cost ranges should be carefully considered by the discharger. Where State financing is appropriate, a financial assistance package may be influenced by this evaluation, i.e., a less polluting alternative may receive a more favorable funding arrangement in order to make it a more financially attractive alternative."*

## **5.2 General Considerations for Selecting Treatment Alternatives**

For many projects, the Facility Plan documents the selection of the preferred treatment option and may be sufficient to meet the alternatives analysis requirement of the ADR depending on the specific parameters of concern. The following guidelines should be considered when defining the scope of work for the alternatives analysis:

1. The feasibility of all alternatives should be examined before inclusion in the options to be reviewed. If an option is not feasible, it should not be considered. As an example, before pollutant trading is considered, willing partners in such trading should be identified or the potential for trading should exist.
2. Innovative or alternative treatment options should be limited to proven or successfully piloted processes.
3. The treatment options subject to review should focus on those which have the greatest potential for water quality improvement for the parameters of concern. Flexibility to modify the treatment process to address potential future changes in waste streams or treatment requirements should also be considered.
4. When an instream need for the discharge water is deemed by the Executive Secretary to be of significant importance to the beneficial use (i.e., if removal of the discharge would result in a detrimental loss of stream flow), evaluation of reuse, land disposal or total containment may be unnecessary.

5. Alternatives may be ranked in order of potential for parameter reduction. Preference should be given to processes that have the greatest overall effect on water quality. Typically, these highest ranked processes will have the greatest reduction in pollutant load and affect the greatest number of parameters of concern.
6. Before improved operations and maintenance are considered as a way to prevent degradation, specific operation or maintenance activities should be identified. If Executive Secretary and the applicant agree, a third party may be used to assess potential for operations and maintenance **improvements**.

**Comment [A25]:** Not certain what this paragraph is saying??

### 5.3 Special Project-Specific Scoping Considerations

The number of alternatives to be considered and the extent of planning details for alternative analyses may depend on the nature of the facility, size of the proposed discharge, the magnitude of degradation, and the characteristics of the receiving water. This section outlines screening procedures for determining reasonable alternatives. **Reasonable alternatives, those that are** appropriately scaled to the proposed project. The alternatives specified here are guidelines and may be modified **by DWQ for specific projects provided those modifications are consistent with the antidegradation rules**.

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#### 5.3.1 Considerations for Minor Expansions to Existing Facilities

For minor expansions to existing permits, a potential exists for innovative improvements to be discouraged by extensive Level II ADR requirements. As a result, ADR alternatives to be considered for minor expansions to existing permits will generally be limited to operation and maintenance, review of construction plans, and raw material substitutions that can feasibly be implemented within the structure of the expansion proposed by the applicant. In this case, "minor" means a proposed increase (either monthly average or annual average) to an existing permitted concentration or mass limit of <10% for all previously reviewed parameters of concern, provided that the previous ADR was based on the design basis of the facility. Level II ADRs for expansions to existing facilities, should be scaled to the sizes of the expansion, which should be based on reasonable expectations for future needs (typically 20 years).

**Comment [A26]: Consider ending section here.** The following sections establish the level of detail required for minor, minimal and other "expansions." This approach seems arbitrary and potentially constraining. Doesn't it make more sense to simply let DWQ assess the situation based on the scale of the proposed project?

### 5.3.2 Considerations for Permit Renewals to 1C Waters

Level II ADRs are required for any permit renewal for a discharge into a 1C (drinking water source) receiving water (R317-2-3.5(d)). The intent of this provision is to afford a higher level of protection and review for projects that have the potential to degrade waters that are depended upon for social and economic development. However, this means that Level II ADRs are required in situations where no increases are anticipated, and there are not anticipated changes in facility operations. In such status quo permit renewals, alternatives to be considered will generally be focused on operation and maintenance, raw material substitutions, and evaluations of the potential for seasonal discharges or land disposal, unless such renewals involve construction of an expanded facilities. However, the Executive Secretary may ask a facility to evaluate new construction alternatives for renewals where costs of treating drinking water sources have increased significantly since the previous permit was issued.

### 5.3.3 Considerations for new facilities or expansion of existing facilities for Discharges with Minimal Potential for Degradation of the Receiving Water

Discharges may be considered to have a minimal impact to a receiving water if, for all parameters of concern, the concentration of the discharges pollutants is <50% of the standard, unless there is evidence that toxic pollutants with the potential to bioaccumulate or biomagnify represent a threat to human health or biological designated uses.

For new or expanded facilities, the scope and scale of Level II ADRs with minimal potential to degrade receiving waters will be considerably less than what would otherwise be required. In such situations, DWQ will recommend a more limited number (than what?) of ADR alternatives to be evaluated will be collaboratively established between DWQ and the project proponent. [How does this differ from the para. below in terms of what would be required?]

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Permit renewal ADRs for projects that do not involve construction or significant changes to plant operations, with minimal potential to degrade receiving waters will also be considerably less than would be otherwise required. In such situations DWQ will recommend, the ADR alternatives (developed with the project proponent) focus on options like: the operation and maintenance of the applicants' preferred

**Comment [A27]:** These sections suggest that there are three different Level II ADRs conducted for minor, minimal and other impacts to receiving waters. See notes above.

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**Comment [A28]:** Not sure what this is saying

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treatment option, raw material substitutions, and evaluation of the potential for seasonal discharges or land disposal.

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If a Level II review was conducted for the facility for a previous renewal, and if this previous review was based on the design basis of the facility, the applicant should submit a written statement to DWQ certifying that: 1) all alternative treatment processes remain applicable and that the applicant is not aware of alternatives that were not previously considered, 2) that reasonable alternative operation and maintenance procedures are not available that would reduce degradation of the receiving water if implemented.

Comment [A29]: Note, if no change, no ADR required as per the exemption in 3.5.b.1 and as referenced above.

### 5.4 Finalizing the Alternatives Work Plan

Once a scope of work is agreed to between DWQ and the applicant, the scope of work should be documented in a work plan. The work plan can be made available to the public and can be published on the State Public Notice website at the applicant's discretion. The scope of work may be modified in response to public comments, at the applicant's discretion. This public comment period may be held concurrent with the comment period for the parameters of concern, both of which are at the applicant's discretion.

For the optional public comment periods, DWQ can be the recipient of the comments but the applicant has the responsibility of addressing the comments. A comment response document is not required, but DWQ recommends that the applicant respond to the comments in writing. If DWQ is not the recipient of the comments, the applicant should share the comments received with DWQ in a timely manner.

Additional alternatives may be identified during the public comment period or during evaluation of the alternatives. Any possible changes to the scope to the alternatives analyses can be reviewed by the Applicant and DWQ for inclusion in the work plan as appropriate.

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### 5.5 Materials to be Submitted with Alternative Analyses

For the DWQ to fairly evaluate alternative treatments, the following information should be provided for each alternative process:

- 1) A technical description of the treatment process, including construction costs and continued operation and maintenance expenses.

- 2) The mass and concentration of discharge constituents, and a description of the discharge location.
- 3) A description of the reliability of the system.
- 4) A ranking of each alternative in terms of their relative ability to minimize degradation to the receiving water (see Section 5.6).
- 5) A ranking of each alternative as to how adaptable it would be to potentially changing regulatory requirements.

## **5.6 Procedures for Evaluating the Preferred Alternative**

### **5.6.1 Applicant Ranking of Treatment Alternatives**

The alternatives should be ranked from the least-degrading to the most-degrading alternative, as determined from the established and ranked pollutants of concern. Creating a ranked hierarchy of alternatives helps to simplify the applicant's selection of a "preferred" alternative. By ranking alternatives in this way, the applicant can avoid having to perform a detailed economic analysis on the universe of available alternatives, instead focusing efforts on only the "top" or least-degrading alternative. In a following step the applicant either selects the "top" alternative as the "preferred" alternative or conducts a more detailed review to justify eliminating that alternative from further consideration (e.g., the option would be too costly).

In many cases a less-degrading alternative will be less-degrading for all or most of the pollutants of concern, so the ranking will be straightforward. However, the applicant should identify situations in which different alternatives are more or less degrading for individual pollutants. In these cases, the applicant should identify and document its rationale regarding the alternative that – on the whole – is least-degrading. For example, alternative A might be least-degrading for TDS, but result in a more degradation than alternative B for selenium. If there were a downstream impairment for TDS, that might influence a decision that the overall least-degrading alternative in our example was alternative A. On the other hand, if there was no impairment downstream and the assimilative capacity reduction for TDS was 10

**Comment [A30]:** Again, this section should not be duplicative of other statutory requirements. For example, if the Corps has assessed alternatives under the 404(b)(1) analysis, this section of the ADR should be able to adopt that information by reference.

percent and the selenium reduction in assimilative capacity was 75 percent, the preferred alternative might be alternative B.

For more complex evaluations of alternatives, the ranking of alternatives could be based on the development of a matrix giving the weighting of each parameter of concern against each other and the rating of benefit the alternative has for the individual parameter of concern. The rankings and a description of the rationale for parameter weightings and overall rankings should be compiled and submitted to the DWQ. The following is an example rating matrix that could be used in this process:

Parameters of Concern - -> Alternatives Considered	P-1	Weight	P-2	Weight	P-3	Weight	Total
Alternative 1		%		%		%	
Alternative 2		%		%		%	
Alternative 3		%		%		%	
Alternative 4		%		%		%	
Alternative 5		%		%		%	
		100%		100%		100%	

P-1, P2, and P-3 represent parameters of concern and/or other defined issues.

Also, below is an example scale for determining the benefit of each alternative for the given parameter of concern.

Ratings:	
Minor Improvement	1
Modest Improvement	2
Reasonable Improvement	3
Good Improvement	4
Excellent Improvement	5

## 5.6.2 Review and Selection of the Preferred Alternative

The applicant will recommend the preferred alternative to DWQ. DWQ will review the ratings developed by the applicant or their consultant. The Alternatives should be listed from the one showing the most improvement to the one showing the least improvement for water quality from the scores in the matrix. The costs for each alternative should be listed with its ranking and the rankings should then be evaluated.

In determining the selected alternative, the following items should be considered and evaluated:

1. The Existing section in R-317 that govern states: "An option more costly than the cheapest alternative may have to be implemented if a substantial benefit to the stream can be realized. Alternatives would generally be considered feasible where costs are no more than 20% higher than the cost of the discharging alternative, and (for POTWs) where the projected per connection service fees are not greater than 1.4% of MAGI (median adjusted gross household income), the current affordability criterion now being used by the Water Quality Board in the wastewater revolving loan program. Alternatives within these cost ranges should be carefully considered by the discharger. Where State financing is appropriate, a financial assistance package may be influenced by this evaluation, i.e., a less polluting alternative may receive a more favorable funding arrangement in order to make it a more financially attractive alternative."
2. Alternative Operations and Maintenance (O&M) scenarios should be considered in the ranking process. An Alternative O&M scenario will generally be considered feasible if the annual cost increase is no more than 10% of the annual operating cost or 20% of the 20-year present worth whichever is less.
3. In considering alternatives, the review should consider the current zoning requirement surrounding the facility being evaluated.
4. When different alternatives have similar potential to reduce degradation of water quality, the selected alternative should also

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demonstrate that a net environmental benefit is being achieved. These more broad evaluations could include a determination of the carbon footprint the alternative has compared to the other alternatives, or other environmental benefits that may be achieved by the alternative such as the preservation on stream flow.

5. Optional mitigation projects may also be included with any selected alternative when it is deemed to be cost effective and environmentally beneficial. If the discharger includes a mitigation project with an alternative, consideration should be given to the expected net benefits to water quality of both the discharge and mitigations when ranking project alternatives.
6. The review of the selected alternative should also include factors such as reliability, maintainability, operability, sustainability, and adaptability to potentially changing discharge requirements.
7. Also included in the review should be consideration of the sensitivity of receiving water and its potential for overall improvement.

### 5.6.3 Opportunity for Public Comment and Review of the Preferred Alternative

Once the preferred alternative is selected, an optional public comment period may ~~be~~ conducted ~~through posting~~ on the DWQ website (see Section 3.6.1). If no optional reviews are conducted, the public has an opportunity to comment during the UPDES public comment period.

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## 6.0 Implementation Procedures for Development of a Statement of Social, Environmental, and Economic Importance (SEEI)

Beyond the alternatives analysis, the second key component of a Level II ADR is a Statement of Social, Environmental, and Economic Importance (SEEI). The SEEI evaluates the societal benefits of the proposed activity by documenting factors such as: employment, production, tax revenues, housing, and correction of other societal concerns (i.e., health or environmental concerns). The portion of the ADR provides the project proponent the opportunity to document that the overall benefits of the project outweigh any negative consequences to the environment. As a result, the project proponent is best served by making this portion of the ADR as thorough as possible. At a minimum this portion of the review should contain the following:

- 1) A description of the communities directly affected by the proposed project, including factors such as: Rate of employment, personal or household income, poverty level, population trends, increasing production, community tax base, etc.
- 2) An estimate of important social and economic benefits that would be realized by the project, including the number and nature of jobs created and projected tax revenues generated.
- 3) An estimate of any social and economic costs of the project, including any impacts on commercial or recreational uses.
- 4) A description of environmental benefits of the project and associated mitigation efforts (if any). For instance, if a project would result in an increase in stream flow that would provide additional habitat and a net benefit to stream biota, this benefit would be documented in this section of the review.
- 5) Documentation of local government support.

As with the Alternatives Analysis portion of the ADR, the size and scope of the SEEI should be commensurate with the size of the proposed project. Also, it is in the best interest of the project proponent to make the SEEI as thorough as possible if the project is likely to be controversial.

### 6.1 Regulatory Framework

The need for SEEIs comes from 40 CFR 131.12(a)(2), which states, "Where the quality of waters exceeds levels necessary to support fish,

**Comment [A31]:** The SEEI should, for example, be able to refer to (and adopt by reference) portions of relevant documentation, e.g., NEPA analysis, and should not be expected to duplicate the same.

shellfish, and wild life and recreation in and on the water, the quality shall be maintained and protected unless the State find, ..., that allowing lower water quality is necessary to accommodate social or economic development in the area in which the waters are located..." (emphasis added).

Accordingly, UAC R317-2-3.5(c)4 specifically calls for SEEI demonstrations:

***"Although it is recognized that any activity resulting in a discharge to surface waters will have positive and negative aspects, information must be submitted by the applicant that any discharge or increased discharge will be of economic or social importance in the area.***

***The factors addressed in such a demonstration may include, but are not limited to, the following:***

***(a) employment (i.e., increasing, maintaining, or avoiding a reduction in employment);***

***(b) increased production;***

***(c) improved community tax base;***

***(d) housing;***

***(e) correction of an environmental or public health problem; and***

***(f) other information that may be necessary to determine the social and economic importance of the proposed surface water discharge."***

## ***6.2 Important Considerations in developing SEEIs***

The DWQ anticipates that the specific information provided in the SEEI will vary depending on the nature of the project and the community or communities that will be affected by the proposed activity. Nonetheless, this section provides guidance for some of the social and economic considerations that the applicant may want to include with the SEEI portion of the Level II ADR. Many of the decisions relating to the social and economic considerations are local in

nature and the local government agencies should be consulted to determine directions that are appropriate.

The SEEI is about proving the degradation will support important social and economic development in the local area. The SEEI is not about the economic benefits to an individual or corporation. Instead, the SEEI supports an informed public discussion and decision about the pros and cons of allowing water quality degradation. If the lowering of water quality resulting from the preferred alternative is not in the overriding public interest, then a less-degrading alternative must be selected or the permit may be denied. If the lowering of water quality is found to be in the overriding public interest, this finding is documented and submitted for public comment along with the draft permit incorporating the preferred alternative.

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### **6.2.1 Effects on Public Need/Social Services**

Identify any public services, including social services that will be provided to or required of the communities in the affected area as a result of the proposed project. Explain any benefits that will be provided to enhance health/nursing care, police/fire protection, infrastructure, housing, public education, etc.

### **6.2.2 Effects on Public Health/Safety**

Identify any health and safety services that will be provided to or required of the communities in the affected area as a result of the proposed project. Explain any benefits that will be provided to enhance food/drinking water quality, control disease vectors, or to improve air quality, industrial hygiene, occupational health or public safety. One example is the construction of a central treatment plant to correct problems with failing septic systems. Another example might be removal or additions of toxic or bacteriological pollutants, which reduce life expectancy and increased illness rates.

### **6.2.3. Effect on Quality of Life**

Describe the impacts of the proposed project on the quality of life for residents of the affected area with respect to educational, cultural and recreational opportunities, daily life experience (dust, noise, traffic, etc.) and aesthetics (viewscape).

### **6.2.4. Effect on Employment**

Explain the impacts of the proposed project on employment practices in the affected area. Identify the number and type of jobs projected to be gained or lost as a result of the proposed project. Will the proposed

project improve employment or mean household income in the affected area?

### 6.2.5 Effect on Tax Revenues

Explain the impact of the proposed project on tax revenues and local or county government expenditures in the affected area. Will the project change property values or the tax status of properties? If yes, explain whether that change is a beneficial or detrimental to residents/businesses in the affected area.

### 6.2.6 Effect on Tourism

Discuss the effects the proposed project may have on the economy of the affected area by creating new or enhancing existing tourist attractions. Conversely, describe any impacts resulting from the elimination of or reduction in existing attractions.

### 6.2.7 Preservation of assimilative capacity

Review the pros and cons of preserving assimilative capacity for future industry and development. Applicants are encouraged to talk with local communities about their development plans, and should summarize the communities' position on utilizing assimilative capacity for the proposed project versus future plans or needs

### 6.2.8 Other Factors

Provide any other information that would explain why it is necessary to lower water quality to accommodate this proposed project. This category should be used to address any social or economic factors not considered above.

## 6.3 Review and Approval of SEEs

The Executive Secretary will generally consider public projects to be necessary to accommodate social and economic growth unless compelling information exists to the contrary. DWQ may consult with local and State planning and zoning agencies to determine whether or not the project is consistent with the long-term plans of affected communities. Information obtained from local planning groups may be compiled with other material obtained through the ADR process. The Executive Secretary will make a determination.

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Comment [A32]: Process defined by statute/rule.

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## 6.4 Public Comment Procedures

At a minimum the SEEI material will be submitted for public comment, along with all other Level II ADR materials, through the required public comment processes used for permit applications and

renewals. However, as described in Section 3.5, the applicant may include a cursory, or preliminary, SEEI with the work plan, because much of the information described in SEEI reports help explain the greater socioeconomic context within which the project takes place.

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