

5.4.1.1 Effluent Limits/Water Quality Based Effluent Limits/ Water Quality Review Assistance/Determining Need for a Water Quality Assistance Review

Applicability:

We have three types of water quality review assistance. 1) An **applicability review** may be completed to determine the need for a existing discharge or potential discharge activity to complete an antidegradation review for submittal to the department. These types of reviews may be infrequent but can provide reassurance to the applicant and the permit writer that the discharge requires no further water quality assistance review. 2) A **water quality review** may be done for certain upgrades such as the addition of new equipment or replacement of an existing permitted facility for which there is no new pollutant of concern or increase in receiving water body loading. These types of reviews would not require the submittal of antidegradation review by the applicant but do require a request for review that may involve the development of effluent limits. 3) The completion of a **water quality and antidegradation review (WQAR)** is done for new or expanding discharges prior to permit issuance. Expansions are defined as discharge from a facility that is increasing their dry-weather design flow. New discharge is defined as the construction of a facility that does not currently possess a National Pollution Discharge Elimination System (NPDES) permit or the addition of a new pollutant of concern in a current NPDES permit. Lastly, applicants do not submit water quality review assistance requests for renewals. All water quality-based effluent limits will be determined during the renewal process.

Content:

Our water quality review assistance (WQRA) determines and documents 1) the tier protection provided to the waterbody or pollutant of concern, 2) the amount and type of water quality degradation in the facilities discharge segment, 3) if applicable, the importance of the discharge to the community, 4) appropriate effluent limits that protect beneficial uses and existing water quality, and 5) monitoring requirements for a wastewater treatment facility. This is accomplished by examining the quality, quantity and other characteristics of the facility discharge and the water quality and flow characteristics of the receiving waters.

First, the review and comparisons of Sections 301 and 302 of the federal Clean Water Act addressing technology-based and water quality-based effluent limits, respectively, is one process followed to complete a water quality review. Portions of the effluent regulations [e.g. 10 CSR 20-7.015(8)(B)3.C.] require water quality-based effluent limits for BOD, TSS, and pH that may endanger or degrade water quality of the receiving waterbody. Similar requirements are in other sections of 10 CSR 20-7.015 as well. For toxics chemicals, USEPA regulations at 40 CFR 122.44 (d)(1)(i) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numeric water quality standard. This would be part of our water quality review for those chemicals.

Second, the other process involves the requirements of *Missouri's Antidegradation Rule and Implementation Procedure (AIP)*, which is available at: <http://www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>. The applicant should consult AIP, Section 1.B. for the process of assigning Tier Protection Levels. Both Tier 1 and 2 Reviews are conducted on a pollutant-by-pollutant basis. Outstanding national and state resource waters listed on Table D and E in the Water Quality Standards (WQS) at 10 CSR 20-

7.031 automatically are assigned Tier 3 Reviews that are conducted on a waterbody-by-waterbody basis. For reviews conducted on a pollutant-by-pollutant basis, AIP requires the new or expanded discharge either:

- 1) demonstrate that the loading is below allowed facility assimilative capacity and segment assimilative capacity (see AIP, Section II.A),
- 2) demonstrate that loading will be maintained or decreased (see AIP, Section II.A), or
- 3) assume degradation with alternative analysis (see AIP, Section II.B).

The applicant provides a completed antidegradation review with antidegradation summary forms. The WQRA request form has other instructions for the applicant to be submitted with the antidegradation review to the Permits and Engineering Section (see Other Links below).

Certain activities that are considered non-degrading of water quality do not require an antidegradation review. These activities can be found on the *No Degradation Evaluation – Conclusion of Antidegradation Review* form at <http://www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>. These activities include: Renewal without changes, Sewer extensions, CSO elimination projects, No-discharge with land application, No-discharge with subsurface irrigation, Recycle or reuse of effluent, Discharge to a regional wastewater collection and treatment system, Addition or replacement of disinfection system for an existing wastewater facility: Ultraviolet or Ozone (facility will be required to meet regulatory effluent limits for bacteria), Addition or replacement for chlorination or dechlorination disinfection system of existing facility. This form is submitted with the construction permit application. We do not require the submittal of the water quality review assistance request with the no degradation form. Note: During consultation with Water Protection Staff under the “Other” option of no degradation, a WQRA Request may be required.

Legal References:

Code of State Regulations

10CSR 20-7.015	Effluent Regulation
10CSR 20-7.031	Water Quality Standards

Code of Federal Regulations:

40 CFR 122.44(d)(1)(i)	EPA Administered Permit Programs: NPDES -Establishing limitations, standards, and other permit conditions
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Federal Clean Water Act

Sections 301	Effluent Limitations
Sections 302	Water Quality Related Effluent Limitations

Other Links:

[5.4.1.2 Requesting a WQ Review](#)

[Missouri's Antidegradation Rule and Implementation Procedure](#)

"Guidance for Water Quality and Antidegradation Review Assistance", Permits and Engineering Section, Water Pollution Control Branch, Water Protection Program (pending completion)

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