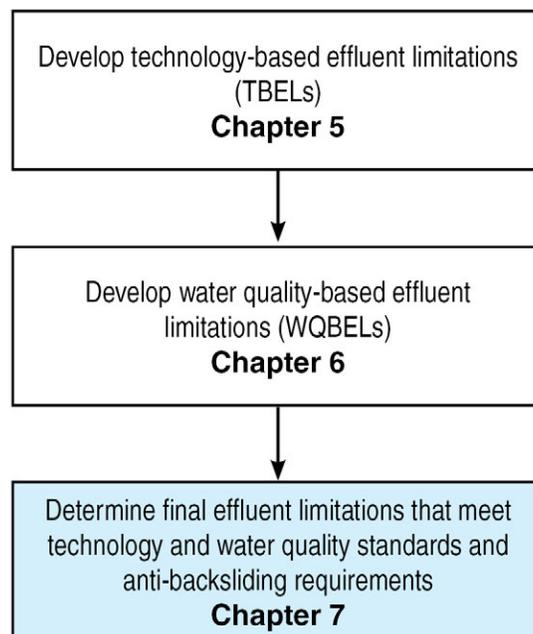


CHAPTER 7. Final Effluent Limitations and Anti-backsliding

As illustrated in Exhibit 7.1, after calculating applicable technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs), the permit writer must determine the final effluent limitations that will be included in the National Pollutant Discharge Elimination System (NPDES) permit for each pollutant or pollutant parameter. For reissued permits, that determination must also include an assessment of whether the revised effluent limitations are consistent with the Clean Water Act (CWA) requirements and NPDES regulations related to anti-backsliding.

Exhibit 7-1 Developing effluent limitations



7.1 Determining Final Effluent Limitations

When determining the final effluent limitations, the permit writer must ensure that all applicable statutory and regulatory requirements, including technology and water quality standards, are fully implemented.

- The permit writer determines the calculated limitations (TBELs, WQBELs, or some combination of the calculated limitations) that will ensure that all applicable CWA standards are met.
- As noted above, for reissued permits, if any of the limitations are less stringent than limitations on the same pollutant in the previous NPDES permit, the permit writer then conducts an anti-backsliding analysis and, if necessary, revises the limitations accordingly. A detailed discussion of the anti-backsliding provisions of the CWA and the NPDES regulations is included below in Section 7.2.

In addition, the permit writer should clearly explain in the fact sheet for the permit how the final limitations in the permit were determined and how those limitations meet both technology and water quality standards (including antidegradation) and, where appropriate, how an anti-backsliding analysis was applied to the final effluent limitations.

7.2 Applying Anti-backsliding Requirements

As noted in Section 7.1, after selecting the calculated effluent limitations for a pollutant that ensure that all CWA standards are met, the permit writer applies anti-backsliding requirements, as necessary, to determine the final effluent limitations. In general, the term anti-backsliding refers to statutory and regulatory provisions that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards less stringent than those established in the previous permit. There are, however, exceptions to the prohibition, and determining the applicability and circumstances of the exceptions requires familiarity with both the statutory and regulatory provisions that address anti-backsliding.

7.2.1 Anti-backsliding Statutory Provisions

Clean Water Act (CWA) section 402(o) expressly prohibits backsliding from certain existing effluent limitations. CWA section 402(o) consists of three main parts: (1) a prohibition on specific forms of backsliding, (2) exceptions to the prohibition, and (3) a *safety clause* that provides an absolute limitation on backsliding.

7.2.1.1 Statutory Prohibition Against Backsliding

First, CWA section 402(o)(1) prohibits the relaxation of effluent limitations for two situations:

- To revise an existing TBEL that was developed on a case-by-case basis using best professional judgment (BPJ) to reflect subsequently promulgated effluent limitations guidelines and standards (effluent guidelines) that would result in a less stringent effluent limitation.
- Relaxation of an effluent limitation that is based on state standards, such as water quality standards or treatment standards, unless the change is consistent with CWA section 303(d)(4). Section 303(d)(4) may be applied independently of section 402(o).

The prohibition against relaxation of effluent limitations is subject to the exceptions in CWA section 402(o)(2) and, for limitations based on state standards, the provisions of CWA section 303(d)(4). Those exceptions are outlined further in the following sections.

7.2.1.2 Exceptions for Case-by-Case TBELs

CWA section 402(o)(2) outlines specific exceptions to the general prohibition against revising an existing TBEL that was developed on a case-by-case basis using BPJ to reflect subsequently promulgated, less stringent effluent guidelines in a renewed, reissued, or modified permit. CWA section 402(o)(2) provides that relaxed limitations may be allowed where

- There have been material and substantial alternations or additions to the permitted facility that justify the relaxation.

- New information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance and that would have justified a less stringent effluent limitation. If the effluent limitation was based on water quality standards, any changes must result in a decrease in pollutants discharged.
- Technical mistakes or mistaken interpretations of the law were made in issuing the permit under CWA section 402(a)(1)(b).
- Good cause exists because of events beyond the permittee's control (e.g., natural disasters) and for which there is no reasonably available remedy.
- The permit has been modified under CWA sections 301(c), 301(g), 301(h), 310(i), 301(k), 301(n), or 316(a).
- The permittee has installed and properly operated and maintained required treatment facilities but still has been unable to meet the effluent limitations (relaxation may be allowed only to the treatment levels actually achieved).

7.2.1.3 Exceptions for Limitations Based on State Standards

EPA has consistently interpreted CWA section 402(o)(1) to allow relaxation of WQBELs and effluent limitations based on state standards if the relaxation is consistent with the provisions of CWA section 303(d)(4) or if one of the exceptions in CWA section 402(o)(2) is met. The two provisions constitute independent exceptions to the prohibition against relaxation of effluent limitations. If either is met, relaxation is permissible.

CWA section 303(d)(4) has two parts: paragraph (A), which applies to *nonattainment waters*, and paragraph (B), which applies to *attainment waters*.

- **Nonattainment water:** CWA section 303(d)(4)(A) allows the establishment of a less stringent effluent limitation when the receiving water has been identified as not meeting applicable water quality standards (i.e., a *nonattainment water*) if the permittee meets two conditions. First, the existing effluent limitation must have been based on a total maximum daily load (TMDL) or other wasteload allocation (WLA) established under CWA section 303. Second, relaxation of the effluent limitation is only allowed if attainment of water quality standards will be ensured or the designated use not being attained is removed in accordance with the water quality standards regulations. This subsection does not provide an exception for establishing less stringent limitations where the original limitation was based on state permitting standards (e.g., state treatment standards) and was not based on a TMDL or WLA.
- **Attainment water:** CWA section 303(d)(4)(B) applies to waters where the water quality equals or exceeds levels necessary to protect the designated use, or to otherwise meet applicable water quality standards (i.e., an *attainment water*). Under CWA section 303(d)(4)(B), a limitation based on a TMDL, WLA, other water quality standard, or any other permitting standard may only be relaxed where the action is consistent with state's antidegradation policy.

Although the statute also identifies six exceptions in section 402(o)(2) where effluent limitations otherwise subject to the prohibition in section 402(o)(1) may be relaxed, the exceptions for technical mistakes or mistaken interpretations and permit modification, which are described above, would not apply to WQBELs.

7.2.1.4 Exception Safety Clause

CWA section 402(o)(3) is a *safety clause* that provides an absolute limitation on backsliding. This section of the CWA prohibits the relaxation of effluent limitations in all cases if the revised effluent limitation would result in a violation of applicable effluent guidelines or water quality standards, including antidegradation requirements. Thus, even if one or more of the backsliding exceptions outlined in the statute is applicable and met, CWA section 402(o)(3) acts as a floor and restricts the extent to which effluent limitations may be relaxed. The requirement affirms existing provisions of the CWA that require effluent limitations, standards, and conditions to ensure compliance with applicable technology and water quality standards.

7.2.2 Anti-backsliding Regulatory Provisions

Anti-backsliding regulations are found at Title 40 of the *Code of Federal Regulations* (CFR) 122.44(l). The regulations do not specifically address backsliding where a permittee seeks relaxation of an effluent limitation that is based on a state treatment standard or water quality standard [i.e., based on CWA sections 301(b)(1)(C) or 303(d) or 303(e)]. They do, however, address all other forms of backsliding.

First, the regulations at § 122.44(l)(1) restrict the relaxation of *final effluent limitations* and the relaxation of *standards or conditions* contained in existing permits. Thus, this regulation, in effect, addresses all types of backsliding not addressed in the CWA provisions (e.g., backsliding from limitations derived from effluent guidelines, from new source performance standards, from existing case-by-case limitations to new case-by-case limitations, and from conditions such as monitoring requirements that are not effluent limitations). Under the regulation, a permittee must meet one of the causes for modification under § 122.62 for the reissued permit to allow relaxation of such limitations, standards, or conditions.

Second, the regulations at § 122.44(l)(2)(i) directly reflect the specific prohibition imposed by CWA section 402(o) on backsliding where a permittee seeks to revise an existing case-by-case TBEL developed using BPJ to reflect a subsequently promulgated effluent guideline that is less stringent than the case-by-case requirement. The regulations include the same exceptions to this prohibition that are in CWA section 402(o)(2) and the same *safety clause* in CWA section 402(o)(3).

Thus, if the permit condition being considered for relaxation is either a case-by-case effluent limitation developed using BPJ or is any other limitation, standard, or condition other than an effluent limitation based on a state standard, the permit writer can apply the requirements in § 122.44(l). For effluent limitations based on state standards, the permit writer should apply the provisions of CWA sections 402(o) and 303(d)(4) directly. Exhibit 7-2 illustrates the process of applying the statutory and regulatory provisions addressing anti-backsliding.

Exhibit 7-2 Application of anti-backsliding requirements

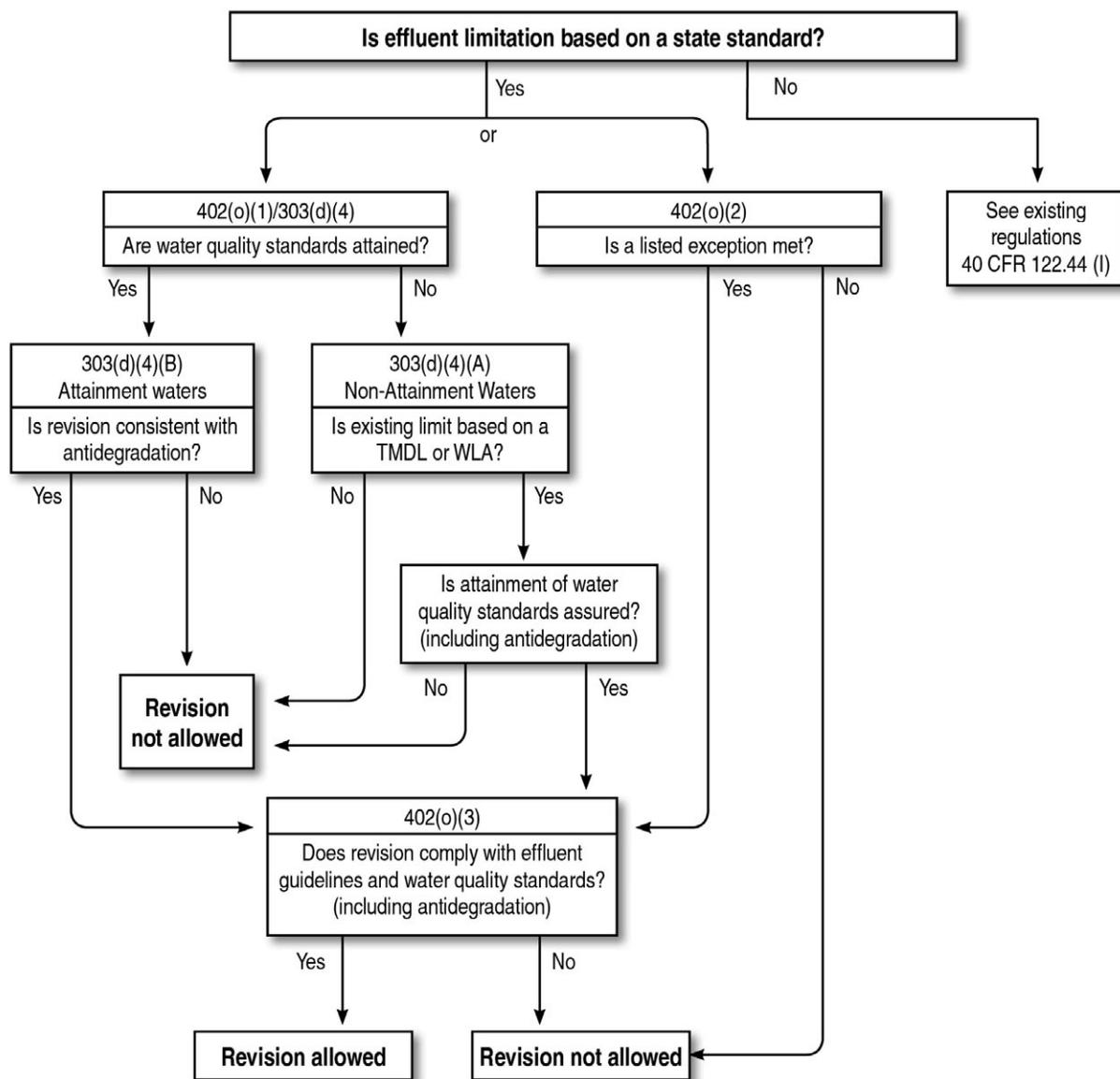


Exhibit 7-3 presents some examples of situations when backsliding might be a factor in effluent limitation development.

Exhibit 7-3 Backsliding examples

Example 1

- A publicly owned treatment works (POTW) seeks to relax its WQBEL for Pollutant X
- The current effluent limitation for Pollutant X is based on a TMDL and WLA for the POTW developed in accordance with § 130.7.
- The POTW is in compliance with its existing effluent limitation, and the applicable water quality standards for Pollutant X are attained.
- The POTW has developed new models with new river flow information. The models indicate that the water quality standards for Pollutant X would be maintained with a relaxed permit limitation.

Question:

May the effluent limitation for Pollutant X be relaxed?

Answer:

Possibly. Under the interpretation discussed above, WQBELs may be relaxed where one of the exceptions in CWA sections 402(o)(1) or (2) are met. In this case, although the new information from the models might meet the exception requirements criteria under CWA section 402(o)(2)(B)(i), CWA section 402(o)(2) will not justify the request unless the state reduces the pollutant loadings from other point sources or nonpoint sources of pollution. That is because, as discussed in Section 7.1 above, CWA section 402(o)(2) restricts the use of new information to cases where there is a decrease in the amount of pollutants being discharged.

The CWA section 402(o)(1) exceptions, on the other hand, might justify the request. In this case, the reference to CWA section 303(d)(4)(B) in CWA section 402(o)(1) is the relevant exception. CWA section 303(d)(4)(B) provides that, for receiving waters that meet water quality standards, permit limitations based on a TMDL or other WLA or other permit standard may be relaxed if the state's antidegradation policy requirements are met.

Example 2

- The state has established a technology-based treatment standard for fecal coliform pursuant to CWA section 301(b)(1)(C).
- The state later relaxes the standard in a revised regulation.
- A POTW, which has been in violation of its effluent limitation for fecal coliform based on the old standard, requests a revision of the limitation to reflect the new standard.
- Water quality standards for fecal coliform are not being attained.
- There was no TMDL or WLA developed. The basis of the effluent limitation was a state technology-based treatment standard.

Question:

May the fecal coliform effluent limitation be relaxed?

Answer:

No. Under CWA section 402(o)(1), the applicable provision is CWA section 303(d)(4)(A). This subsection does not authorize backsliding in this case (i.e., nonattainment waters) because it applies only to permit limitations based on a TMDL or other WLA. Here, the limitation in question is based on a state technology-based treatment standard.

Furthermore, if the permit sought to apply the exceptions in CWA section 402(o)(2), the new information provision would not allow the revision. For purposes of this section of the CWA, new information does not include *revised regulations*.

Exhibit 7-3 Backsliding examples

Example 3

- The state has a narrative water quality criterion of *no toxics in toxic amounts*.
- On the basis of WET testing data or other information, the state found that the discharge would cause, have the reasonable potential to cause, or contribute to an excursion of the water quality standards in the receiving water—specifically the narrative water quality criterion.
- The permitting authority imposed a WET limitation under § 122.44(d)(1)(v).
- The permittee determines that Pollutant Z is the cause of WET measured in its discharge.
- The permittee can demonstrate through sufficient data (including WET testing data) that an effluent limitation for Pollutant Z will assure compliance with the narrative water quality criterion as well as the state's numeric criteria for Pollutant Z, as required by § 122.44(d)(1)(v).

Question:

May the state modify the permit to delete the WET limitation and to add the effluent limitation for Pollutant Z?

Answer:

Possibly. CWA section 303(d)(4) might justify the action. The applicable provision is CWA section 303(d)(4)(B) because the narrative water quality criterion is currently attained. The permittee is complying with the existing WET limitation to attain and maintain the criterion. Under CWA section 303(d)(4)(B), the existing effluent limitation may be relaxed as long as antidegradation requirements are met and the relaxed limitation will not cause a violation of any effluent guidelines or water quality standards applicable to the discharge. In this case, it appears likely that a relaxation would be permissible because the permittee can demonstrate that the new limitation for Pollutant Z will assure compliance with both the narrative and numeric water quality criteria; however, the permit writer might consider continuing WET monitoring to identify other potential sources of toxicity in the future.

Example 4

- An industrial permittee seeks to revise its WQBEL of 60 mg/L for total suspended solids (TSS) to 100 mg/L, which is its actual discharge level.
- The current effluent limitation is based on a WLA from a TMDL developed in accordance with § 130.7.
- The water quality standards are not being attained. The ambient concentration of TSS exceeds the applicable water quality criteria.
- An effluent limitation of 100 mg/L is consistent with applicable effluent guidelines.
- New modeling information shows that the water quality standards will be attained with an effluent limitation of 75 mg/L TSS.

Question:

May the effluent limitation for TSS be revised from 60 mg/L to 100 mg/L?

Answer:

No; however, the effluent limitation could be relaxed to 75 mg/L under either CWA sections 402(o)(1) or (2) exceptions.

The water quality standards are not being attained because of TSS. Therefore, under CWA section 402(o)(1), the applicable exception is CWA section 303(d)(4)(A). In this case, the permitting authority may allow backsliding to 75 mg/L because the existing effluent limitation is based on a WLA from a TMDL, and the data show that attainment of the water quality standards is assured with an effluent limitation of 75 mg/L (but not with a limitation of 100 mg/L).