United States
Environmental Protection Agency

Office of Water
Washington, DC

United States
Environmental Protection Agency

National Pollutant Discharge Elimination System (NPDES) Permit Quality Review (PQR) Nutrient Checklist Companion

This guidance was developed by staff within the U.S. Environmental Protection Agency's (EPA's) Office of Wastewater Management and addresses development of wastewater discharge permits under the National Pollutant Discharge Elimination System (NPDES). NPDES permit development is governed by existing requirements of the Clean Water Act (CWA) and the EPA NPDES implementing regulations. CWA provisions and regulations contain legally binding requirements. This document does not substitute for those provisions or regulations. Recommendations in this guidance are not binding; the permitting authority may consider other approaches consistent with the CWA and EPA regulations. When EPA makes a permitting decision, it will make each decision on a case-by-case basis and will be guided by the applicable requirements of the CWA and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the situation. This guidance incorporates, and does not modify, existing EPA policy and guidance on developing NPDES permits.
EPA may change this guidance in the future.

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Nutrient PQR Checklist Companion

Nutrient pollution occurs when too much nitrogen and phosphorus enter the environment from a wide range of human activities. The effects of nutrient pollution are diverse and far-reaching and include changes in chemical and physical characteristics of a water body such as lower dissolved oxygen concentrations and hypoxia, changes in aquatic habitat and food sources, such as excess algae in the water column blocking sunlight needed by submerged aquatic plants, toxicity to aquatic life and wildlife, such as from the direct toxic effects of some forms of nitrogen or from toxic algal blooms, impacts on public health, such as from seafood contamination or direct exposure to algal toxins, and economic impacts, such as the costs of commercial fishery losses and lost recreational opportunities or the cost of drinking additional water treatment. Effects from nutrient enrichment can be observed at and beyond the immediate receiving waters. Proper nutrient permitting assures the attainment and maintenance of water body uses susceptible to nutrient-related impacts.

This section of the checklist provides an evaluation of developing nutrient-based permit limitations and requirements. The checklist is similar to the checklist found under Section IV C. that establishes WQBELs. However, this checklist places emphasis on permitting for the removal and control of nutrients against nutrient-related impacts.

The reviewer begins by completing the facility name, NPDES permit number, permit issuance date, and permit expiration date. Then, the reviewer completes the following nutrient-related question.

1. Does the permit contain a numeric nitrogen-based permit limit requirement, other than ammonia as a toxic?

Nitrogen in a water body can cycle among various forms. Thus, nitrogen pollution generally is measured in terms of total nitrogen when we are looking at the impacts caused by the indirect effects of nutrient over-enrichment in surface waters (e.g., intensive growth of algae leading to reduced sunlight penetrating the water, decreased amount of oxygen dissolved in the water, and unaesthetic or potentially toxic conditions that could impair water supply and recreational uses).

A few states have developed numeric criteria for total nitrogen to address accelerated eutrophication. Keep in mind that some forms of nitrogen (e.g., unionized ammonia, nitrate) have direct toxic or human health effects. Generally, states already have water quality criteria for these forms of nitrogen and have developed permitting procedures to address their direct impact on water quality and attainment of designated uses. Unless explicitly stated otherwise in state WQS, ammonia (NH_3) as a toxic should not be included as an N-based nutrient parameter for the review.

Enter Y or N to indicate whether the state has adopted water quality criteria for nitrogen. If N, skip to question 2.

a) What nitrogen-based constituents are limited? (e.g. total nitrogen (TN), nitrate-as-nitrogen (NO_3^- -N), etc.)?

Constituents related to nitrogen include:

- Total Nitrogen (TN)
- Total Kjeldahl Nitrogen (TKN),
- Dissolved Inorganic Nitrogen (DIN)
- Nitrates
- Nitrites

Enter any nitrogen-based pollutants that are limited in the permit.

b) Are the limits expressed as: concentration- or load-based?

40 CFR 122.45(f)(1) requires that all permit limitations, standards, or prohibitions be expressed in terms of mass except in any of the following cases:

- For pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations.
- When applicable standards and limitations are expressed in terms of other units of measure.
- If in establishing permit limitations on a case-by-case basis under § 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation, and permit conditions ensure that dilution will not be used as a substitute for treatment.

Enter concentration-based for limitations expressed in terms of concentration (e.g., mg/L, µg/L) or load-based for limitations expressed in terms of mass (e.g., lbs/day, kg/month), or check both boxes if limits are expressed as both concentration and load.

c) What is the averaging period of the limit (daily maximum, average weekly, average monthly, seasonal, annual, etc.)?

40 CFR 122.45(d)(1) requires that for continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.

Enter the averaging period for the limitation as a daily maximum, average weekly, average monthly, seasonal, annual, or other averaging period.

i. If the averaging period is less frequent than monthly, does the record include an "impracticability" determination to justify a longer-than-monthly averaging period for its permit limit? [40 CFR 122.45(d)(1)]

Enter Y or N to indicate whether if the frequency is less than monthly, for example quarterly or annually, and if the record contains an "impracticability" determination.

d) What is the monitoring frequency for the limitation (daily maximum, average weekly, average monthly, seasonal, annual, etc.)?

The permit writer should establish monitoring frequencies sufficient to characterize the effluent quality and to detect events of noncompliance, considering the need for data and, as appropriate, the potential cost to the permittee. Monitoring frequency should be determined on a case-by-case basis, and decisions for setting monitoring frequency should be described in the fact sheet. Some states have their own monitoring guidelines that can help a permit writer determine an appropriate monitoring frequency.

Enter the monitoring frequency for the limitation as a daily maximum, average weekly, average monthly, seasonal, annual average or other frequency.

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2. Does the permit contain a numeric phosphorus-based permit limit requirement?

Phosphorus in a water body can cycle among various forms. Thus, phosphorus pollution generally is measured in terms of total phosphorus when we are looking at the impacts caused by the indirect effects of nutrient over-enrichment in surface waters.

Enter Y or N to indicate whether the permit provides a numeric limitation for phosphorus. If N, skip to question 3.

a) What phosphorous-based constituents are limited? (e.g. total phosphorous (TP), phosphate-as-phosphorus (PO4- -P), orthophosphate, etc.)?

Constituents related to phosphorus include:

- Phosphorus (total, elemental, dissolved, ortho-)
- Phosphate (total, elemental, dissolved, ortho-)

Enter any phosphorus-based pollutants that are limited in the permit.

b) Are the limits expressed as concentration- or load-based?

40 CFR 122.45(f)(1) requires that all permit limitations, standards, or prohibitions be expressed in terms of mass except in any of the following cases:

- For pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations.
- When applicable standards and limitations are expressed in terms of other units of measure.
- If in establishing permit limitations on a case-by-case basis under § 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation, and permit conditions ensure that dilution will not be used as a substitute for treatment.

Enter concentration-based for limitations expressed in terms of concentration (e.g., mg/L, µg/L) or load-based for limitations expressed in terms of mass (e.g., lbs/day, kg/month) or both.

c) What is the averaging period of the limit (daily maximum, average weekly, average monthly, seasonal, annual, etc.)?

40 CFR 122.45(d)(1) requires that for continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.

Enter the averaging period for the limitation as a daily maximum, average weekly, average monthly, seasonal, annual, or other averaging period.

i. If the averaging period is less frequent than monthly, does the record include an "impracticability" determination to justify a longer-than-monthly averaging period for its permit limit? [40 CFR 122.45(d)(1)]

Enter Y or N to indicate whether if the frequency is less than monthly, for example quarterly or annually, and if the record contains an "impracticability" determination.

d) What is the monitoring frequency for the limitation? (daily maximum, average weekly, average monthly, seasonal, annual, etc.)?

The permit writer should establish monitoring frequencies sufficient to characterize the effluent quality and to detect events of noncompliance, considering the need for data and, as appropriate, the potential cost to the permittee. Monitoring frequency should be determined on a case-by-case basis, and decisions for setting monitoring frequency should be described in the fact sheet. Some states have their own monitoring guidelines that can help a permit writer determine an appropriate monitoring frequency.

Enter the monitoring frequency for the limitation as a daily maximum, average weekly, average monthly, seasonal, annual average or other frequency.

3. Does the record adequately indicate that reasonable potential analysis (RPA) was conducted for nutrients or nutrient-related pollution? [40 CFR 122.44(d)(1)(ii)]

The regulations at 40 CFR 122.44(d)(1)(ii) state: "When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water."

For nutrients, the RPA can be either qualitative or quantitative. For a qualitative RPA, a permit writer could consider:

- The type of facility and likelihood that discharge contains N or P
- Discharges from similar facilities, even if we decided we would not actually use those data for a quantitative RPA
- Available dilution where concentration is a concern (e.g., we might be more likely to include limits where there is little or no dilution available)
- Receiving water impaired for nutrient-related impacts
- Vulnerability of water body to impacts from nutrient pollution using some of the factors we already have discussed such as light availability, residence time, temperature, etc.

Section 3.2 of EPA's TSD provides some further discussion of considerations for a permit writer in conducting a qualitative reasonable potential analysis. The permit writer would also want to include additional effluent and, possibly, ambient monitoring requirements in the permit in order to collect the data to conduct a future quantitative reasonable potential analysis. If the qualitative reasonable potential analysis is based on meeting a narrative criterion without a numeric interpretation and if the RPA concludes that effluent limits for nutrients are needed, at some point the permit writer will need to interpret the narrative criterion to calculate WQBELs for nitrogen or phosphorus or both.

A quantitative RPA would consider effluent characterization data, receiving water characterization data, and numeric criteria or interpretation of narrative criteria. The TSD provides procedures for quantitative reasonable potential analyses could be adapted for nutrients. Permit writers might need to interpret nutrient criteria for a quantitative RPA.

Enter Y or N to indicate if the record discusses that an RPA was conducted for nitrogen or phosphorus.

a) Which nutrient WQSs were used to determine RP and how are the standards expressed (e.g. numeric causal variables, numeric response variables, narrative, biological-based)?

Nutrients are implemented through numeric criteria for causal variables (i.e., nitrogen and phosphorus), through numeric criteria for response variables (e.g., chlorophyll a, DO, clarity) and through narrative criteria. If the duration and frequency components of numeric criteria for nitrogen and phosphorus are not clearly indicated in the criteria, the permit writer would need to work with the data and literature underlying development of the criteria or with water quality standards staff to determine an appropriate duration and frequency.

In order to use numeric response variable criteria, such as dissolved oxygen and chlorophyll *a*, as a basis for developing water quality-based effluent limitations for nutrients, the permit writer need not only interpret the duration and frequency of the criteria if these components are not already specified, but also relate the response variable to nitrogen and phosphorus concentrations or loading. The permit record should identify the state's water quality standards that were used to determine reasonable potential and a discussion of frequency and duration of the standards.

Enter the type of water quality standards, including whether the standards are expressed as numeric causal variables, numeric response variables, narrative standards or biologically-based standards.

b) Is effluent quality and variability characterized for nutrients-based parameters?

For nearly any wastewater treatment system, there will be "good days" and there will be "bad days."

EPA has established its recommendations for water quality-based permitting for toxics in the TSD. Specifically, the TSD provides a detailed statistical procedure for characterizing pollutant concentrations in effluent based on a limited data set and accounting for the variability of that effluent. The procedures use a statistical analysis that assumes that effluent data follow what's called a "lognormal distribution" and, using that distribution, the procedures allow a permit writer to project a critical effluent concentration from a limited data set. Many state procedures are based on EPA's TSD, though they might not be identical to it.

These procedures generally are applied to toxic pollutants and other pollutants where shorter-term, near-field effects are of concern. Most states that administer the NPDES permit program will have some detailed procedures for analyzing limited effluent data and determining a critical effluent concentration to use in conducting their "reasonable potential" analysis.

One way of recognizing the differences between toxic pollutants and nutrients is to modify the TSD procedure to reflect the fact that nutrient criteria durations could be short-term (< 30 days) or they could be seasonal or annual averages, as is often the case. In its Final Water Quality Guidance for the Great Lakes System, EPA provided an alternative to the TSD procedure for estimating the critical effluent concentration that accounts for the differences in duration of criteria. The alternative allowed for the critical effluent concentration to be expressed as an upper-bound estimate of daily measurements when assessing the impact of the discharge on attainment of acute aquatic life criteria; an upper-bound estimate of weekly averages and monthly averages when assessing the impact on attainment of chronic aquatic life criteria; and an upper-bound estimate of monthly averages when assessing the impact on attainment of wildlife and human health criteria. The states in the Great Lakes basis have developed specific procedures to implement this alternative approach. Permit writers should use state procedures and detail the methodology in the permit record.

Enter Y or N to indicate if the record discusses that effluent quality and variability is considered in the RPA.

c) Is the receiving (or upstream) water quality characterized for nutrients-based parameters?

Receiving water pollutant concentration needs to be measured as some point outside of the influence of the discharge we are permitting. For example, if the discharge is to a stream, the permit writer uses the concentration upstream of the discharge. If it is to a lake, the permit writer uses the concentration in the lake near the point of discharge but without the effects of the discharge.

Ambient data are available from both federal and state sources. In addition, many permitting authorities require dischargers to conduct ambient monitoring studies either as part of their permit requirements or part of the permit application process. If there sufficient ambient data available, permit writers should use existing state procedures to determine the critical receiving water pollutant concentrations. Those procedures might or might not distinguish between assessing the impact of the discharge on attainment of short-term average criteria versus long-term average criteria. If there are no state procedures available, a permit writer could use an approach to calculating the critical receiving water pollutant concentration that accounts for the duration of the criterion of concern. For example, the permit writer might consider a long-term average receiving water pollutant concentration if the criterion of concern is an annual or seasonal average.

If ambient data are not sufficient to calculate a critical receiving water background concentration, the permit writer should use available state procedures to establish a default critical concentration. The permit writer also could require ambient data collection during the application process or during the permit term. If sufficient data are collected during the application process, a default critical receiving water pollutant concentration would not be necessary. If data are collected during the permit term, the permit writer might consider including a specific reopener in the permit indicating that the permit could be modified based on the new data. Finally, it is important to remember that assuming that the critical receiving water concentration of the nutrient of concern is zero is not really an option unless the appropriateness of that assumption is demonstrated by evidence and documented in the permit record.

Enter Y or N to indicate if the record discusses characterization of the receiving water quality.

i. Does the record indicate that the receiving water(s) is impaired for nutrients and/or nutrient-related impacts?

Under CWA section 303(d), states are required to develop lists of impaired waters. Impaired waters are those that do not meet the water quality standards set for them, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that those jurisdictions establish priority rankings for waters on their CWA section 303(d) list and develop TMDLs for those waters.

Enter Y or N to indicate if the record discusses impairment of the receiving water for nitrogen, phosphorus, response variables, or narrative standards related to nutrients.

ii. If yes, describe:

If the record discusses impairment for nutrients or nutrient-related impacts, enter details describing the discussion from the permit.

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d) What procedures does the record indicate were applied for conducting RPA (e.g. steady-state water quality mass balance, dynamic modeling, state-specific permit implementation procedures, translation, interpretation etc.)?

Where consideration of a dilution allowance or mixing zone is not permitted by the water quality standards or is not appropriate, the relevant water quality criterion must be attained at the point of discharge. In such cases, there is no need for a water quality model to characterize the interaction between the effluent and receiving water. In this situation effluent limitations are based on attaining water quality criteria at the "end of the pipe."

Where a dilution allowance or mixing zone is permitted, however, characterizing the interaction between the effluent and receiving water generally requires using a water quality model. In the majority of situations, and in all of the examples provided in this manual, permit writers will use a steady-state water quality model to assess the impact of a discharge on its receiving water. Steady-state means that the model projects the impact of the effluent on the receiving water under a single or steady set of design conditions. Because the model is run under a single set of conditions, those conditions generally are set at critical conditions for protection of receiving water quality.

States can have specific implementation procedures or methods for translating narrative standards into numeric nutrient criteria. The permit writer should document the method for performing the RPA and include calculations in the permit record.

Enter any procedures specified in the permit record that were used to perform the RPA.

4. Does the record indicate whether the discharger is subject to an effluent limitation guideline that includes a requirement for nitrogen or phosphorus [40 CFR 122.44(a)]?

Effluent guidelines can include numeric and narrative limitations, including best management practices (BMPs), to control the discharge of pollutants from categories of point sources. The limitations are based on data characterizing the performance of technologies available and, in some cases, from modifying process equipment or the use of raw materials. Although the regulations do not require the use of any particular treatment technology, they do require facilities to achieve effluent limitations that reflect the proper operation of the model technologies selected as the basis for the effluent guidelines and from which the performance data were obtained to generate the limitations. Therefore, each facility has the discretion to select any technology design and process changes necessary to meet the performance-based discharge limitations and standards specified by the effluent guidelines.

Effluent limitation guidelines with specific requirements for nutrients include:

Regulatory citation 40 CFR Part	Category	Nutrient(s)
412	Concentrated Animal Feeding Operations (Nutrient Management Plan)	• total nitrogen • total phosphorus
415	Inorganic Chemicals Manufacturing (Ammonia Subcategory)	• ammonia (as N)
418	Fertilizer Manufacturing	• ammonia (as N) • organic nitrogen (as N) • nitrate (as N) • total phosphorus (as P)
419	Petroleum Refining	• ammonia (as N)
421	Nonferrous Metals Manufacturing	• ammonia (as N)

Regulatory citation 40 CFR Part	Category	Nutrient(s)
422	Phosphate Manufacturing	• total phosphorus (as P)
426	Glass Manufacturing	• phosphorus
432	Meat and Poultry Products	• ammonia (as N) • total nitrogen
439	Pharmaceutical Manufacturing	• ammonia (as N)
445	Landfills	• ammonia (as N)

Enter Y or N to indicate if the record discusses an effluent limitation guideline applicable to nutrients.

a) If yes, describe:

If the record discussed the applicability of an effluent limitation guideline, enter the effluent limitation guideline and provide details. The reviewer should identify whether the discharger is subject to an ELG and should also identify whether best professional judgment was used to develop any of the limits in the permit and describe those limits. If BPJ was used the reviewer should seek and identify any supporting rationale or justification in the fact sheet, the permit itself or the administrative record.

5. Does the record describe the basis for the nutrient limits?

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. 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 conducts an anti-backsliding analysis and, if necessary, revises the limitations accordingly.

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.

Enter one or more of the following bases for limits: technology-based, water quality-based, numeric water quality standards, narrative water quality standards and TMDLs.

a) How were mixing zones or dilution allowances applied [40 CFR 122.44(d)(1)(ii)]?

Where dilution or mixing is allowed, often a determination can be made about whether rapid and complete mixing of the effluent will occur in the receiving water, such that all applicable criteria for the pollutant of concern will be met almost immediately at the discharge location in the receiving water. For situations where dilution is not immediate, the state and Tribe's water quality standards may allow for mixing zones. The water quality standards should describe the methodology for determining the location, size, shape, outfall design, and in-zone quality of mixing zones. On the basis of requirements in the water quality standards, the dilution allowance or mixing zone used in water quality models and calculations are likely to vary depending on whether there is rapid and complete mixing or incomplete mixing of the effluent and receiving water under critical conditions. In an incomplete mixing situation, the water quality standards or implementation policies might allow some consideration of ambient dilution. They will likely specify either a limited dilution allowance (such as a percentage of the critical low flow) or the maximum size of a regulatory mixing zone.

Where water quality standards do not allow for consideration of dilution or mixing, water quality criteria must be attained at the effluent's point of discharge (end of pipe).

Regarding critical low flows, state and tribal water quality standards should protect water quality for the designated and existing uses in critical low flow situations. States and Tribes may, however, designate a critical low-flow below which numerical water quality criteria do not apply.

The reviewer should identify the approaches in the permit fact sheet or record that the state has used to determine dilution application to nutrients-specific WQBELs and any assumptions stated. If applicable, the reviewer should identify assumptions of complete or incomplete mixing, critical low flow, and the size of the mixing zone. If no dilution allowance is applied, the reviewer should determine if a rationale was given for the exclusion. The reviewer should ensure that the permit writer consulted the applicable water quality standards to see if mixing zones were permitted and whether the maximum mixing zone size for the water body type, pollutant of concern, and specific criterion was determined correctly.

Enter a summary of how mixing zones or dilution allowances were applied in the permit. If the permit does not include a discussion of mixing zones, or if the permit provides that dilution was applied in the permit, the reviewer should include that information.

6. Does the record describe if and how downstream protection of waters was considered [40 CFR 122.4(d) & 40 CFR 122.44(d)(1)]?

When identifying the applicable water quality standards, a permit writer should, of course, apply the standards for the immediate receiving water. In addition, if those standards do not account for downstream impacts, such as for a downstream lake, then the permit writer also should consider the standards that apply to downstream waters.

If you have a downstream water body that is known to have nutrient-related impacts, such as nuisance algal blooms or low dissolved oxygen, that have resulted in non-attainment of the applicable water quality standards, the permit writer would want to consider that water body as a water body of concern. If there are not any assessments or data available that would allow determination of whether there has been an excursion of water quality standards in a downstream water body, then the permit writer would consider implementing the water quality standards of the downstream water body most vulnerable to non-attainment of water quality standards as a result of nutrient-related impacts. A downstream water body of concern could be in another state, and a change in jurisdiction does not relieve the permit writer from the obligation in considering downstream standards.

40 CFR 122.4(d) provides that NPDES permits may not be issued when the imposition of conditions cannot ensure compliance with the applicable water quality conditions of all affected states. If EPA is issuing the permit, 40 CFR 122.44(d)(4) requires that the permit include conditions that conform to applicable water quality requirements under Clean Water Act section 401(a)(2) if the discharge affects a state other than the one issuing the 401 certification. EPA must notify the other affected state, the permitting agency, and the applicant that the discharge might affect the water quality of the other state. The other state has the opportunity to object to issuance of the permit and, if it determines that one of its water quality requirements will be violated, request a hearing.

Enter Y or N to indicate whether the record describes if and how downstream protection of waters was considered.

7. Does the permit include limits that account for a variance or UAA [40 CFR 131.13] or does the permit include a compliance schedule [40 CFR 122.47]?

States may, at their discretion, include in their standards policies that generally affect how state water quality standards are applied or implemented, including the availability of variances. Water quality standard variances are changes to water quality standards and have similar substantive and procedural requirements and what is required to remove a designated use. Unlike use removal, variances are time-limited and do not permanently remove the current designated use of a waterbody. Variances are usually discharger- and pollutant-specific, though some states have adopted general variances. Where a state has adopted a general variance, the analyses necessary for the variance have been completed on a watershed-wide or statewide basis and, therefore, the process of obtaining a variance is simplified for individual dischargers in that watershed or state.

A variance might be appropriate where the state believes that the existing standards are ultimately attainable and that, by retaining the existing standards rather than changing them, the state would ensure that further progress is made in improving the water quality toward attaining the designated uses while the variance is in effect. State-adopted variances have been approved by EPA where, among other things, the state's standards allow variances and the state demonstrates that meeting the applicable criteria is not feasible on the basis of one or more of the factors outlined in § 131.10(g). A variance typically is granted for a specified period and must be reevaluated at least once every 3 years as reasonable progress is made toward meeting the standards [see section 5.3 of the WQS Handbook and § 131.20(a)].

Modifications of water quality standards could affect effluent limitations in permits in several ways. Specifically, the modifications can change the fundamental basis for WQBELs, potentially affecting an assessment of the need for WQBELs and possibly resulting in either more or less stringent WQBELs than would otherwise be required. It is the permit writer's responsibility to ensure that any EPA-approved modification of water quality standards is properly reflected in an affected NPDES permit.

Once a use has been designated for a particular waterbody or segment, that use may not be removed from the water quality standards except under specific conditions. To remove a designated use, the state demonstrates that attaining that use is not feasible because of any one of the six factors listed in § 131.10(g). The regulations at § 131.10(j) specifically require a state to conduct a UAA if the designated uses for a waterbody do not include the uses in CWA section 101(a)(2) (i.e., fishable/swimmable uses); if the state wishes to remove designated uses included in CWA section 101(a)(2) from its water quality standards; or if the state wishes to adopt subcategories of CWA section 101(a)(2) uses with less stringent criteria. The WQS Handbook discusses UAAs and removing designated uses in detail. Reclassifying a waterbody's designated uses, as supported by a UAA, is a permanent change to both the designated use(s) and the water quality criteria associated with that (those) use(s).

States may conduct a UAA and remove a designated use but not if it is an existing use. Existing uses are defined in § 131.3 as those uses actually attained in the waterbody on or after November 28, 1975 (the date of EPA's initial water quality standards regulation at 40 Federal Register 55334, November 28, 1975). At a minimum, uses are deemed attainable if they can be achieved by the implementing effluent limits required under CWA sections 301(b) and 306 and by implementing cost effective and reasonable best management practices (BMPs) for nonpoint source control. EPA's Water Quality Standards: UAA Website <http://www.epa.gov/waterscience/standards/uses/uaa/index.htm> provides additional information and some example UAAs.

The permit can also provide a compliance schedule. The permit should include documentation whether the schedule met the regulatory requirements in 122.47 and the requirements in the 2007 Memo issued by Jim

Hanlon to Region IX. The permit record should identify the length of the schedule and for which pollutant parameters and whether a final WQBEL is effective at the end of the schedule. The permit should include interim milestones for compliance schedules longer than one. Additionally, the permit record should include a rationale or justification for the schedule.

Enter Y or N to indicate whether the permit includes a variance, UAA or compliance schedule.

a) If yes, describe:

If the permit includes a variance, UAA or compliance schedule, provide a description of the flexibility included in the permit.

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