UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 19 2019

Ms. Jennifer Dodd, Director
Division of Water Resources
Tennessee Department of Environment and Conservation
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Dear Ms. Dodd:

The U.S. Environmental Protection Agency Region 4 has completed its review of the state of Tennessee's Triennial Review of Water Quality Standards (WQS). All Triennial Review revisions were approved for adoption by the Tennessee Board of Water Quality, Oil and Gas on October 16, 2018, and became effective for state purposes on September 11, 2019. In a letter dated September 24, 2019, the state of Tennessee's Attorney General and Reporter, Herbert H. Slatery, III, certified to the EPA that the WQS amendments in Tennessee Rule Chapters 0400-40-03 and 0400-40-04 had been duly adopted according to state law. On October 28, 2019 the EPA received the original signed package for review from the Tennessee Department of Environment and Conservation.

The EPA is approving all WQS revisions contained in the Triennial Review. The EPA's decision on each of these revisions is detailed in the enclosed document, *Decision Document of the United States Environmental Protection Agency Determination Under Section 303(c) of the Clean Water Act Review of Chapters 0400-40-03 and 0400-40-04, General Water Quality Criteria and Use Classifications for Surface Waters.* These revisions include, but are not limited to, adopting criteria for chlorobenzene and nitrite for the use of Domestic Water Supply, updating cadmium, selenium (water column criterion only), diazinon, and ammonia to the EPA's 304(a) recommended values, adopting criteria for acrolein, carbaryl, and chlorpyrifos for the use of Fish and Aquatic Life, updating antidegradation language as per the EPA's 2015 WQS regulation revisions, and adding a use classification for two streams.

In addition to the EPA's review pursuant to Section 303 of the Clean Water Act, Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies, in consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service, to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of designated critical habitat of such species. Because Tennessee is a freshwater state, consultation was only required with the USFWS. The ESA consultation was completed on September 12, 2019, when the USFWS concurred with the EPA's determination that the approval of the revisions and additions to Tennessee's WQS is "not likely to adversely affect" federally listed species or result in adverse modifications to critical habitats in the state.

We would like to commend you and your staff for your continued efforts in environmental protection for the state of Tennessee, particularly your pre-adoption coordination efforts with our office. Should you have any questions regarding the EPA's action today, please contact me at (404) 562-9345 or have a member of your staff contact Ms. Gina Fonzi, P.E., Tennessee Water Quality Standards Coordinator at (404) 562-9301.

Sincerely,

Jeaneanne M. Gettle, Director
Water Division

Enclosure

cc: Mr. Herbert H. Slatery, III
Office of the Attorney General

Decision Document of the United States Environmental Protection Agency
Determination Under Section 303(c) of the Clean Water Act Review
of Tennessee's Chapters 0400-40-03 and 0400-40-04
General Water Quality Criteria and Use Classifications for Surface Waters

Part I – Overview of State and Federal Information

Background

In a letter dated October 21, 2019 from Jennifer Dodd, Director, Water Resources Division, Tennessee Department of Environment and Conservation (TDEC or the State), to Mary Walker, Regional Administrator of the U.S. Environmental Protection Agency Region 4 office, TDEC submitted new and revised water quality standards (WQS) for review under Section 303(c) of the Clean Water Act (CWA or the Act). The state of Tennessee Attorney General and Reporter, Herbert H. Slatery, III, certified to the EPA in a September 24, 2019 letter that the WQS revisions were duly adopted according to state law. These new and revised WQS are set out primarily in Tennessee Complete Rules and Regulations (Tenn. Comp. R. & Regs.) Chapter 0400-40-03 [General Water Quality Criteria]. The State also submitted two amendments to Tenn. Comp. R. & Regs. Chapter 0400-40-04 [Use Classifications for Surface Waters], identifying Buffalo Creek and Toll Branch as naturally reproducing trout streams in the Watauga River watershed. The EPA received the original signed package for review from TDEC on October 28, 2019.

To comply with the CWA and the EPA's regulations at 40 C.F.R. § 131.20, states must conduct a review of their applicable WQS. Tennessee's triennial review was initiated with a public hearing on December 16, 2016 to solicit review and comments on all applicable WQS. Comments from this hearing were compiled and considered during the rulemaking process, and amendments to Chapter 0400-40-003 [General Water Quality] and Chapter 0400-40-04 [Use Classification for Surface Waters] (Rules) were drafted. On June 27, 2018, TDEC held a public hearing to specifically receive comments on the proposed amendments to Chapter 0400-40-003 and Chapter 0400-40-04. The comments received in the December 2016 and June 2018 public hearings and the corresponding responses provided by the Tennessee Board of Water Quality, Oil and Gas (Board or State) were presented in the 2018 Triennial Review of WQS Summary of Public Comments and Tennessee Water Quality Control Board Responses (2018 Response to Comments). The Board adopted the revisions on October 16, 2018, stating that the Rulemaking is, ". . . lawfully promulgated and adopted by the Tennessee Board of Water Quality, Oil and Gas . . . and is in compliance with the provisions of T.C.A Section 4-5-222." The revised Rules became effective for state purposes on September 11, 2019. Pursuant to 40 C.F.R. § 131.21(c)(2), the revised Rules are not effective for purposes of the CWA until approved by the EPA.

This document covers the EPA's review of the amendments to Tennessee's Rules and the EPA's decisions pursuant to Section 303(c) of the CWA. As discussed more fully below, where the EPA has determined that amendments to Chapters 0400-40-03 and 0400-40-04 are themselves, new or revised WQS, the EPA has reviewed and approved those revisions pursuant to Section 303(c) of the CWA.[1]

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[1] EPA has provided FAQs on "What is a New or Revised Water Quality Standard Under CWA 303(c)(3)?" (EPA FAQ) at https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf. The link provides detailed information of such analysis.

Clean Water Act and Regulatory Requirements

Under Section 303(c) of the CWA and federal implementing regulations at 40 C.F.R. Part 131, states and authorized tribes (states) have the primary responsibility for reviewing, establishing, and revising WQS, which consist of the designated uses of a waterbody or waterbody segment, the water quality criteria necessary to protect those designated uses, and an antidegradation policy. Section 303(c) of the CWA also requires states to establish WQS and to submit any new or revised standards to the EPA for review and approval or disapproval. When the EPA approves a state or tribal WQS, it becomes the applicable WQS for purposes of the CWA.

Since Tennessee last revised their WQS regulations, 40 C.F.R. Part 131 was amended to require states to provide an explanation if not adopting new or revised criteria for parameters for which the EPA has published new or updated CWA Section 304(a) criteria recommendations (40 C.F.R. § 131.20(a)). This change was made to foster meaningful and transparent involvement of the public and intergovernmental coordination with local, state, federal, and tribal entities in light of recent science provided by the EPA through its criteria recommendations. The EPA does not approve or disapprove this explanation.

For this triennial review, Tennessee provided explanations for not adopting the EPA's human health criteria and for not adopting the fish-tissue based criteria for selenium.

Endangered Species Act Requirements

In addition to the EPA's review under Section 303 of the CWA, Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies, in consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service, to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of designated critical habitat of such species. Under Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), the EPA has the obligation to insure that its approval of new and revised WQS as related to the protection of fish and aquatic life as adopted by TDEC is not likely to jeopardize the continued existence of threatened and endangered species and their critical habitat in the state of Tennessee. Because Tennesse is a freshwater state, ESA consultation was only required with USFWS.

The revised Rules related to the protection of fish and aquatic life are:

1.) the revisions to Rule 0400-40-03-.03(3) Criteria for the Use of Fish and Aquatic Life
2.) the revisions to Rule 0400-40-04-.12 to identify Buffalo Creek and Toll Branch as naturally reproducing trout streams in the Watauga River watershed

On October 18, 2018, the EPA initiated consultation under Section 7(a)(2) of the ESA with the USFWS regarding the effects of the EPA approving revisions and additions in Rule 0400-40-03-.03(3) to the state's water quality standards for cadmium, selenium, acrolein, carbaryl, chlorpyrifos, diazinon, and ammonia with a request to Mr. Steve Alexander (USFWS) for a state species list. The EPA drafted a biological evaluation (BE) covering the aquatic life provisions and the effects determinations for threatened and endangered species in the state of Tennessee. Determinations of "no effect" or "may effect, but not likely to adversely affect" were made for all aquatic and aquatic dependent species and their designated critical habitats in the state of Tennessee. On August 28, 2019 the EPA submitted the BE to the USFWS for review under the informal consultation provision of the ESA regulations at 50 C.F.R. § 402.13. In a letter dated September 12, 2019 USFWS concurred with the EPA's

determinations that the EPA's approval of the revisions and additions to the state of Tennessee's Rules are "not likely to adversely affect" federally listed species or result in adverse modifications to critical habitats in the state. This concurrence from the USFWS concluded the consultation requirements under Section 7(a)(2) of the ESA for Rule 0400-4-03(3) revisions.

Regarding the revisions to Rule 0400-40-04-.12, the EPA determined that its approval of the designation of Buffalo Creek and Toll Branch as naturally reproducing trouts streams resulted in "no effect" on the aquatic and aquatic dependent species and their designated critical habitats in these streams. Because of this finding, no ESA consultation was needed for the amendment of Rule 0400-40-04-.12, and a memo detailing this finding was added to the administrative record for this triennial review.

Government to Government Consultation

The EPA recognizes its unique legal relationship with Tribal Governments as set forth in the United States Constitution, treaties, statutes, executive orders, and court decisions. Government-wide and EPA-specific policies call for regular and meaningful consultation with Indian Tribal Government when developing policies and regulatory decisions on matters affecting their communities and resources. The EPA Policy on Consultation and Coordination with Indian Tribes (Policy) was finalized on May 4, 2011, in accordance with the Presidential Memorandum issued November 5, 2009, directing agencies to develop a plan to implement fully Executive Order 13175. This Policy reflects the principles expressed in the 1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations (1984 Policy). The 1984 Policy remains the cornerstone for the EPA's Indian program and "assure[s] that tribal concerns and interests are considered whenever the EPA's actions and/or decisions may affect" tribes (1984 Policy. p.3, principle no. 5).

Tennessee's submittal of their new or revised WQS to the EPA for review and approval or disapproval triggered the Agency's mandatory duty under Section 303(c) of the CWA to review these WQS amendments and to take action to approve or disapprove them. The state's Rules and the EPA's decision on them will apply to waters in the state and will not apply to waters in Indian Country. Nonetheless, because some of the state waters are adjacent to tribal waters, tribal resources could be impacted by this action. As such, the EPA identified and offered government to government consultation to potentially impacted federally recognized tribal governments to ensure that tribal input was considered prior to final Agency action on these WQS amendments.

By letter of November 6, 2019, the EPA formally offered consultation to the Mississippi Band of Choctaw Indians because they have land inside the state of Tennessee. The consultation and coordination process were conducted in accordance with EPA Policy. The process began on November 6, 2019 and ended on December 12, 2019. The Mississippi Band of Choctaw Indians did not choose to consult on Tennessee's amended WQS.

Part II – EPA's Analysis of the Triennial Review Revisions

The Rules containing revisions are shown in bolded text in the two tables below. This decision summary discusses each revision in the numerical order of the Rules. The EPA's analysis and conclusions accompany each presented revision. Tennessee's amended rule text is italicized; additions to rule text are shown in italicized, underlined font, and deletions of rule text are shown in italicized, strikethrough font.

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	**General Considerations**
0400-40-03-.03	**Criteria for Water Uses**
0400-40-03-.04	**Definitions**
0400-40-03-.05	**Interpretation of Criteria**
0400-40-03-.06	**Antidegradation Statement**

Chapter 0400-40-04, Use Classification for Surface Waters	
Rule Number	**Rule Title**
0400-40-04-.01	Memphis Area Basin
0400-40-04-.02	Hatchie River Basin
0400-40-04-.03	Obion-Forked Deer Basin
0400-40-04-.04	Tennessee River Basin – Western Valley
0400-40-04-.05	Duck River Basin
0400-40-04-.06	Elk River Basin
0400-40-04-.07	Lower Tennessee River Basin
0400-40-04-.08	Upper Tennessee River Basin
0400-40-04-.09	Clinch River Basin
0400-40-04-.10	French Broad River Basin
0400-40-04-.11	**Holston River Basin**
0400-40-04-.12	Lower Cumberland River Basin

The EPA determined some of the Rule revisions to be editorial, non-substantive changes which do not have substantive effects on the intent or meaning of the previously-approved WQS. They are noted as "Non-Substantive" in the EPA responses below. The EPA approves these editorial, non-substantive changes as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	**General Considerations**

Revisions to Chapter 0400-40-03, General Water Quality Criteria: Amendments to General Considerations

0400-40-03-.02

(4) In order to permit the reasonable and necessary uses of the Waters of the State, existing pollution should be corrected as rapidly as practicable, and future pollution prevented through the ~~best available technology economically achievable~~ level of treatment technology applicable to a specific source or that greater level of technology necessary to meet water quality standards; i.e., modeling and stream survey assessments, treatment plants or other control measures.

EPA Analysis:

The level of treatment specified in Rule 0400-40-03-.02(4) has been changed to general language which more accurately reflects the various technology-based categories of sources and regulated pollutants. Best available technology economically achievable (BAT) does not apply to all point source categories as the previous rule suggested. The EPA established "secondary treatment standards" for publicly owned treatment works (POTWs), which are the minimum technology-based requirements for municipal wastewater treatment plants. National regulations for industrial wastewater discharges set technology-based numeric limitations for specific pollutants at several levels of control: BPT (Best Practicable Control Technology Currently Available), BAT (Best Available Technology Economically Achievable), BCT (Best Conventional Pollutant Control Technology), NSPS (New Source Performance Standards), PSNS (Pretreatment Standards for New Sources), or PSES (Pretreatment Standards for Existing Sources).

The general language now specified in Rule 0400-40-03-.02(4) correctly reflects the various technology-based categories of sources and regulated pollutants discussed in the paragraph above. This language, nonetheless, is associated with the National Pollutant Discharge Elimination System program of 40 C.F.R. Sections 122 and Section 123 and is outside the scope of CWA Section 303(c).

Not subject to CWA Section 303(c) review

0400-40-03-.02

(5) Since all ~~Waters of the State~~ streams are classified for more than one use, the most stringent criteria will be applicable. ~~In cases where criteria for protection of more than one use apply at different stream flows (e.g., aquatic life versus recreation), the most protective will also be applicable.~~

EPA Analysis:

Chapter 0400-40-04 (Use Classifications for Surface Waters*)* contains the designated uses of surface waters in Tennessee. Surface waters are listed in a column under the heading, STREAMS. Replacing the phrase, "Waters of the State" with "streams" in the provision above allows a consistent term to be used in both Chapter 0400-40-03 and Chapter 0400-40-04 when referencing surface waters.

The deleted sentence is not needed as the previous sentence explains that most stringent designed use criteria of a stream is applicable. This single sentence covers the intent of the deleted sentence.
These revisions do not alter the meaning or intent of the previously-approved corresponding provisions. The EPA has determined that these revisions are editorial changes to Tennessee's EPA-approved water quality standards. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.02

(8) All fish and aquatic life metals criteria are expressed as total recoverable, except cadmium, copper, lead, nickel, silver, and zinc which are expressed as dissolved. Translators will be used to convert the dissolved fraction into a total recoverable permit limit. One of three approaches to metals translation will be used: (1) translator is the same as the conversion factor, (2) translator is based on relationships derived from STORET data, (3) a site-specific translator is developed. Where available, a site-specific translator is preferred. For assessing whether criteria for cadmium, copper, lead, nickel, silver, and zinc are exceeded by ambient water quality conditions, the dissolved criteria will also be translated in order to allow direct comparison to the ambient data, if total recoverable. The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007) may be referenced in applying this provision.

EPA Analysis:

The state of Tennessee added the sentence: "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007) may be referenced in applying this provision." Pursuant to Section 303(c) of the CWA, the EPA is not required to act on provisions that are not new or revised WQS. This additional language is associated with assessments and is outside the scope of the EPA's CWA 303(c) review.

Not subject to CWA Section 303(c) review

0400-40-03-.02

(9) Site-specific numeric criteria studies may be conducted on any appropriate fish and aquatic life ~~criteria~~ criterion.

EPA Analysis:

Adding the word "numeric" and replacing criteria with "criterion" are considered editorial changes and do not have substantive effects on the intent or meaning of the previously-approved WQS. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.02

(9)

(a) Site-specific criteria studies based on a Water Effects Ratio (WER) calculated from the documented toxicity of a parameter in the stream in which it will be introduced may supersede the adopted criteria at a site. The Division shall approve a site-specific ~~criteria~~

criterion for metals developed by others provided that the WER methodology [Interim Guidance on Determination and Use of Water-effect Ratios for Metals (EPA-823-B-94-001)] or the Streamlined Water-effects Ratio Procedure for Discharges of Copper (EPA-822-R-01-001) is used, both the study plan and results are approved by the Department, and the U.S. Environmental Protection Agency has concurred with the final site specific criterion value(s).

EPA Analysis:
The state of Tennessee replaced "criteria" with "criterion for metals" to clarify that site-specific criteria development using the Water-effects Ratio is limited to metals. This revision did not alter the meaning or intent of the previously-approved corresponding provision. The EPA considered it to be an editorial, non-substantive change and approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

Adding "Streamlined Water-effects Ratio Procedure for Discharges of Copper (EPA-822-R-01-001)" codifies the EPA's most recent guidance for streamlined water-effects ratio procedures. The use of this method is bound by the provisions of this subparagraph, including that any criterion recalculated by this method would need to be promulgated as a revision to the rule and subsequently approved by the EPA before being used for CWA purposes. The EPA has determined that this change to Rule 0400-40-03-.02(9)(a) is consistent with CWA Section 303(c) and 40 C.F.R. § 131.11. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.02
(9)

(b) Any site specific criterion for other toxics based on methodologies other than the above-listed methodologies ~~WER methodology~~ which recalculate specific criterion, such as the Resident Species Method or the Recalculation Method or the Biotic Ligand Model (BLM) for copper, must be adopted as a revision to Tennessee water quality standards into this Chapter, and following EPA approval, can be used for Clean Water Act purposes.

References on this subject include, but are not limited to: Technical Support Document for Water Quality-based Toxics Control (EPA - 505/2-90-001); Technical Guidance Manual for Performing Waste Load Allocations: Book VIII (EPA/600/6-85/002a/002b/002c); MinteqA2, An Equilibrium Metal Speciation Model (EPA/600/3-87/012); Water Quality Standards Handbook, Second Edition (EPA-823-B-93-002); ~~The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007);~~ Interim Guidance on Determination and Use of Water-effect Ratios for Metals (EPA-823-B-94-001).

EPA Analysis:
The addition of the words "for other toxics" and "the above-listed methodologies" and the deletion of "WER methodology" are changes which provide clarity and are considered editorial, non-substantive changes of the previously-approved WQS. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

The addition of "the Biotic Ligand Model (BLM) for copper" codifies the EPA's model. The use of the BLM is bound by the provisions of this subparagraph, including that any site-specific criterion developed using this model would need to be promulgated as a revision to the rule and subsequently approved by the EPA before being used for CWA purposes. The EPA has determined that this change to Rule 0400-40-03-.02(9)(b) is consistent with CWA Section 303(c) and 40 C.F.R. § 131.11. This change is approved by the EPA under CWA § 303(c).

Substantive / APPROVED

The state of Tennessee deleted the sentence: "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007) may be referenced in applying this provision." Pursuant to Section 303(c) of the CWA, the EPA is not required to act on provisions that are not new or revised WQS. This additional language is associated with assessments and is outside the scope of Clean Water Act Section 303(c).

Not subject to CWA Section 303(c) review

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	General Considerations
0400-40-03-.03	**Criteria for Water Uses**

Revisions to Chapter 0400-40-03, General Water Quality Criteria: Amendments to Criteria for Water Uses

0400-40-03-.03

(1) The criteria for the use of Domestic Water Supply are the following:

(h) Coliform - The concentration of the E. coli group shall not exceed 630 colony forming units (cfu) per 100 ml as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals of not less than 12 hours. For the purpose of determining the geometric mean, individual samples having an E. coli group concentration of less than 1 cfu per 100 ml shall be considered as having a concentration of 1 cfu per 100 ml.

EPA Analysis:

Adding "colony forming units (cfu)" and "cfu" to this criterion spells out the previously-implied unit of measurement. It is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.03

(1) The criteria for the use of Domestic Water Supply are the following.

(j) Toxic Substances - The waters shall not contain toxic substances, whether alone or in combination with other substances, which will produce toxic conditions that materially affect the health and safety of man or animals, or impair the safety of conventionally treated water supplies. Available references include, but are not limited to: Quality Criteria for Water (Section 304(a) of Public Law 92-500 as amended); Federal Regulations under Section 307 of Public Law 92-500 as amended; and Federal Regulations under Section 1412 of the Public Health Service Act as amended by the Safe Drinking Water Act, (Public Law 93-523). ~~Limits set for some of the most commonly occurring toxic substances are as follows:~~ In addition, the following numeric criteria are for the protection of domestic water supply:

Compound	*Criteria (µg/L)*
Chlorobenzene	*100*
Nitrite	*1000*

EPA Analysis:

The replacement of the phrase "Limits set for some of the most commonly occurring toxic substances are as follows:" with the phrase "In addition, the following numeric criteria are for the protection of domestic water supply:" is considered an editorial change which provides clarity. The EPA deems it a non-substantive change because it does not have substantive effects on the intent or meaning of the previously approved WQS. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

In this revision, the state of Tennessee adopted criteria for chlorobenzene and nitrite in their Domestic Water Supply Use Rules. Prior to this revision, neither parameter had been included in this section of the Rules.

Because these criteria are for Domestic Water Supply use, the state adopted protective numeric values which correspond with the EPA's Safe Drinking Water Act maximum contaminant level goals (MCLG) for chlorobenzene and nitrite. The MCLG for chlorobenzene is 0.1 mg/L or 100 µg/L, which also happens to be equal to its maximum contaminant level (MCL). The MCLG for nitrite is 1 mg/L or 1000 µg/L, which, again, equals its MCL. The EPA set this level of protection based on the best available science to prevent potential health problems.

Considering the scientific and technical information in the Safe Drinking Water Act for chlorobenzene and nitrite, the EPA has determined that this change to Rule 0400-40-03-.03(1)(j) protects the state of Tennessee's designated use and, therefore, is consistent with CWA Section 303(c) and 40 C.F.R. § 131.11. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.03

(3) The criteria for the use of Fish and Aquatic Life are the following.

(a) Dissolved Oxygen - The dissolved oxygen shall not be less than 5.0 mg/l with the following

exceptions:

2. *The dissolved oxygen concentration of trout waters ~~designated~~ identified as supporting a naturally reproducing population shall not be less than 8.0 mg/L. (Tributaries to trout streams or naturally reproducing trout streams should be considered to be trout streams or naturally reproducing trout streams, unless demonstrated otherwise. Additionally, all streams within the Great Smoky Mountains National Park should be considered naturally reproducing trout streams.)*

4. *The dissolved oxygen level of streams in ecoregion 66 (Blue Ridge Mountains) not ~~designated~~ identified as naturally reproducing trout streams shall not be less than 7.0 mg/L.*

   Substantial and/or frequent variations in dissolved oxygen levels, including ~~diurnal~~ diel fluctuations, are undesirable if caused by man-induced conditions. ~~Diurnal~~ Diel fluctuations in wadeable streams shall not be substantially different than the fluctuations noted in reference streams in that region.

EPA Analysis:

A public comment was submitted to the state of Tennessee about the fluctuating use of "identified" and "designated" in Rule 0400-40-03-.03(3)(a). The commenter remarked that it was inconsistent to use "identified" in (3)(a)1. and "designated" in items (3)(a)2. and (3)(a)4. The commenter wanted the state to know that whichever word is used, it should be made clear that designed uses are addressed in Chapter 0400-40-04.

The state of Tennessee addressed this concern by replacing the word "designated" with the word "identified" in Rule 0400-40-03-.03(3)(a)2. and 4. As the commenter indicated, designated uses are covered in Chapter 0400-40-04 of the Rules. This revision to replace "designated" with the word "identified" provides clarity. This change did not change the expectations of how designated uses apply.

The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The state of Tennessee has replaced the word "diurnal" with the word "diel" and added the phrase "in wadeable streams" in Rule 0400-40-03-.03(3)(a)4.

The terms "diurnal" and "nocturnal" describe something with a daily cycle which happens during the day or night hours, respectively. "Diel" describes something that has a 24-hour cycle, including both day and night, and is a more appropriate word to use in this regulation. Variations in dissolved oxygen levels can happen anytime during a 24-hour cycle. Adding the phrase "in wadeable streams" further clarifies the intent of the regulation because Ecoregion 66 (Blue Ridge Mountains) reference streams specified in in Rule 0400-40-03-.03(3)(a)4 are wadeable streams.

The EPA has determined that replacing the word "diurnal" with "diel" and adding the phrase "in wadeable streams" further clarifies Rule 0400-40-03-.03(a)(4). These changes protect the state of Tennessee's designated use and are consistent with CWA Section 303(c) and 40 C.F.R. § 131.11. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

(3) The criteria for the use of Fish and Aquatic Life are the following:

(g) Toxic Substances - The waters shall not contain substances or a combination of substances including disease - causing agents which, by way of either direct exposure or indirect exposure through food chains, may cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction), physical deformations, or restrict or impair growth in fish or aquatic life or their offspring. References on this subject include, but are not limited to: Quality Criteria for Water (Section 304(a) of Public Law 92-500 as amended); Federal Regulations under Section 307 of Public Law 92-500 as amended. ~~The~~ In addition, the following numeric criteria are for the protection of fish and aquatic life:

Compound	Criterion Maximum Concentration µg/L (CMC)	Criterion Continuous Concentration µg/L (CCC)
Arsenic (III)~~*~~ [1]	340	150
Cadmium~~**~~ [2]	~~2.0~~ 1.8	~~0.25~~ 0.72
Chromium, III~~**~~ [2]	570	74
Chromium, VI~~*~~ [1]	16	11
Copper~~**~~ [2]	13	9.0
Lead~~**~~ [2]	65	2.5
Mercury~~*~~ [1] (b)	1.4	0.77
Selenium (lentic)	20	~~5~~ 1.5 [3]
Selenium (lotic)	20	3.1 [3]
Silver~~**~~ [2]	3.2	---
Zinc~~**~~ [2]	120	120
Cyanide~~***~~ [4]	22	5.2
Pentachlorophenol~~****~~[5]	19	15
Acrolein	3.0	3.0
Carbaryl	2.1	2.1
Chlorpyrifos	0.083	0.041
Diazinon	~~0.1~~ 0.17	~~0.1~~ 0.17

(b) Bioaccumulative parameter.

~~*~~ [1] Criteria for these metals are expressed as dissolved.

~~**~~ [2] Criteria for these metals are expressed as dissolved and are a function of total hardness (mg/L). Hardness-dependent metals criteria may be calculated from the following (values displayed above correspond to a total hardness of 100 mg/l and may have been rounded):

$$CMC\ (dissolved) = \exp\{mA[\ln(hardness)] + bA\}\ (CF)$$

$$CCC\ (dissolved) = \exp\{mC\ [\ln(hardness)] + bC\}\ (CF)$$

Chemical	*MA*	*bA*	*MC*	*BC*	*Freshwater Conversion Factors (CF)*	
					CMC	*CCC*
Cadmium	~~*1.0166*~~ *0.9798*	~~*3.924*~~ *-3.866*	~~*0.7409*~~ *0.7977*	~~*4.719*~~ *-3.909*	*1.136672-[(ln hardness)(0.041838)]*	*1.101672-[(ln hardness)(0.041838)]*

[3] *The numeric water criteria for selenium are applicable for all purposes, but for water quality assessment, fish tissue values may be used to confirm or refute impacts to aquatic life in accordance with and using the values from EPA's Final Criterion: Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater (June 30, 2016). However, a lack of fish tissue data or the absence of fish from a waterbody will not prevent it from being assessed as impaired if a numeric water concentration criterion is exceeded. Fish tissue concentration alone may be used to establish use impairment.*

*** [4] *If Standard Methods 4500-CN I (Weak Acid Dissociable), 4500-CN G (Cyanides Amenable to Chlorination after Distillation), or OIA-1677 are used, this criterion may be applied as free cyanide.*

**** [5] *Criteria for pentachlorophenol are expressed as a function of pH. Values displayed above correspond to a pH of 7.8 and are calculated as follows:*

$$CMC = exp(1.005(pH) - 4.869) \qquad CCC = exp(1.005(pH) - 5.134)$$

EPA Analysis:

The state of Tennessee has made clarifying edits to the phrase: "~~The~~ In addition, the following numeric criteria are for the protection of fish and aquatic life:" The EPA deems this as an editorial change because it does not have substantive effects on the intent or meaning of the previously-approved WQS. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

These revisions included updating the criteria for cadmium, selenium, and diazinon to the EPA's national recommended Section 304(a) values. Prior to these revisions, the state did not have numeric criteria for acrolein, carbaryl, and chlorpyrifos. The state adopted the EPA's national recommended criteria for acrolein, carbaryl, and chlorpyrifos.

For cadmium, the state adopted the EPA's aquatic life ambient water quality criteria equations for cadmium[2]. Based on a total hardness of 100 mg/l, the acute criterion value changed from 2.0 µg/L to 1.8 µg/L, and the chronic criterion value changed from 0.25 µg/L to 0.72 µg/L.

For the chronic selenium lentic criterion and the chronic selenium lotic criterion, the state adopted only the water column values for the EPA's aquatic life ambient water quality criterion for selenium in freshwater.[3] The chronic lentic criterion value changed from 5 µg/L to 1.5 µg/L and the chronic lotic

[2] EPA. 2016. *Aquatic Life Ambient Water Quality Criteria for Cadmium.* Office of Water. Washington, DC. 820-R-16-002

[3] EPA. 2016. *Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater*. Office of Water. Washington, DC. 822-R-16-006

criterion value of 3.1 µg/L was added for the first time. The fish tissue values were not adopted. The EPA's selenium criteria allow use of water column values or fish tissue values. The state wanted a way to assess streams for selenium, even if fish were not present. The selenium footnote was revised to make it clear that exceedances of the numeric water criteria are violations and that the role of fish tissue data would be as an optional method to confirm use impairment. The numeric criteria are applicable to setting permit limits or any other use under the Act. Referencing *Aquatic Life Ambient Water Quality Criterion for Selenium - Freshwater (June 30, 2016)* in the footnote #3 codifies the EPA's document.

For this first adoption of acrolein, the State has used the EPA's aquatic life ambient water quality criteria for acrolein[4]. The values for both acute and chronic criteria are 3.0 µg/L.

For this first adoption of carbaryl, the State has used the EPA's aquatic life ambient water quality criteria for carbaryl[5]. The values for both acute and chronic criteria are 2.1 µg/L.

For this first adoption of chlorpyrifos, the State has used the EPA's criteria in "The Gold Book"[6]. The value for the acute criterion is 0.083 µg/L and for the chronic criterion is 0.041 µg/L.

For diazinon, the State adopted the EPA's aquatic life ambient water quality criteria equations for diazinon[7]. The acute and chronic criteria values both changed from 0.1 µg/L to 0.17 µg/L.

Considering the scientific and technical information supporting these Section 304(a) recommendations, the EPA has determined that the changes to Rule 0400-40-03-.03(3)(g) reflect scientifically, defensible criteria, which protect the state of Tennessee's designated uses and, therefore, are consistent with CWA Section 303(c) and 40 C.F.R. §§ 131.10 and 131.11. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The State's adoption of the selenium (lotic) acute aquatic life criteria of 20 *ug*/L is not considered a change from current standards. It is an editorial change as the State simply split the categories of water into lentic and lotic to improve readability of the table values for selenium.

The footnotes in Rule 0400-40-03-.03(3)(g) have been numbered 1 through 5 in this revision.

The EPA considers these as editorial changes because they do not have substantive effects on the intent or meaning of the previously-approved WQS. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

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[4] EPA. 2009. *Ambient Aquatic Life Water Quality Criteria for Acrolein. CAS Registry Number 107-02-8*
[5] EPA. 2012. *Aquatic Life Ambient Water Quality Criteria for Carbaryl.* Office of Water. Washington, DC 820-R-12-007
[6] EPA. 1986. *Quality Criteria for Water (The Gold Book).* Washington, DC. EPA 440/5-86-001
[7] EPA. 2005. *Aquatic Life Ambient Water Quality Criteria for Diazinon.* Office of Water. Washington, DC. 822-R-05-006

(3) The criteria for the use of Fish and Aquatic Life are the following.

(j) Ammonia – The ~~one-hour average~~ concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CMC (acute criterion) calculated using the following ~~equations~~ equation:

~~Where salmonid fish are present:~~

$$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

~~Or where salmonid fish are not present:~~

$$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

$$CMC = MIN\left(\left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}\right), \left(0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}}\right) \times \left(23.12 \times 10^{0.036 \times (20 - T)}\right)\right)\right)$$

The ~~thirty~~ 30-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CCC (chronic criterion) calculated using the following ~~equations~~ equation:

~~When fish early life stages are present:~~

$$CCC = \left[\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}}\right] \cdot MIN\left(2.85, 1.45 \cdot 10^{0.028 \cdot (25 - T)}\right)$$

~~When fish early life stages are absent:~~

$$CCC = \left[\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}}\right] \cdot 1.45 \cdot 10^{0.028 \cdot (25 - MAX(T,7))}$$

$$CCC = 0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}}\right) \times \left(2.126 \times 10^{0.028 \times (20 - MAX(T,7))}\right)$$

In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the CCC.

EPA Analysis:

In this revision, the state of Tennessee has replaced the 1999 ammonia CMC and CCC equations with the EPA's 2013 Aquatic Life Ambient Water Quality Criteria Recommendations for Ammonia.[8]

Parameter	Summary of Revised Values based on 2013 Ammonia Equations	
Ammonia	Based on pH of 7 and temperature of 20°C ~~24 mg TAN/L~~ ~~(salmonid fish present)~~ ~~36.1 mg N/L~~ ~~(salmonid fish not present)~~ 17 mg TAN/L	Based on pH of 7 and temperature of 20°C ~~4.5 mg TAN/L~~ ~~(early life stage present)~~ 1.9 mg TAN/L (mussels present)

When adopting the EPA's 2013 recommended ammonia criteria, the State made revisions as needed to the introductory language. For example, the one-hour concentration is calculated from the CMC equation, thus the phrase "one-hour average" was deleted. Also, the 2013 CMC criteria is now calculated using one equation rather than the previous two equations, which were based on whether salmonid fish were present. Thus, the State replaced the word "equations" with "equation."

The 2013 ammonia criteria recommendations consider the latest freshwater toxicity information for ammonia, including toxicity studies for sensitive unionid mussels and gill-breathing snails. Except for Alabama, no state has more mussel species with special status than Tennessee.

The State indicated that it is unlikely that there are any Tennessee waters without either mussel or freshwater snail species; it would be the very rarest of streams that might qualify, and the burden of proof would be on the permit applicant to demonstrate a site-specific study was appropriate.

Considering the scientific and technical information supporting these 304(a) recommendations, the EPA has determined that these changes to Rule 0400-40-03-.03 (3)(g) reflect scientifically, defensible criteria, which protect the state of Tennessee's designated uses and, therefore, are consistent with CWA Section 303(c) and 40 C.F.R. §§ 131.10 and 131.11. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.03

(3) The criteria for the use of Fish and Aquatic Life are the following.

(l) Coliform - The concentration of the E. coli group shall not exceed 630 cfu per 100 ml as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals of not less than 12 hours. For the purposes of determining the geometric mean, individual samples having an E. coli group concentration of less than 1 cfu per 100 ml shall be considered as having a concentration of 1 cfu per 100 ml. In addition, the

[8] EPA. 2013. *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* . Office of Water. Washington, DC. 822-R-18-002

concentration of the E. coli group in any individual sample shall not exceed 2,880 cfu per 100 ml.

EPA Analysis:
Adding the "cfu" abbreviation to this criterion specifies the previously-implied measurement of "colony forming units." It is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.03
(3) The criteria for the use of Fish and Aquatic Life are the following.

(m) Biological Integrity - The waters shall not be modified through the addition of pollutants or through physical alteration to the extent that the diversity and/or productivity of aquatic biota within the receiving waters are substantially decreased or, in the case of wadeable streams, substantially different from conditions in reference streams in the same ecoregion. The parameters associated with this criterion are the aquatic biota measured. These are response variables.

Interpretation of this provision for any stream which (a) has at least 80% of the upstream catchment area contained within a single bioregion and (b) is of the appropriate stream order specified for the bioregion and (c) contains the habitat (riffle or rooted bank) specified for the bioregion, may be made using ~~the most current revision of the Department's~~ protocols found in the Department's 2017 Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys and/or other scientifically defensible methods.

EPA Analysis:
This language change allows the wording in this portion of the Rules to be consistent with the language in Rule 0400-40-03-.06(4)(a)6 where the Department's 2017 Quality System Standard Operating Procedure for Macroinvertebrate Stream Survey is also referenced. The EPA considers replacing the phrase "the most current revision of the Department's" with the "protocols found in the Department's 2017" to be a non-substantive change because it does not have substantive effects on the intent or meaning of the previously approved WQS.

The EPA advises the State that if the 2017 document is updated, the referenced document will need to be updated during the subsequent triennial review revisions.

The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.03

(4) The criteria for the use of Recreation are the following.

(f) Coliform - The concentration of the E. coli group shall not exceed 126 cfu ~~colony forming units~~ per 100 ml, as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals of not less than 12 hours. For the purposes of determining the geometric mean, individual samples having an E. coli concentration of less than 1 cfu per 100 ml shall be considered as having a concentration of 1 cfu per 100 ml.

Additionally, the concentration of the E. coli group in any individual sample taken from a lake, reservoir, State Scenic River, Exceptional Tennessee Water or ONRW (0400-40-03-.06) shall not exceed 487 cfu ~~colony forming units~~ per 100 ml. The concentration of the E. coli group in any individual sample taken from any other waterbody shall not exceed 941 cfu ~~colony forming units~~ per 100 ml.

EPA Analysis:

Adding the "cfu" abbreviation to this criterion in place of the previously written measurement of "colony forming units" is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.03

(4) The criteria for the use of Recreation are the following.

(j) Toxic Substances - The waters shall not contain toxic substances, whether alone or in combination with other substances, that will render the waters unsafe or unsuitable for water contact activities including the capture and subsequent consumption of fish and shellfish, or will propose toxic conditions that will adversely affect man, animal, aquatic life, or wildlife. Human health criteria have been derived to protect the consumer from consumption of contaminated fish and water. The water and organisms criteria should only be applied to those waters classified for both recreation and domestic water supply. ~~The criteria for recreation are as follows:~~ In addition, the following numeric criteria are for the protection of recreation:

Compound	*Water & Organisms Criteria *[1] (µg/L)*	*Organisms Only Criteria (µg/L)*
INORGANICS		
*Dioxin **[2] (b)*	*0.000001*	*0.000001*
BASE NEUTRALS		
Butylbenzyl Phthalate (c)	*1500*	*1900*

(b) Bioaccumulative parameter.

(c) Carcinogenic pollutant. 10^{-5} risk level is used for all carcinogenic pollutants.

~~*~~ [1] *These criteria are for protection of public health due to consumption of water and organisms and should only be applied to these waters designated for both recreation and domestic water supply.*

~~**~~ [2] *Total dioxin is the sum of the concentrations of all dioxin and dibenzofuran isomers after multiplication by Toxic Equivalent Factors (TEFs). Following are the TEFs currently recommended by EPA (subject to revision):*

DIOXIN ISOMERS	*TEF*	*FURAN ISOMERS*	*TEF*
1,2,3,7,8 PeCDD	*~~0.5~~ 1.0*	*1,2,3,7,8 PeCDF*	*~~0.05~~ 0.03*
Other PeCDDs	*0.0*	*2,3,4,7,8 PeCDF*	*~~0.5~~ 0.3*
		Other PeCDFs	*0.0*
1,2,3,4,7,8 HxCDD	*0.1*	*~~Other PeCDFs~~ 1,2,3,4,7,8 HxCDF*	*~~0.0~~ 0.1*
1,2,3,6,7,8 HxCDD	*0.1*	*1,2,3,6,7,8 HxCDF*	*0.1*
1,2,3,7,8,9 HxCDD	*0.1*	*1,2,3,7,8,9 HxCDF*	*0.1*
Other HxCDDs	*0.0*	*2,3,4,6,7,8 HxCDF*	*0.1*
		Other HxCDFs	*0.0*
1,2,3,4,6,7,8 HpCDD	*0.01*	*1,2,3,4,6,7,8 HpCDF*	*0.01*
		1,2,3,4,7,8,9 HpCDF	*0.01*
Other HpCDDs	*0.0*	*Other HpCDFs*	*0.0*
OCDD	*~~0.001~~ 0.0003*	*OCDF*	*~~0.001~~ 0.0003*

EPA Analysis:

The state of Tennessee changed the phrase, “The criteria for recreation are as follows:” to “In addition, the following numeric criteria are for the protection of recreation.”

The label “Carcinogenic pollutant.” was added to the footnote to clarify what the (c) meant. And the footnotes in Rule 0400-40-03-.03(4)(j) have been numbered in this revision.

The EPA considers these revisions to be editorial changes because they do not have substantive effects on the intent or meaning of the previously-approved WQS. The EPA approves these revisions as being consistent with the CWA and the EPA’s implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

The footnote “(c)” has been added to Butylbenzyl Phthalate in error. The state of Tennessee initially proposed adopting EPA’s revised human health criteria but later withdrew these criteria in the face of opposition and regulatory uncertainty. In revising this section of the document back to its previous form in accordance with the Board’s Responses to Comments, the parameter, butylbenzyl phthalate, was still shown to be a carcinogenic substance as indicated by the letter “c” in the table. Although the EPA now considers butylbenzyl phthalate to cause cancer, the previous criteria promulgated by the Board (1900 µg/L Organisms Only and 1500 µg/L Water and Organisms) had a different basis. The “c” should have been deleted in the final version of the regulation.

The State has agreed to utilize only the criteria numbers and will disregard the "c" for CWA purposes such as permitting, 303(d) listing, and TMDLs. The State will correct this error in the next triennial review and provided documentation in this October 21, 2019, triennial review package submittal letter that the "c" is an error and is not being submitted to the EPA as a new/revised WQS for review under Section 303(c) of the CWA.

Not subject to CWA Section 303(c) review

In this revision, the state of Tennessee revised the Toxic Equivalent Factors (TEFs) chart of Dioxin Isomers and Furan Isomers to make the values consistent with the EPA's Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments.[9] This 2010 document updated the EPA's approach for evaluating the human health risks from exposures to environmental media containing 2,3,7,8-tetrachlorodibenzo-p-dioxin and dioxin-like compounds.

Considering the scientific and technical information supporting the EPA's TEFs recommendations, the EPA has determined that these changes to Rule 0400-40-03-.03(4)(j) protect the state of Tennessee's designated uses and, therefore, are consistent with CWA Section 303(c) and 40 C.F.R. § 131.11. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.03

(4) The criteria for the use of Recreation are the following.

(l) Fish Consumption Advisories - A public fishing advisory will be considered when the calculated risk of additional cancers exceeds 10-4 for typical consumers or 10-5 for atypical consumers (See definition). A "do not consume" advisory will be issued for the protection of typical consumers and a "precautionary advisory" will be issued for the protection of atypical consumers. The following formula will be used to calculate the risk of additional cancers, using the current risk calculation factors and assumptions used by EPA unless better site-specific information is available:

I = Mean daily consumption rate (g/day averaged over 70 year lifetime) of the fish species by the human subpopulation in the area. ~~6.5 g/day will be used unless better site-specific information is available.~~

X = Relative absorption coefficient, or the ratio of human absorption efficiency to test animal absorption efficiency of the chemical. ~~Assumed to be 1.0 unless better information is available.~~

W = Average human mass (kg). ~~75 kg will be used.~~

EPA Analysis:

The state of Tennessee has revised the Fish Consumption Advisories provision to be consistent with the EPA's risk calculation factors and assumptions in Guidance for Assessing Chemical Contaminant Data

[9] EPA. 2010. *Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2, 3, 7, 8-Tetrachlorodibenzo-p-diosin and Dioxin-Like Compounds.* Office of the Science Advisor. Risk Assessment Forum. EPA/100/R 10/005

for Use in Fish Advisories[10] unless better site-specific information is available. The assumptive values in factors I, X, and W were deleted because these values will be taken from the EPA's document or from site-specific information. The EPA has determined that these changes to Rule 0400-40-03-.03(4)(l) protect the state of Tennessee's designated uses and, therefore, are consistent with CWA Section 303(c) and 40 C.F.R. Section 131. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	General Considerations
0400-40-03-.03	Criteria for Water Uses
0400-40-03-.04	**Definitions**

Revisions to Chapter 0400-40-03, General Water Quality Criteria: Amendments to Definitions

0400-40-03-.04

(4) De Minimis degradation – Degradation of a small magnitude, as provided in this paragraph.

(a) Discharges and withdrawals

1. Subject to the limitation in part 3 of this subparagraph, a single discharge ~~other than those from new domestic wastewater sources~~ will be considered de minimis if it uses less than five percent of the available assimilative capacity for the substance being discharged.

EPA Analysis:

The state of Tennessee has deleted the exempting phrase, "other than those from new domestic wastewater sources," from the definition of *de minimis* degradation. Eliminating this phrase removes potential confusion about new domestic wastewater sources and *de minimis* amounts of degradation. This exemption is discussed in detail in the antidegradation language in Rule 0400-40-03-.06, which affirms that new domestic wastewater sources are prohibited from being considered de minimis. In the response to Comment #95 received by the public, the State further explains that Tennessee's WQS regulations prohibit new or increased domestic wastewater dischargers from being considered *de minimis*.

The EPA has determined that this change to Rule 0400-40-03-.04(4)(a) is consistent with CWA Section 303(c) and 40 C.F.R. § 131. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

[10] EPA. 2000. *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories. Volume 2. Risk Assessment and Fish Consumption Limits. Third Edition*. Office of Water. Washington, D.C. 823-B-00-008

0400-40-03-.04

(5) Domestic wastewater discharge – A discharge of sanitary and other non-process wastewater from a treatment facility other than a publicly-owned treatment works (POTW) treating municipal sewage and/or industrial waste. Examples of domestic wastewater discharges include, but are not limited to, homes, subdivisions, campgrounds, hotels, travel centers, parks, and schools.

EPA Analysis:
The state of Tennessee added a definition for "domestic wastewater discharge," which excludes Publicly- Owned Treatment Works (POTW). It was the Tennessee Board of Water Quality, Oil and Gas intention to exclude POTWs from this definition. The goal was to disincentivize new decentralized waste treatment systems for domestic wastewater and to encourage alternatives including the utilization of existing POTWs. The reference to industrial wastes in the definition recognizes that many POTWs in Tennessee have pretreatment programs that include industrial wastewater.

The definition explains terms used in Tennessee's WQS. It provides information needed for the application and implementation of the WQS and is consistent with Section 303(c) of the CWA. In accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

0400-40-03-.04

~~(5)~~(6) Ecoregion - A relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

~~(6)~~(7) Epilimnion – The upper layer of water in a thermally stratified lake or reservoir. This layer consists of the warmest water and has a fairly uniform (constant) temperature.

~~(7)~~(8) Ground water – Water beneath the surface of the ground within the zone of saturation, whether or not flowing through known and definite channels.

~~(8)~~(9) Ground water table – The upper surface of the zone of saturation by ground water.

~~(9)~~(10) Hypolimnion – The lowest layer in a thermally stratified lake or reservoir. This layer consists of colder, more dense water, has a constant temperature and no mixing occurs. The hypolimnion of a eutrophic lake is usually low or lacking in oxygen.

~~(10)~~(11) Interflow – The runoff infiltrating into the surface soil and moving toward streams as shallow, perched water above the main ground-water level.

EPA Analysis:
With the addition of a new definition, the existing definitions were renumbered for alphanumeric reordering. These are considered editorial, non-substantive changes. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.04

(12) In-system mitigation – mitigation for habitat alterations sufficient to result in no overall net loss of resource values, if provided in the same eight-digit hydrologic unit code as the alteration, or in another area proximate to the alteration as approved by the division to offset the loss of resource values in the area. In-system mitigation may not occur within a different major river drainage basin as the alteration (i.e., Tennessee River, Cumberland River, Mississippi River).

(13) Lentic – Still water aquatic ecosystems such as ponds, lakes, or reservoirs.

(14) Lotic – Flowing water aquatic ecosystems such as streams and rivers.

EPA Analysis:
In-system mitigation relates to aquatic resource alteration permits (ARAPs) and/or Section 404 permits. Although this definition does not specifically address designated uses or water quality criteria, habitat alterations are discussed in Rule 0400-40-03-.06. Additionally, the term "in-system mitigation" is found in the definition of *de minimis*, which is part of the State's antidegradation policy. This definition provides helpful information regarding mitigation for habit alterations.

The lentic and lotic definitions explain terms used in the implementation of Tennessee's WQS.

The three definitions identified above are consistent with Section 303(c) of the CWA. In accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves these definitions.

Substantive / APPROVED

0400-40-03-.04
~~(11)~~(15) Measurable degradation, as used in the context of discharges or withdrawals – Changes in parameters of waters that are of sufficient magnitude to be detectable by the best available instrumentation or laboratory analyses.

EPA Analysis:
With the addition of new definitions, this existing definition was renumbered for alphanumeric reordering. It is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.04
(16) Minimum Level (ML) – a term referring to the lowest sample concentration at which reliable quantitative measurements can be made as defined in Appendix A of 40 C.F.R. part 136 (2018).

EPA Analysis:
Because the State was aware of the confusion that exists due to the terms and acronyms used to refer to the various detection limits and quantitation levels, this definition was added. The specificity of the rule change will help eliminate some of the confusion by using "minimum level" (ML) as the standard term when referring to quantitation level. The ML is detailed in Rule 0400-40-03-.05(8). All chemical data reported under Tennessee's WQS Rules must use "sufficiently sensitive" analytical methods approved under 40 C.F.R. Part 136 (2018) or required under 40 C.F.R. chapter I, subchapter N or O (2018).

Because this concept is an important component of the interpretation of water quality criteria, the definition of ML was reviewed for consistency with Section 303(c) of the CWA. In accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

0400-40-03-.04

~~(12)~~(17)Mixing Zone - That section of a flowing stream or impounded waters in the immediate vicinity of an outfall where an effluent becomes dispersed and mixed.

~~(13)~~(18)Multiple populations – Two or more individuals from each of two or more distinct taxa, in the context of obligate lotic aquatic organisms.

EPA Analysis:

With the addition of new definitions, these existing definitions were renumbered for alphanumeric reordering. It is considered an editorial, non-substantive change. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.04

(19) New or increased discharge – A new discharge of pollutants to waters of the state or an increase in the authorized loading of a pollutant above either (1) numeric effluent limitations established in a National Pollutant Discharge Elimination System permit for that discharge, or (2) if no such limitations exist, the actual discharges of that pollutant.

EPA Analysis:

The term "new or increased discharge" explains terms used in Rule 0400-40-03-.06. This definition is scientifically defensible and provides information needed for the application and implementation of the State's WQS. Therefore, in accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

0400-40-03-.04

~~(14)~~(20)Normal weather conditions – Those within one standard deviation of the cumulative monthly precipitation means for at least the three months prior to the hydrologic determination investigation, based on a 30-year average computed at the end of each decade. Precipitation data shall come from National Oceanographic and Atmospheric Agency's National Climatic Data Center, National Resources Conservation Service's National Climatic Data Center, Natural Resources Conservation Service's National Water and Climate Center, or other well-established weather station.

~~(15)~~(21)Obligate lotic aquatic organisms - Organisms that require flowing water for all or almost all of the aquatic phase of their life cycles.

~~(16)~~(22)*Parameter – A biological, chemical, radiological, bacteriological, or physical property of water that can be directly measured. Some criteria are expressed in terms of a single parameter; others, such as habitat, nutrients, and biological integrity are not directly measured, but are derived from measurements of parameters.*

~~(17)~~(23)*Perched water – Water that accumulates above an aquitard that limits downward migration where there is an unsaturated interval below it, between the aquitard and the zone of saturation.*

~~(18)~~(24)*Photic Zone - the region of water through which light penetrates and where photosynthetic organisms live.*

~~(19)~~(25)*Reference condition - A parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.*

~~(20)~~(26)*Reference Site - Least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.*

EPA Analysis:
With the addition of new definitions, these existing definitions were renumbered for alphanumeric reordering. This is considered an editorial, non-substantive change. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.04

(27) Resource values – The physical, chemical, and biological properties of the water resource that help maintain classified uses. These properties may include, but are not limited to, the ability of the water resource to:

(a) filter, settle, and/or eliminate pollutants;

(b) prevent the entry of pollutants into downstream waters;

(c) assist in flood prevention;

(d) provide habitat for fish, aquatic life, and wildlife;

(e) provide drinking water for wildlife and livestock;

(f) provide and support recreational and navigational uses; and

(g) provide both safe quality and adequate quantity of water for domestic water supply and other applicable classified uses.

EPA Analysis:
The "resource values" definition explains terms used in Rule 0400-40-03-.06. Resource values are also part of the definition for significant degradation. This definition gives a clear meaning to the term resource values and is information needed for the application and implementation of the State's WQS.

The EPA finds this definition to be consistent with the CWA and the EPA's implementing regulations. Therefore, in accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

0400-40-03-.04

~~(21)~~(28)Response Variable – a characteristic of water quality that can be measured and changes as a result of an alteration of habitat, water withdrawal, or discharge of pollutants, as distinguished from agents that cause changes in aquatic systems.

EPA Analysis:

With the addition of new definitions, this existing definition was renumbered for alphanumeric reordering. It is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.04

(29) Significant degradation – an appreciable permanent loss of resource values resulting from a habitat alteration in a waterbody with unavailable parameters for habitat, unless mitigation sufficient to ensure no overall net loss of resource values is provided.

EPA Analysis:

This definition provides an understandable meaning to the term "significant degradation" used in Rule 0400-40-03-.06. Many of the terms used in this rule are borrowed from the existing ARAP mitigation rules, which have been in use for many years in the state of Tennessee. Projects that require mitigation require individual permits, and thus are individually reviewed by TDEC Division staff and subject to permit appeals.

This definition provides information needed for the application and implementation of the State's WQS and is consistent with the CWA and the EPA's implementing regulations. Therefore, in accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

0400-40-03-.04

~~(22)~~(30)Stratification – The tendency in lakes and reservoirs for distinct layers of water to form as a result of vertical change in temperature and, therefore, in the density of water. During stratification, dissolved oxygen, nutrients, and other parameters of water chemistry do not mix well between layers, establishing chemical as well as thermal gradients.

~~(23)~~(31)Stream - A surface water that is not a wet weather conveyance.

~~(24)~~(32)Subecoregion - A smaller, more homogenous area that has been delineated within an ecoregion.

~~(25)~~(33)Thermocline – The middle layer in a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperature with depth. Also called the metalimnion.

~~(26)~~(34)*Wadeable streams - Streams that can be sampled using a hand held, one meter square or smaller kick net without water and materials escaping over the top of the net.*

~~(27)~~(35)*Watercourse - A man-made or natural hydrologic feature with a defined linear channel which discretely conveys flowing water, as opposed to sheet-flow.*

~~(28)~~(36)*Wet weather conveyance - Man-made or natural watercourses, including natural watercourses that have been modified by channelization:*

(a) That flow only in direct response to precipitation runoff in their immediate locality;

(b) Whose channels are at all times above the ground water table;

(c) That are not suitable for drinking water supplies; and

(d) In which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months.

~~(29)~~(37)*Wet weather conveyance determination - The decision based on site specific information of whether a particular watercourse is a stream or a wet weather conveyance. It is synonymous with "stream determination" and "hydrologic determination."*

~~(30)~~(38)*Zone of saturation – A subsurface zone below the ground water table in which all of the interconnected voids and pore spaces are filled with water.*

EPA Analysis:

With the addition of new definitions, these existing definitions were renumbered for alphanumeric reordering. This is considered an editorial, non-substantive change. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	General Considerations
0400-40-03-.03	Criteria for Water Uses
0400-40-03-.04	Definitions
0400-40-03-.05	**Interpretation of Criteria**

Revisions to Chapter 0400-40-03, General Water Quality Criteria: Amendments to Interpretation of Criteria

0400-40-03-.05

(2) ~~The~~ For measuring compliance with permit conditions, the effect of treated sewage or waste discharge on the receiving waters shall be considered beyond the mixing zone except as provided in this paragraph. ~~The extent to which this is practicable depends upon local conditions and the proximity and nature of other uses of the waters.~~ Such mixing zones (See definition) shall be restricted in area and length; and shall not (a) prevent the free passage of fish or cause aquatic life mortality in the receiving waters; (b) contain materials in concentrations that exceed acute criteria beyond the zone immediately surrounding the outfall; (c) result in ~~offensive~~ objectionable colors, odors, or other conditions; (d) produce undesirable aquatic life or result in dominance of a nuisance species; (e) endanger the public health or welfare; or (f) ~~adversely affect the reasonable and necessary~~ impair classified uses ~~of the area~~; (g) create a condition of chronic toxicity beyond the edge of the mixing zone; (h) adversely affect nursery and spawning areas; or (i) adversely affect species with special state or federal status. Mixing zones shall not apply to the discharge of bioaccumulative pollutants to waters of the state where the risk-based factors in Rule 0400-40-03-.03(4)(l) are exceeded for the pollutant group.

EPA Analysis:

Mixing zones are areas where complete mixing of discharge with receiving waters does not occur instantaneous or rapidly. Another way to define a mixing zone is a limited area or volume of water where the initial dilution of a discharge takes place and where certain numeric water quality criteria may be exceeded. Individual, site-specific mixing zones may be authorized for a point-source discharge in accordance with a state mixing zone policy. The State has added the phrase, "for measuring compliance with permit conditions," to identify when and how mixing zones are used in the state of Tennessee. The State's revision identifying when and how mixing zones are used is consistent with 40 C.F.R. § 131.13 and is approved by the EPA pursuant to Section 303(c) of the Act.

Substantive / APPROVED

The State has removed the sentence, "The extent to which this is practicable depends upon local conditions and the proximity and nature of other uses of the waters." Although this sentence did not provide clear information for the application nor the implementation of mixing zones, its deletion removes this factor for mixing zones. The State's revision is consistent with 40 C.F.R. § 131.13 and is approved by the EPA pursuant to Section 303(c) of the Act.

Substantive / APPROVED

The State has revised Rule 0400-40-03-.05(2)(c) to read: "result in ~~offensive~~ objectionable colors, odors, or other conditions." The state of Tennessee has added the words "colors, odors, or other" to the sentence to add clarity to what was previously "offensive conditions." The word offensive was changed to objectionable to be consistent with the criterion under Rule 0400-40-03-.03(4)(d).

The EPA has determined that this revision is consistent with CWA Section 303(c) and 40 C.F.R. § 131.13. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The State has revised Rule 0400-40-03-.05(2)(f) to read: "~~adversely affect the reasonable and necessary~~ impair classified uses ~~of the area~~." The State consistently references the term "classified uses" throughout the Rules. This term, described in 40 C.F.R. § 131.10, means those uses specified in state water quality standards regulations for each water body or segment whether or not they are being attained. The federal term for classified uses is "designated uses." The State revised the language in Rule 0400-40-03-.05(2)(f) to clarify what was previously meant by "adversely affect the reasonable and necessary uses of the area" by substituting terms consistently used in the Rules.

This revised language is consistent with the necessary aspects of mixing zones in the *Water Quality Standards Handbook*: EPA-820-B-94-004, 2014 and *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991. The EPA has determined that this revision is protective of the state of Tennessee's designated uses and, therefore, is consistent with CWA Section 303(c) and 40 C.F.R. § 131.13. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The State has placed an additional prohibition on mixing zones with the sentence, "Mixing zones shall not apply to the discharge of bioaccumulative pollutants to waters of the state where the risk-based factors in Rule 0400-40-03-.03(4)(l) are exceeded for the pollutant group."

Bioaccumulative pollutants are an example of pollutants for which mixing zones may not be appropriate because they may cause significant human health risks such that the designated use of the waterbody as a whole may not be protected. In 2000, the EPA began recommending that state mixing zone policies not allow mixing zones for discharges of bioaccumulative pollutants. The EPA adopted this approach when it amended its 1995 Final Water Quality Guidance for the Great Lakes System at 40 C.F.R. Part 132 to phase out mixing zones for existing discharges of bioaccumulative pollutants within the Great Lakes Basin and ban such mixing zones for new discharges within the Basin. This type of prohibition is in keeping with the *Water Quality Standards Handbook*: EPA-820-B-94-004, 2014 and *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991. The EPA has determined that this revision is protective of the state of Tennessee's designated uses and, therefore, is consistent with CWA Section 303(c) and 40 C.F.R. § 131. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.05

(3) ~~*The technical and economical feasibility of waste treatment, recovery, or adjustment of the method of discharge to provide correction shall be considered in determining the time to be allowed for the development of practicable methods and for the specified correction, to the extent allowable under paragraph (5) of Rule 0400-40-03-.06*~~ *Permits for the discharge of pollutants may establish a schedule of compliance when necessary to allow a reasonable opportunity to comply with these water quality standards. When the division establishes a compliance schedule, it shall consider*

the technical and economic feasibility of waste treatment, recovery, or adjustment of the method of discharge. Any such schedule of compliance shall require compliance with an enforceable final effluent limitation as soon as possible and include a final compliance date. If compliance will take longer than one year, the schedule of compliance shall establish enforceable interim requirements, establish dates for compliance with these requirements that are no longer than one year apart, and require reporting of interim compliance actions within fourteen days of the applicable deadline. If the time necessary for completion of any requirement is more than one year and the requirement is not readily divisible into stages for completion, the permit shall require, at a minimum, specified dates for annual submission of progress reports on the status of interim requirements.

EPA Analysis:

The State has deleted its former compliance-related language and added compliance language consistent with 40 C.F.R. § 131.15. This new language specifically authorizes the use of schedules of compliance for water quality-based effluent limits (WQBEL) in National Pollutant Discharge Elimination System (NPDES) permits. A permit compliance schedule may be appropriate when the designated use is attainable, but the discharger needs additional time to modify or upgrade treatment facilities in order to meet its WQBEL such that a schedule and resulting milestones will lead to compliance "as soon as possible" with the WQBEL based on the currently applicable WQS. See CWA Section 502(17) for a definition of "schedules of compliance" and 40 C.F.R. § 122.47.

In August 2015, the EPA revised the WQS regulations (40 C.F.R. Part 131).[11] The EPA's final rule requires that if states intend to authorize the use of compliance schedules for WQBELs in NPDES permits, the state must adopt a permit compliance schedule authorizing provision and submit it to the EPA for review and action under CWA Section 303(c). The schedule of compliance language in Rule *0400-40-03-.05(3)* is consistent with CWA Sections 303(c), 502(17), and 301(b)(3)(A) of the Act, and with the requirements of the EPA's schedule of compliance regulations at 40 C.F.R. § 131.15. Therefore, the provision is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.05

(4) Water quality criteria for fish and aquatic life and livestock watering and wildlife set forth shall generally be applied in permits on the basis of the following stream flows: unregulated streams - stream flows equal to or exceeding the 7-day minimum, 10-year recurrence interval; regulated streams - all flows in excess of the minimum critical flow occurring once in ten years as determined by the Division. ~~However, criteria that are wholly or partially based on measurements of ambient aquatic community health, such as the nutrient, biological integrity, and habitat criteria for the fish and aquatic life use, shall support the designated use. These criteria should be considered independent of a specified minimum flow duration and recurrence.~~ All other criteria shall be applied in permits on the basis of stream flows equal to or exceeding the 30 day minimum 5 year recurrence interval.

EPA Analysis:

The State has inserted the term "in permits" in two places of this Rule. This addition makes clear where this water quality criteria for fish and aquatic life and livestock watering and wildlife generally apply

[11] See 80 Fed. Reg. 51020 (August21, 2015). This notice and supplemental materials are available at http://www.epa.gov/wqs-tech/final-rulemaking-update-national-water-quality-standards-regulation.

and to clarify that different flow levels are used for permitting purposes, not assessment purposes. The two sentences describing criteria that are wholly or partially-based on measurement of ambient aquatic community health have been removed. Although these sentences have been deleted in this Rule, the criteria requirement to support the designated use based on nutrient, biological integrity, and habit for the fish and aquatic life can be found in Rule 0400-40-03(3)(k), (m), and (n).

The EPA has determined that these changes to Rule 0400-40-03-.05 (4) protect the state of Tennessee's designated uses and, therefore, are consistent with CWA Section 303(c) and 40 C.F.R. § 131. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.05

(5) In general, deviations from normal water conditions are undesirable, but the frequency, magnitude and duration of the deviations shall be considered in interpreting the above criteria in assessing use support. Excursions from water quality criteria of a magnitude, frequency, and/or duration such that a specific use classification is no longer supported by existing water quality is the condition of impairment. When interpreting pathogen data, samples collected during or immediately after significant rain events may be treated as outliers unless caused by point source dischargers. Such outlier data may be given less weight in assessment decisions than non-rain event sampling results.

EPA Analysis:

This Rule was amended to identify what is meant by the term "condition of impairment." This language was added to contrast water quality impairment with the "condition of pollution" as defined in Tennessee's Water Quality Control Act. According to the Act, any water quality criteria violation is the condition of pollution. The proposed description of the condition of impairment makes it clear that TDEC will not automatically assess a stream as impaired simply based on a single excursion from applicable water quality criteria, but will rather consider the "magnitude, frequency and duration" of such excursions. Although this revision is associated with water quality assessments, it provides clarifying WQS information for assessing ambient water quality. In considering this, the adoption of this amendment is consistent with the CWA and 40 C.F.R. Part 131 and, therefore, approved pursuant to section 303(c) of the Act.

Substantive / Approved

0400-40-03-.05

(6) ~~The criteria and standards provide that all~~ All discharges of sewage, industrial waste, and other waste shall receive the degree of treatment or effluent reduction necessary to comply with water quality standards, or state or federal laws and regulations pursuant thereto, and where appropriate will comply with the "Standards of Performance" as required by the Tennessee Water Quality Control Act, (T.C.A., §§ 69-3-101, et seq.).

EPA Analysis:

The deletion of the phrase, "the criteria and standards provide that," has not changed the meaning of this provision. The revision to Paragraph (6) is a non-substantive change to Tennessee's EPA-approved WQS. The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

0400-40-03-.05

(7) Where naturally formed conditions (e.g., geologic formations) or background water quality conditions are substantial impediments to attainment of the water quality standards, these natural or background conditions shall be taken into consideration in establishing any effluent limitations or restrictions on discharges to such waters. For purposes of water quality assessment, with the exception of pathogens, exceedances of water quality standards caused by natural conditions will not be considered the condition of ~~pollution~~ impairment. Examples of natural conditions include alterations caused by beaver activity, non-construction related rockslides of pyritic materials, and groundwater with naturally elevated metals or low dissolved oxygen levels.

EPA Analysis:

The insertion of the phrase, "with the exception of pathogens," clarifies that the WQS criteria for pathogens is not used when determining exceedances of WQS caused by natural conditions for purposes of water quality assessment. Because the pathogen criterion does not differentiate between natural or anthropogenic sources, it is difficult to determine what are natural pathogen sources. Although directly connected to water quality assessment and conditions of impairment, this revision adds helpful WQS applicability.

The state of Tennessee also amended Paragraph (7) to include several examples of naturally-formed conditions.

The EPA has determined that this addition to Rule 0400-40-03-.05(7) protects the state of Tennessee's designated uses and, therefore, is consistent with CWA Section 303(c) and 40 C.F.R. § 131. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

0400-40-03-.05

~~(8) There are cases in which the in-stream criteria as established by this rule are less than current chemical technological capabilities for analytical detection. In instances where permit limits established through implementation of these criteria are below analytical capabilities, compliance with those limits will be determined using the following reporting limits, unless in specific cases other reporting limits are demonstrated to be the best achievable because of the particular nature of the wastewater being analyzed. Such a demonstration shall be made at the time results are submitted and shall affirm that using methods, personnel, training, and equipment appropriate to reach applicable RRLs, the laboratory was unable to do so due to the nature of the sample. The methods, equipment, and general nature of the interference shall be provided. Inability to accurately quantify the level of a contaminant shall not be acceptable grounds for a higher reporting level if the permit requirement is based on detection/non-detection.~~

~~REQUIRED REPORTING LEVELS [RRL] (µg/L)~~
~~Approved EPA Methods Must Be Used)~~

~~INORGANICS~~	*~~RRL~~*	*~~BASE NEUTRALS~~*	*~~RRL~~*
~~Antimony~~	*~~3.0~~*	*~~Acenaphthylene (c)~~*	*~~2.3~~*
~~Arsenic, total (c)~~	*~~1.0~~*	*~~Anthracene~~*	*~~0.7~~*
~~Arsenic (III) (c)~~	*~~1.0~~*	*~~Benzo(a)anthracene (c)~~*	*~~0.3~~*
~~Beryllium (c)~~	*~~1.0~~*	*~~Benzo(a)pyrene (c)~~*	*~~0.3~~*

Cadmium	1.0	3,4-Benzofluoranthene (c)	0.3
Chromium, total	1.0	Benzo(k)fluoranthene (c)	0.3
Chromium (III)	1.0	Bis(2-Chloroethyl)ether (c)	1.0
Chromium (VI)	10.0	Bis(2-Ethylhexyl)phthalate(c)	2.5
Copper	1.0	Chrysene	2.5
Lead	1.0	1,2-Dichlorobenzene	2.0
Mercury	0.2	1,3-Dichlorobenzene	2.0
Nickel	10.0	1,4-Dichlorobenzene - para-Dichlorobenzene	4.4
Selenium	2.0	Diethyl phthalate	1.9
Silver	1.0	Dimethyl phthalate	1.6
Zinc	1.0	Di-n-Butyl phthalate	2.5
Cyanide	5.0	2,4-Dinitrotoluene (c)	1.0
Dioxin	0.00001	Fluoranthene	2.2

INORGANICS	RRL	BASE NEUTRALS	RRL
		Fluorene	0.3
VOLATILES		Hexachlorobenzene (c)	1.9
Acrolein	1.0	Hexachlorobutadiene (c)	5.0
Acrylonitrile (c)	1.0	Hexachloroethane (c)	0.5
Benzene (c)	1.0	Nitrobenzene	10.0
Bromoform - Tribromomethane (c)	1.0	Phenanthrene	0.7
Carbon tetrachloride (c)	1.0	Pyrene	0.3
Chloroform - Trichloromethane (c)	0.5	PESTICIDES	
Dichlorobromomethane (c)	1.0	Aldrin (c)	0.5
1,2-Dichloroethane (c)	1.0	g-BHC - Lindane (c)	0.5
1,1-Dichloroethylene (c)	1.0	Chlordane (c)	0.1
1,3-Dichloropropylene	1.0	4-4'-DDT (c)	0.1
Ethylbenzene	1.0	4,4'-DDE (c)	0.1
Methyl chloride - Chloromethane (c)	1.0	4,4'-DDD (c)	0.1
Methylene chloride - Dichloromethane (c)	1.0	Dieldrin (c)	0.05
1,1,2,2-Tetrachloroethane (c)	0.5	a-Endosulfan	0.1
Tetrachloroethylene (c)	0.5	b-Endosulfan	0.05
Toluene	1.0	Endrin	0.1
1,1,1-Trichloroethane	1.0	Heptachlor (c)	0.05
1,1,2-Trichloroethane (c)	0.2	Heptachlor epoxide (c)	0.08
Trichloroethylene (c)	1.0	PCB-1242 (c)	0.5
Vinyl chloride (c)	2.0	PCB-1254 (c)	0.5
		PCB-1221 (c)	0.5
		PCB-1232 (c)	0.5
		PCB-1248 (c)	0.5
		PCB-1260 (c)	0.5

ACID EXTRACTABLES		PCB-1016 (c)	0.5
2-Methyl-4,6-dinitrophenol - 4,6-Dinitro-o-cresol	24.0	PCB, total (c)	0.5
2,4-Dinitrophenol	42.0	Toxaphene (c)	0.5
Pentachlorophenol	5.0		
2,4,6-Trichlorophenol (c)	2.7		

~~*(c) carcinogen*~~

(8) All chemical data reported under this rule shall be generated using "sufficiently sensitive" analytical methods approved under 40 C.F.R. part 136 (2018) or required under 40 C.F.R. chapter I, subchapter N or O (2018). An approved method is "sufficiently sensitive" when:

(a) The method minimum level (ML) is at or below the level of the applicable water quality criterion or the effluent limit established by the permit for the measured pollutant or pollutant parameter; or

(b) The method ML is above the applicable water quality criterion or the effluent limit established by the permit, but the amount of the pollutant or pollutant parameter actually measured is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter; or

(c) Demonstration is made showing that the method used has the lowest ML of the approved methods for the measured pollutant or pollutant parameter in the sample/matrix being analyzed. (Documentation supporting this demonstration is to be submitted with reported data and shall include narrative justification for why the method chosen is believed to have the lowest ML of all approved methods identified in 40 CFR part 136 (2018). The Director shall determine whether the submitted information demonstrates sufficient method sensitivity.)

Note: When there is no analytical method that has been approved under 40 C.F.R. part 136 (2018) or required under 40 C.F.R. chapter I, subchapter N or O (2018), and a specific method is not otherwise required by the Director, the applicant may use any suitable method but shall provide a description of the method. When selecting a suitable method, factors such as a method's precision, accuracy, or resolution, must be considered when assessing the performance of the method.

EPA Analysis:

Paragraph (8) is updated to refer to the EPA's sufficiently sensitive reporting levels rather than listing the required reporting levels in the rule. This language is consistent with 40 C.F.R. § 122.44 (Establishing limitations, standards, and other permit conditions) and with the requirements for state NPDES programs in 40 C.F.R. § 123.25 (Requirements for permitting).

These deletions and additions to Rule 0400-40-03-.05(8) do not address designated uses, water quality criteria, or antidegradation, but they do provide information necessary to implement the WQS. Because sufficiently sensitive reporting levels are an important component of the interpretation of water quality criteria, Paragraph (8) was reviewed for consistency with Section 303(c) of the CWA.

In accordance with its authority under Section 303(c) of the CWA and 40 C.F.R. Part 131, the EPA approves this definition.

Substantive / APPROVED

(9) Standard operating procedures for making stream and wet weather conveyance determinations (hydrologic determinations)

(a) General

9. All of the indicators referred to in these rules and the Guidance are evidence relevant to the presence or absence of one or more of the four elements of the wet weather conveyance definition. The difference between the primary and secondary indicators is that each of the primary indicators is considered presumptive evidence alone regarding one or more of the four elements, and will allow for an immediate hydrologic determination to be made in most cases. Some of the primary indicators involve direct observations of the presence or absence of one or more of the elements. The primary indicators of wet weather conveyances are:

(i) ~~hydrologic~~ Hydrologic feature exists solely due to a process discharge,

(ii) ~~defined~~ Defined bed and bank absent, watercourse dominated by upland vegetation/ grass,

(iii) ~~watercourse~~ Watercourse dry anytime during February through April 15th under normal precipitation/ ground water conditions, and

(iv) ~~daily~~ Daily flow and precipitation records showing feature only flows in direct response to rainfall.

10. Primary indicators of streams are:

(i) ~~presence~~ Presence of multiple populations of obligate lotic organisms with two months or longer aquatic phase,

(ii) ~~presence~~ Presence of fish (except Gambusia),

(iii) ~~presence~~ Presence of naturally occurring ground water table connection,

(iv) ~~flowing~~ Flowing water in channel seven days or more since the last precipitation in the local watershed, and

(v) ~~evidence~~ Evidence watercourse has been used as a supply of drinking water.

11. When primary indicators cannot be observed or documented, then the investigator must evaluate the watercourse using secondary indicators. The secondary indicators are an aggregate set of observations that in total are used to evaluate the presence or absence of one or more of the elements of a wet weather conveyance. Secondary indicators are:

(i) ~~continuous~~ Continuous bed and bank,

(ii) ~~sinuous~~ Sinuous channel,

(iii) ~~in~~ In-channel structure, riffle-pool sequences,

(iv) ~~sorting~~ Sorting of soil textures or other substrate,

(v) ~~active~~ Active/relic floodplain,

(vi) ~~depositional~~ Depositional bars or benches,

(vii) ~~braided~~ Braided channel,

(viii) ~~recent~~ Recent alluvial deposits,

(ix) ~~natural~~ Natural levees,

(x) ~~headcuts~~ Headcuts,

(xi) ~~grade~~ Grade controls,

(xii) ~~natural~~ Natural valley ~~draingeway~~ drainageway,

(xiii) ~~at~~ At least second order channel on United States Geological Survey or Natural Resources Conservation Service map,

(xiv) ~~subsurface~~ Subsurface flow/discharge into channel,

(xv) ~~water~~ Water in channel more than forty-eight hours since rain,

(xvi) ~~leaf~~ Leaf litter in channel,

(xvii) ~~sediment~~ Sediment on plants or on debris,

(xviii) ~~organic~~ Organic debris lines or piles (wrack lines),

(xix) ~~hydric~~ Hydric soils in channel bed or sides,

(xx) ~~fibrous~~ Fibrous roots in channel,

(xxi) ~~rooted~~ Rooted plants in channel,

(xxii) ~~crayfish~~ Crayfish in channel (exclude in floodplain),

(xxiii) ~~bivalves~~ Bivalves/mussels,

(xxiv) ~~amphibians~~ Amphibians,

(xxv) ~~macrobenthos~~ Macrobenthos,

(xxvi) ~~filamentous~~ Filamentous algae, periphyton,

(xxvii) ~~iron~~ Iron-oxidizing bacteria/fungus, and

(xxviii) ~~wetland~~ Wetland plants in channel.

(b) The specific procedures outlined herein are intended to consider each of the four elements necessary for a watercourse to be classified as a wet weather conveyance.

4. The following procedures are to determine if a watercourse, under normal weather conditions, due to naturally occurring ephemeral or low flow does not have sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months.

(ii) Indigenous members of taxa within the benthic macroinvertebrate groups listed below are obligate lotic aquatic organisms and thus are primary indicators that a watercourse is a stream when two or more specimens of two or more taxa are documented under normal weather conditions.

(VI) Megaloptera: all members, except: (Chauliodes)

EPA Analysis:

These indicator terms were capitalized, and parenthesis were added around the word, "Chauliodes." The misspelled word "drainageway" was corrected. These are considered editorial, non-substantive changes. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

Chapter 0400-40-03, General Water Quality Criteria	
Rule Number	**Rule Title**
0400-40-03-.01	Tennessee Board of Water Quality, Oil and Gas
0400-40-03-.02	General Considerations
0400-40-03-.03	Criteria for Water Uses
0400-40-03-.04	Definitions
0400-40-03-.05	Interpretation of Criteria
0400-40-03-.06	**Antidegradation Statement**

Revisions to Chapter 0400-40-03, General Water Quality Criteria: Amendments to Antidegradation Statement

The EPA's review considered the most recent regulatory expectations for antidegradation policy and implementation methods,[12] along with other existing guidance available to the EPA on the topic of antidegradation.[13]

0400-40-03-.06

(1) General

(a) It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act. Existing uses are those actually attained in the waterbody on or after November 28, 1975. ~~Additionally, the Tennessee Water Quality Standards shall not be construed as permitting the degradation (see definition) of high quality surface waters.~~ Where the quality of Tennessee waters is better than the level necessary to support propagation of fish, shellfish, and wildlife, or recreation in and on the water, that quality will be maintained and protected unless the Department finds, after intergovernmental coordination and public participation, that lowering water quality is necessary to accommodate important economic or social development in the area in which the waters are located as established herein. In such waters, there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources in that stream segment and ~~S~~sources or activities exempted from permit requirements under the Water Quality Control Act in that stream segment should utilize all cost-effective and reasonable best management practices to prevent degradation of waters. Where new or increased temperature alterations are proposed, a successful demonstration as determined by the Department under Section 316(a) of the Clean Water Act, 33 U.S.C. § 1326, shall be considered to be in compliance with this rule.

EPA Analysis:

The sentence, "Additionally, the Tennessee Water Quality Standards shall not be construed as permitting the degradation (see definition) of high quality surface waters" was deleted. According to Tennessee, this was an incorrect statement that degradation of high quality waters is not permitted. Degradation (but not pollution) is and has been allowed through the proper application of the procedures of the Antidegradation Statement or in cases where the Antidegradation Statement does not apply. The EPA approves this change as being consistent with 40 C.F.R. § 131.12 and Section 303(c) of the CWA.

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[12] 80 Fed. Reg. 51020, *et seq.* (August 21, 2015). Water Quality Standards Regulatory Revisions; Final Rule.

[13] WQS Handbook. Accessed on 10/31/19 at: https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter4.pdf. See also Preamble and Final Rule text located in August 21, 2015 Federal Register.

Substantive / APPROVED

The phrase, "as established herein" was added to the end of the second sentence in Paragraph (1) to draw attention to the important requirements in this sentence: intergovernmental coordination, public participation requirements, and economic or social development justifications. Any changes to these requirements, which already existed in rule, are all discussed in detail in the Antidegradation Rules that follow. Although the addition of this phrase does not change the meaning of this provision, the highlighting of the requirements that are needed before lowering water quality can be authorized by the state are important and deemed a substantive change. The EPA approves this substantive change as being consistent with 40 C.F.R. § 131.12 and Section 303(c) of the CWA.

Substantive / APPROVED

Several additions were made to the sentence, "In such waters, there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources in that stream segment and sources or activities exempted from permit requirements under the Water Quality Control Act in that stream segment should utilize all cost-effective and reasonable best management practices to prevent degradation of waters." This language was added to be consistent with the requirements of federal requirements in 40 C.F.R. § 131.12(a)(2): "the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control." The phrase, "or activities," was added because there are a variety of activities that would be subject to an antidegradation review such as water intakes, nonpoint source discharges, etc. The phrase, "to prevent degradation of waters," identifies the goal of utilizing all cost-effective and reasonable best management practices.

The EPA has determined that these changes to Rule 0400-40-03-.03(6)(1)(a) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(1) General

(b) To apply this antidegradation statement ~~in the permitting context~~ to permits for new or increased discharges, new or increased water withdrawals, or new or expanded habitat alterations, the Department shall first determine if the application is complete. Absent extraordinary circumstances, the Department shall notify the applicant that an application is complete or of any deficiencies within 30 days of receipt of the application. When the Department determines the application is complete, it shall provide notice to the applicant in writing.

1. A complete application will include all of the information requested on the forms provided by the Department. For activities other than new ~~domesic~~ domestic wastewater discharges, a complete application will include the applicant's basis for concluding that the proposed activity:

(i) ~~will~~ Will not cause measurable degradation (for withdrawals or discharges), ~~or~~

(ii) ~~will~~ Will only cause de minimis degradation, ~~or~~

(iii) Will cause no significant degradation (for habitat alterations), or

~~(iii)~~(iv) ~~will~~ Will cause more than de minimis degradation.

EPA Analysis:
The revisions in Paragraph (b) clarified Tennessee's long-standing antidegradation policy to permits – that antidegradation review applies to new or expanded dischargers, to new or increased water withdrawals, or to new or expended habitat alterations. These amendments are intended to make clear, not change, the applicability of antidegradation review to new or expanded activities. The Department also notes that the applicant will receive written notice when their application is deemed complete.

The EPA's implementing regulation at 40 C.F.R. Section 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. These revisions are implementing components. The EPA has determined that these changes to Rule 0400-40-03-.03(6)(1)(b) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

In Paragraph 1., the spelling of the word "domestic" has been corrected. In each of Paragraphs 1.(i)-(iv), "will" was capitalized. In Paragraphs 1.(i)-(ii), "or" was deleted.

These are considered editorial, non-substantive changes. The EPA approves these revisions as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of these editorial, non-substantive changes does not re-open its prior approvals of the underlying substantive WQS.

Non-Substantive / APPROVED

In Paragraph 1.(i), implementing language "(for withdrawals or discharges)" was added.

In Paragraph 1.(iii), implementing language "Will cause no significant degradation (for habitat alterations), or" was added.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that these implementing components added to Rule 0400-40-03-.03(6)(1)(b) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06
(1) General
(b)
2. If the proposed activity will cause degradation of any available parameter above a de minimis level, or if it is a new discharge of domestic wastewater, a complete application will:

(i) ~~analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives~~ Analyze a range of potentially practicable alternatives to prevent or lessen the degradation associated

with the proposed activity;

(ii) ~~*discuss the*~~ *Demonstrate that the proposed degradation is necessary to accommodate important social* ~~*and*~~ *or economic* ~~*consequences of each alternative*~~ *development in the area in which the waters are located; and*

(iii) ~~*demonstrate*~~ *Demonstrate that the proposed degradation will* ~~*not violate the*~~ *maintain water quality* ~~*criteria for uses*~~ *sufficient to protect existing uses in the receiving waters* ~~*and is necessary to accommodate important economic and social development in the area*~~.

EPA Analysis:
In Paragraph 1.(b)2., implementing language "of any available parameter" was added to clarify that antidegradation applies to all parameters. Paragraph 1.(b)2.(i)-(iii) specify what is required for an application to be complete.

The EPA's implementing regulation at 40 C.F.R. §131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that these implementing components added to Rule 0400-40-03-.03(6)(1)(b) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

After the phrase "de minimis level," in paragraph 2. above, a comma was added. This is considered an editorial, non-substantive change. The EPA approves this revision as being consistent with the CWA and the EPA's implementing regulations. The EPA notes, however, that its approval of this editorial, non-substantive change does not re-open its prior approvals of the underlying substantive WQS.

Non- Substantive / APPROVED

Rule 0400-40-03-.06
(1) General
(b)

3. ~~*Such alternatives analyses shall include, at a minimum, completed and accurate Worksheets A and B for public sector applicants or Worksheets A and G for private system applicants, or shall provide alternative information subject to approval by the Department. Additionally, to provide information to the Department regarding the applicant's claim of economic or social necessity, public sector applicants shall provide the relevant information from Forms O, P, Q, S, T, U, and AA, found in the EPA guidance document (Economic Guidance); private sector applicants shall provide the relevant information from Forms O, R, V, W, X, Y, Z, and AB, found in the EPA guidance document (Economic Guidance). Either type of applicant shall submit alternative or additional information regarding economic or social necessity as directed by the Department. These forms are found in the EPA guidance document entitled Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823/B-95-002) (Economic Guidance). Reasonable*~~ *An alternative to degradation is practicable if it is technologically possible, able to be put into practice, and economically viable. Potentially practicable alternatives* ~~*for the various activities*~~ *include, but are not limited to, the following:* ~~*actions.*~~

(i) *Alternatives for discharges include connection to an existing collection system, land application, water reuse, water recycling, or other treatment alternatives to prevent or reduce the level of degradation. For small domestic discharges, connection to an existing system or land application will be considered preferable.*

EPA Analysis:

The state of Tennessee eliminated references to the EPA forms for economic and social necessity because they were not applicable to many activities. Alternatively, this revision provides information on when an alternative to degradation is practicable and a list of potentially practicable alternatives.

The phrase, "to prevent or reduce the level of degradation," has been added to the alternatives for discharges under Rule 0400-40-03-.06(1)(b)3.(i). This language clarifies the goal for the alternatives.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that these implementing components added to Rule 0400-40-03-.03(6)(1)(b)(3) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(1) General

(b)

4. To demonstrate that greater than de minimis degradation is necessary to accommodate important social or economic development in the area in which the waters are located, the applicant shall provide a written justification to include, as applicable, a description of the project, the number of jobs anticipated to be created (including salaries/benefits, duration, and type), tax revenue to be generated, impact of the proposed degradation to development potential in the area, other social/cultural impacts, and any other justification. Applicants shall submit alternative or additional information regarding economic or social necessity as directed by the Department. The justification should demonstrate an overall benefit to the local community, not just a benefit to the applicant.

EPA Analysis:

The state of Tennessee has added Paragraph 4 to specify what an applicant must provide to the Department to demonstrate that greater than *de minimis* degradation is necessary to accommodate important social or economic development in the area in which the waters are located.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that Paragraph 4, which is now part of Rule 0400-40-03-.06(1)(b), is consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(1) General

(c) ~~When the Department determines that a permit application is complete, it shall notify~~ The Department shall propose a permit action by notifying the applicant ~~by letter or email~~ in writing and ~~shall notify~~ by notifying the public and the state and federal agencies with jurisdiction over fish, wildlife, shellfish, plant and wildlife resources, parks, and historic preservation by posting a notice on the Department's web site and sending email to persons who have asked to be notified of permit actions. In the case of new or expanded habitat alterations or new or increased water withdrawals this public notice shall be a part of the public notice ~~of a permit application~~ under paragraph (4) of Rule 0400-40-07-.04 and shall contain the information required by, and be governed by the procedures of, that paragraph of the rules. For a new or increased discharge, the public notice shall summarize the information given by the applicant pursuant to subparagraph (b) of this paragraph and shall contain the information required by, and be governed by the procedures of, Rule 0400-40-05-.06. Public notices should also include the Department's preliminary determination of the level of degradation and the antidegradation category of the affected waters.

EPA Analysis:

Paragraph (c) clarifies the public notice process for discharge permits so that there is only one notice and comment period, consistent with the existing requirements for the state of Tennessee's Aquatic Resource Alteration Permits. The phrases "new or expanded" and "new or increased" more clearly identify that these activities are subject to Paragraph (b) of Rule 0400-40-03-.06(1). The revisions also provide that the Department shall include its preliminary determination of the level of degradation in the public notice, so the public is more informed.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that Paragraph c is consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(1) General

(d) ~~Next,~~ After completion of the public notice and comment period, the Department shall ~~determine~~ make a final determination of the level of degradation that would occur as a result of the proposed activity. Not all activities cause an addition of pollutants, diminish flows, or impact habitat.

EPA Analysis:

The revisions clarify that the Department will make a final determination of the level of degradation. The intent behind the language "preliminary" and "final" determination is to acknowledge that the Department will review and address comments received during the public comment period. This may result in a change between a draft and final permit, which is consistent with the purpose and intent of the public comment period. T.C.A. Section 69-3-105(i).

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12.

The EPA has determined that the revisions to Rule 0400-40-03-.06(1)(d) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06
(1) General
(d)
3. In the case of habitat alterations, if the department determines that no ~~degradation or only~~ more than de minimis degradation will occur, no further review under the rule is required regardless of the antidegradation classification of the receiving stream.

EPA Analysis:
The replacement of the phrase, "degradation or only" with the phrase, "more than" has not changed the meaning of this provision. This revision is a non-substantive change to Tennessee's EPA-approved WQS. The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.06
(1) General
(e) If the steps described in subparagraphs (b), (c) and (d) of this paragraph do not conclude the review under this rule, the Department shall ~~determine~~ make a final determination whether the waters impacted by the activity are ones with available parameters, unavailable parameters, Exceptional Tennessee Waters, or Outstanding National Resource Waters, or if they are in more than one category. For example, a stream segment may be unavailable for one parameter and be available for others and Exceptional Tennessee Waters may also be unavailable for certain parameters. If an activity is proposed in a waterbody that is in more than one category, it must meet all of the applicable requirements.

EPA Analysis:
The replacement of the word "determine" with the phrase, "make a final determination" has not changed the meaning of this provision. The revision only further clarifies that a final determination may still come after the steps described in subparagraphs (b), (c), and (d) of this Rule have been implemented. This revision is a non-substantive change to Tennessee's EPA-approved WQS. The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.06
(2) Waters with unavailable parameters
Unavailable parameters exist where water quality is at, or fails to meet, the levels specified in water quality criteria in Rule 0400-40-03-.03, even if caused by natural conditions. In the case of a criterion that is a single response variable or is derived from measurement of multiple

~~responsible~~ response variables, the unavailable parameters shall be the agents causing water quality to be at or failing to meet the levels specified in criteria. For example, if the biological integrity criterion (derived from multiple response variables) is violated, the unavailable parameters shall be the pollutants causing the violation, not the response variables.

(b) In waters with unavailable parameters, no new or ~~expanded~~ increased water withdrawals that will cause additional measurable degradation of the unavailable parameter shall be authorized.

(c) Where one or more of the parameters comprising the habitat criterion are unavailable, ~~activities~~ habitat alterations that cause ~~additional~~ significant degradation ~~of the unavailable parameter or parameters above the level of de minimis~~ shall not be authorized.

EPA Analysis:

The addition of the phrase, "even if caused by natural conditions" clarifies that a waterbody may be characterized as having unavailable parameters for purposes of antidegradation review even if that condition is naturally caused. This situation occurs rarely, but when it does, then the permitting process must account for those conditions consistent with Rule 0400-40-03-.05(7).

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that this revision to Rule 0400-40-03-.06(2) is consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. This change is approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The word "responsible" was changed to "response" to correct this existing error in the Rules. In subparagraph (b), the word "expanded" was changed to "increased" in order to be consistent with the language in Rule 0400-40-03-.06(1)(b). In subparagraph (c), the word "activities" was changed to "habitat alterations" to provide clarity.

These revisions are non-substantive changes to Tennessee's EPA-approved WQS. The EPA approves these non-substantive changes as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of these non-substantive changes does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

In subparagraph (c), revisions included replacing the term "additional degradation" to the federal term "significant degradation" to be consistent with CWA Section 404(b)(1) Guidelines.

With the term "significant degradation" now part of subparagraph (c) and a definition of "significant degradation" added in Rule 0400-40-03-.04(29), the phrase, "of the unavailable parameter or parameters above the level of de minimis," was deleted. The definition discusses alteration in a waterbody with unavailable parameters for habitat and is no longer needed in subparagraph (c).

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that the revisions to Rule 0400-40-03-.03(2)(c) are consistent with CWA Section 303(c) and 40 C.F.R. Section 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(3) Waters with available parameters

Available parameters exist where water quality is better than the levels specified in water quality criteria in Rule 0400-40-03-.03.

(a) In waters with available parameters, new or increased discharges that would cause degradation above the level of de minimis for any available parameter for any criterion, or a new domestic wastewater discharge, will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity and the degradation is necessary to accommodate important economic or social development in the area and the degradation will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.

(b) In waters with available parameters, new or ~~expanded~~ increased water withdrawals that would cause degradation above the level of de minimis will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity and the degradation is necessary to accommodate important economic or social development in the area and will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.

(c) In waters with available parameters, an activity that would cause degradation of habitat above the level of de minimis will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity and the degradation is necessary to accommodate important economic or social development in the area and will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.

EPA Analysis:

In subparagraph (a), the state of Tennessee added "a new domestic wastewater discharge" to those discharges to waters with available parameters which will only be authorized if the applicant has demonstrated that there are no practicable alternatives. The goal of this addition is to disincentivize new decentralized waste treatment systems for domestic wastewater and to encourage alternatives including the utilization of existing POTWs.

In subparagraphs (a), (b), and (c), the State has replaced the word "reasonable" alternatives with the phrase, "there are no practicable" alternatives. The term "practicable" comes from the EPA's 40 C.F.R. §§ 131.12(a)(2)(ii) and 131.3(n)[14]. This is the applicable term for antidegradation review, and it is not anticipated to result in any significant substantive change from the State's past practices.

In subparagraphs (a), (b), and (c), the State has added the terms "to prevent or lessen" and "associated with the proposed activity." These terms better reflect the language and intent of 40 C.F.R. § 131.12(a)(2)(ii).

40 C.F.R. § 131.12(a)(2)(ii) requires that when the analysis of alternatives identifies one or more practicable alternatives, states shall only find that a lowering is necessary if one such alternative is selected for implementation. The state of Tennessee has added this requirement in the last sentence of Rule 0400-40-03-.06(3)(a), (b), and (c).

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that the revisions to Rule 0400-40-03-.06(3) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

In subparagraph (b), the word "expanded" was changed to "increased" in order to be consistent with the language in Rule 0400-40-03-.06(1)(b).

The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.06

(4) Exceptional Tennessee Waters

(a) Exceptional Tennessee Waters are surface waters other than wet weather conveyances that are in any one of the following categories:

3. Federally-designated critical habitat or other waters with documented non-experimental populations of state or federally-listed threatened or endangered aquatic or semi-aquatic plants, or ~~aquatic~~ animals;

6. Waters with exceptional biological diversity as evidenced by a score of 40 or 42 on the Tennessee Macroinvertebrate Index (or a score of 28 or 30 in subecoregion 73a) using protocols found in the Department's ~~2011~~ 2017 Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys, provided that the sample is considered representative of overall stream conditions; or

[14] Definition of practicable at 40 C.F.R. § 131.3(n): *Practicable*, in the context of § 131.12(a)(2)(ii), means technologically possible, able to be put into practice, and economically viable.

EPA Analysis:
Paragraph (a) was amended to more clearly identify Exceptional Tennessee Waters (ETW) as "surface" waters and to clarify that wet weather conveyances cannot constitute ETW.

Subparagraph 6 was amended to reference the most recent version of Tennessee's Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys. This language change allows the wording in this portion of the Rules to be consistent with the language in Rule 0400-40-03-.03(3)(m) where the Department's 2017 Quality System Standard Operating Procedure for Macroinvertebrate Stream Survey is also referenced. The EPA advises the State that if the 2017 document is updated, the referenced document will need to be updated during the subsequent triennial review revisions.

The EPA has determined that the revisions to Rule 0400-40-03-.06(4)(a) are consistent with CWA Section 303(c) and 40 C.F.R. Part 131. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The phrase, "other than wet weather conveyances," was added to Rule 0400-40-03-.06(4)(a) to provide clarity. In Tennessee's previous triennial review, the State adopted the Standard Operating Procedures for Making Stream and Wet Weather Conveyance Determinations (SOP) found at Paragraph 0400-40-03-.05(9) and supportive definitions. The EPA determined that the SOP and supplemental definitions did not contain new or revised WQS for purposes of the EPA's CWA section 303(c) review and only contain the details of analytical procedures that are used to determine whether a water segment is a wet weather conveyance (WWC). Therefore, the EPA did not consider the SOP and supplemental definitions to constitute new or revised WQS. However, where the application of the SOP and/or supplemental definitions have resulted in or will result in a WWC determination for a particular segment that is later determined to be a jurisdictional water under the CWA, any such WWC determination would be subject to the requirements of the CWA and the segment would revert to the default classifications of Fish and Aquatic Life, Recreational, Livestock Watering and Wildlife, and Irrigation Designated Uses as presented at Chapter 0400-40-04. In such an instance, the EPA understands that the State will apply all appropriate requirements of the CWA and related regulations to the water at issue.

Not subject to CWA Section 303(c) review

In subparagraph 3., the word "aquatic" was deleted. The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

Rule 0400-40-03-.06
(4) Exceptional Tennessee Waters
(c) Authorization of Activities in Exceptional Tennessee Waters
1. In waters identified as Exceptional Tennessee Waters new or increased discharges that would cause degradation of any available parameter above the level of de minimis and ~~discharges of~~ new domestic wastewater discharges will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity, ~~are not feasible and~~ the degradation is necessary to accommodate important economic or social development in the area, and the discharge will not violate the water quality criteria for uses existing

in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation. At the time of permit renewal, previously authorized discharges, including upstream discharges, which presently degrade Exceptional Tennessee Waters above a de minimis level, will be subject to a review of updated analysis of alternatives ~~analysis~~ information provided by the applicant, but not to a determination of economic/social necessity. Public participation for these existing discharges will be provided in conjunction with permitting activities. ~~Sources exempted from permit requirements under the Water Quality Control Act should utilize all cost-effective and reasonable best management practices.~~

2. *In waters identified as Exceptional Tennessee Waters, new or increased water withdrawals that would cause degradation of any available parameter above the level of de minimis will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity and the degradation is necessary to accommodate important economic or social development in the area and will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.*

3. *In waters identified as Exceptional Tennessee Waters, an activity that would cause degradation of habitat above the level of de minimis will only be authorized if the applicant has demonstrated to the Department that ~~reasonable~~ there are no practicable alternatives to prevent or lessen degradation ~~are not feasible~~ associated with the proposed activity, and the degradation is necessary to accommodate important economic or social development in the area and will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.*

EPA Analysis:

In subparagraph 1., the state of Tennessee deleted the words, “discharges of” and added “new” and “discharges” to domestic wastewater. New domestic wastewater discharges were added to disincentivize new decentralized waste treatment systems for domestic wastewater and to encourage alternatives including the utilization of existing POTWs.

In subparagraphs 1., 2., and 3., the State has replaced the word “reasonable” alternatives with the phrase, “there are no practicable” alternatives. The term “practicable” comes from the EPA’s 40 C.F.R. §§ 131.12(a)(2)(ii) and 131.3(n) and means technologically possible, able to be put into practice, and economically viable. This is the applicable term for antidegradation review, and it is not anticipated to result in any significant substantive change from the State’s past practices.

In subparagraphs 1., 2., and 3, the State has added the terms “to prevent or lessen” and “associated with the proposed activity.” These terms better reflect the language and intent of 40 C.F.R. § 131.12(a)(2)(ii).

40 C.F.R. § 131.12(a)(2)(ii) requires that when the analysis of alternatives identifies one or more practicable alternatives, states shall only find that a lowering is necessary if one such alternative is

selected for implementation. The state of Tennessee has added this requirement in Rule 0400-40-03-.06(4)(c)1., 2., and 3.

In subparagraph 1., the term "analysis" was removed after the word, alternatives. Instead, it now reads "analysis of" alternatives. This change was made to make it clear that the analysis required by the Antidegradation Statement is distinct from that required in other programs, such as the National Environmental Policy Act and CWA section 404 permitting.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that the revisions to Rule 0400-40-03-.03(4)(c) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(4) Exceptional Tennessee Waters

(d) Determination of Economic/Social Necessity - The Department's determination that degradation above a de minimis level of Exceptional Tennessee Waters resulting from a proposed new or increased discharge, new or expanded habitat alteration, or new or increased water withdrawal is, or is not, necessary to accommodate important economic ~~and~~ or social development in the area shall be subject to review by the Board of Water Quality, Oil and Gas under the following procedures.

1. If the Department determines after completion of the public notice and comment procedures established in subparagraph (1)(c) of this rule that an activity that would cause degradation above a de minimis level of Exceptional Tennessee Waters is necessary to accommodate important economic or social development in the area, it shall give notice to the applicant, the public, and federal and state agencies with jurisdiction over fish, wildlife, shellfish, plant and wildlife resources, parks, and advisory councils for historic preservation. ~~In the case of an application for a discharge, this notice may be combined with the notice of a draft permit under this rule. In the case of an application for a habitat alteration or water withdrawal, this~~ This notice shall be given by being posted on the Department's web site and by sending email to persons who have asked to be notified of permit actions. Within 30 days after the date of the notification, any affected intergovernmental coordination agency or affected third person may petition the Board for a declaratory order under T.C.A. § 4-5-223, and the Board shall convene a contested case. After the Board has convened a contested case in response to a declaratory order petition under this part, the Department shall within 5 business days thereafter transmit the petition to the Administrative Procedures Division of the Secretary of State so the contested case may be docketed and an administrative law judge may be assigned to the case. If a declaratory order petition is timely filed, the Department shall not proceed further in processing the permit application until the petition has been resolved before the Board. In the contested case, the petitioner shall have the burden of proof, and the Department's determination shall carry no presumption of correctness before the Board. The applicant is a necessary party to the declaratory order contested case, and if the applicant does not participate in the contested case, the Board shall render a decision that

degradation is not necessary to accommodate important economic or social development in the area. If no intergovernmental coordination agency or third person petitions for a declaratory order within 30 days of the notification date, or if one is filed after the 30 days expires, then the Department shall proceed with processing the permit application.

EPA Analysis:
The addition of the phrases "above a de minimis level, new or increased," and "new or expanded" lend clarity to this rule. Replacing "and" with "or social development" is consistent with the language in 40 C.F.R. § 131.12 (a)(2).

The addition of the phrase, "after completion of the public notice and comment procedures established in subparagraph (1)(c) of this rule" in subparagraph 1 clarifies the order of process.

Two sentences were deleted because that information is now covered in the first sentence of this subparagraph.

The revisions in paragraph (d) have been amended to eliminate confusion about how the ETW process correlates with the public notice and comment procedures of paragraph (1)(c) of Rule 0400-40-03-.06.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that the revisions to Rule 0400-40-03-.04(d) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

Rule 0400-40-03-.06

(5) Outstanding National Resource Waters

(b) The Department may recommend to the Board of Water Quality, Oil and Gas that certain waterbodies be designated as Outstanding National Resource Waters (ONRWs). These shall be high quality waters which constitute an outstanding national resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance. Designation of ONRWs must be made by the Board of Water Quality, Oil and Gas and will be accomplished in accordance with T.C.A. § 69-3-105(a)(1) of the Tennessee Water Quality Control Act and through the appropriate rulemaking process.

1. In surface waters designated by the Board of Water Quality, Oil and Gas as ONRWs, no new discharges, expansions of existing discharges, water withdrawals or mixing zones will be permitted unless such activity will not result in either measurable degradation or discernible effect. At the time of permit renewal, previously authorized discharges, including upstream discharges and withdrawals, which presently degrade an ONRW, will be subject to an analysis of alternatives ~~analysis~~. Public participation for these existing discharges will be provided in conjunction with permitting activities.

2. In waters designated by the Board of Water Quality, Oil and Gas as ONRWs, no

new or ~~increased~~ expanded habitat alteration that would cause degradation of habitat above the level of de minimis or degrade water chemistry for more than a short duration will be authorized.

EPA Analysis:
In subparagraph 1., the term "analysis" was removed after the word, alternatives. Instead, it now reads "to an analysis of" alternatives. This change was made to make it clear that the analysis required by the Antidegradation Statement is distinct from that required in other programs, such as the National Environmental Policy Act and CWA section 404 permitting.

The EPA's implementing regulation at 40 C.F.R. § 131.12 requires states to develop methods for implementing their antidegradation policy that are consistent with paragraphs (a) and (b) of 40 C.F.R. § 131.12. The EPA has determined that the revisions to Rule 0400-40-03-.06(5)(b) are consistent with CWA Section 303(c) and 40 C.F.R. § 131.12. These changes are approved by the EPA under CWA Section 303(c).

Substantive / APPROVED

The word "increased" was replaced by "expanded" to be consistent with the language in Rule 0400-40-03.06(1)(a).

The EPA approves this non-substantive change as being consistent with 40 C.F.R. Part 131 and Section 303(c) of the CWA. The EPA notes, however, that its approval of this non-substantive change does not re-open the EPA's prior approval of the underlying substantive WQS.

Non-Substantive / APPROVED

Chapter 0400-40-04, Use Classifications for Surface Waters

Chapter 0400-40-04, Use Classification for Surface Waters	
Rule Number	**Rule Title**
0400-40-04-.01	Memphis Area Basin
0400-40-04-.02	Hatchie River Basin
0400-40-04-.03	Obion-Forked Deer Basin
0400-40-04-.04	Tennessee River Basin – Western Valley
0400-40-04-.05	Duck River Basin
0400-40-04-.06	Elk River Basin
0400-40-04-.07	Lower Tennessee River Basin
0400-40-04-.08	Upper Tennessee River Basin
0400-40-04-.09	Clinch River Basin
0400-40-04-.10	French Broad River Basin
0400-40-04-.11	**Holston River Basin**
0400-40-04-.12	Lower Cumberland River Basin

Revisions made to Rule 0400-40-04-.11, Holston River Basin[15]

STREAM	DESCRIPTION	DOM	IWS	FAL	REC	LWW	IRR	NAV	TS	NRTS
Watauga River	Mile 18.0 to 25.8		X	X	X	X	X		X	
Buffalo Creek	At Watauga River (Mile 22.1); Mile 0.0 to Origin			X	X	X	X			X
Toll Branch	Mile 0.0 to 0.1			X	X	X	X			X
Toll Branch	Mile 0.1 to Origin			X	X	X	X			X
Unnamed Branch	Mile 0.2 to Origin			X	X	X	X			

EPA Analysis:

As detailed in Rule 0400-40-03-.03 (Criteria for the use of Fish and Aquatic Life), the Naturally Reproducing Trout Stream designation adds more stringent dissolved oxygen criteria to Buffalo Creek and Toll Branch. All revisions made to this Chapter are consistent with the CWA and 40 C.F.R. Section 131.10(a) and are therefore, approved pursuant to Section 303(c) of the Act.

Substantive / APPROVED

[15] Abbreviations for the use classifications, as presented at Chapter 0400-40-04, include: DOM – Domestic Water Supply; IWS – Industrial Water Supply; FAL – Fish and Aquatic Life; TS – Trout Stream; NRTS – Naturally Reproducing Trout Stream; REC – Recreation; LWW – Livestock Watering and Wildlife; IRR – Irrigation; NAV - Navigation

Part III – EPA's Conclusions

Based on the reasons outlined above, it is our conclusion that the requirements of the CWA and 40 C.F.R. Part 131 have been met for the new or revised WQS, apart from those Paragraphs listed below which are determined not to be WQS subject to the EPA review under Section 303(c):

Rule	Change not determined to be a WQS subject to Section 303(c) review
0400-40-03-.02(4)	Deleting "best available technology economically achievable" and replacing it with "level of treatment technology applicable to a specific source"
0400-40-03-.02(8)	Adding the sentence: "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007) may be referenced in applying this provision."
0400-40-03-.02(9)(b)	Deleting the sentence: :"The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a Dissolved Criteria (EPA-823-B-96-007) may be referenced in applying this provision."
0400-40-03-.06(4)(a)	Adding "other than wet weather conveyances"
Rule	**Change not submitted to the EPA for Section 303(c) review**
0400-40-03-.03(4)(j)	Adding the footnote (c) to Butylbenzyl in error

With the exception of those provisions listed above which are not determined to be new or revised WQS or were not submitted for Section 303(c) review by the State, the new and revised criteria addressed in this Decision Document are approved by the EPA pursuant to Section 303(c) of the Act.

ORIGINAL SIGNED BY Jeaneanne M. Gettle on December 19, 2019

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Date

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Jeaneanne M. Gettle, Director
Water Division