

Richard A. Weiss
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Dear Mr. Weiss:

The Environmental Protection Agency (EPA) has completed its review of *Regulation No. 2, Establishing Water Quality Standards for Surface Waters of the State of Arkansas* (Minute Order 98-03). These standards were adopted by the Arkansas Pollution Control and Ecology Commission (the Commission) on January 23, 1998, and submitted to EPA for approval on February 25, 1998. I would like to acknowledge the efforts of the Commission and particularly the Department of Environmental Quality (ADEQ) in the development of these revised standards.

I am pleased to inform you that EPA is approving the majority of the new and revised elements of these standards pursuant to Section 303(c) of the Clean Water Act (CWA) and the implementing regulation at 40 CFR Part 131. The item that EPA is disapproving, **§ 2.501 - Applicability**, allows for occasional exceedances of criteria due to “naturally occurring excursions.” This provision would not ensure that these excursions would be due to non-anthropogenic events only and does not make the differentiation between point and nonpoint sources in the cause of this excursion.

EPA supports the State’s efforts to address impacts caused by industrial or mineral extraction activities through the provisions found in **§ 2.105 - Environmental Improvement Projects** and **Appendix B**. However, EPA considers these provisions susceptible to application inconsistent with the CWA. We will thus continue to review all projects on a case-by-case basis. I would like to encourage the Commission and ADEQ to work with my staff and me to develop appropriate implementation measures and objective decisional criteria for these provisions. A detailed explanation of the basis for EPA’s decision is enclosed.

This approval is subject to the results of consultation under section 7(a)(2) of the Endangered Species Act (ESA). EPA initiated consultation with the U.S. Fish and Wildlife Service (USFWS) under section 7(a)(2) of the ESA on this triennial revision on November 18, 1992. Section 7(a)(2) requires that federal agencies, in consultation with the Services, insure that their actions are not likely to jeopardize the existence of federally listed species or result in the adverse modification of designated critical habitat of such species. As of today, this consultation has not been completed, however, Region 6 and USFWS have tentatively agreed that these revisions are not likely to adversely affect any listed threatened and endangered

species. By approving the standards “subject to the results of consultation under section 7(a)(2) of the Endangered Species Act,” EPA retains the full range of options available under section 303(c) for ensuring that water quality standards are environmentally protective. EPA retains the discretion to revise its approval decision if the consultation identifies deficiencies in the water quality standards that require remedial action.

Again, I would like to commend the Commission and the Arkansas Department of Environmental Quality for its commitment and hard work in completing this task of reviewing and revising the State's water quality standards. I look forward to working with you during the next triennial review. Region 6 will provide recommendations in more detail in a separate letter. If you have any questions or concerns, please contact me at (214) 665-7101, or have your staff contact Julia Alderete at (214) 665-7321.

Sincerely,

Sam Becker
Acting Director
Water Quality Protection Division

Enclosure

cc: Bill Keith, ADEQ
Allan Mueller, USFWS

bcc: Jack Ferguson, 6WQ-P
Fred Leutner, EPA-HQ, 4305
Terri Crisp, 6WQ-EW (file copy)
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RATIONALE FOR EPA'S ACTION ON THE NEW AND REVISED ARKANSAS SURFACE WATER QUALITY STANDARDS

SECTION I: ITEMS APPROVED BY EPA

CHAPTER 1

§ 2.104 - Policy for Compliance:

Changes - New language was added which replaced “water quality standards promulgated herein” with “water quality based effluent limits.”

Water quality based effluent limits must be recalculated upon adoption of new water quality standards. This clarification of the compliance policy allows for less confusion and helps to define between adopted water quality standards and actual effluent limits allocated to an individual discharger.

New section added: § 2.105 - Environmental Improvement Projects

Changes - This is a new section of the standards which authorizes environmental improvement projects to address the effects of industrial or extractive activities. The provision allows the Commission to grant modifications to the General and Specific standards (Chapters 4 and 5) based on information provided pursuant to Appendix B.

This provision, taken together with the content of Appendix B, appears to allow a permanent lowering of water quality at the initiation of an environmental improvement project. This provision allows subcategories of CWA §101(a) uses to be established without a determination of what use can be attained through an appropriate use attainability analysis (UAA) as required by 40 CFR 131.10(j). Following that same logic, the provision allows modified standards to be established based on existing ambient water quality rather than criteria that would protect the designated use as required by 40 CFR 131.11.

EPA supports Arkansas' efforts to address impacts caused by industrial or extractive activities through environmental improvement projects through this provision.

(See further discussion under **Appendix B - Environmental Improvement Projects.**)

§ 2.106 - Definitions

Changes - A new definition was added for *Primary Season Critical flow* and the definition for *Critical flow* was expanded to include new language for mixing zone flow adjustments and clarifying language for specific critical flows for seasonal fisheries, human health criteria, and minerals criteria.

In correspondence between staff at ADEQ and EPA Region 6, it was stated that the definition of *Primary Season Critical Flow* was added to specify how to determine primary season flows for use in developing seasonal NPDES permit limits. It is recognized that this is similar to the 7Q10

flow (or critical low flow) during the critical season.

The expansion of *Critical Flow* assists with further clarification of specific flows for certain criteria and seasonal fisheries. This allows for less confusion when calculating allowable concentrations of pollutants from NPDES dischargers.

CHAPTER 3 - The following new sections were added:

§ 2.307 - Use Subcategories:

Changes - This new section was added to elaborate on the Commission's authority to adopt subcategories of a use.

As defined in § 131.10(c), states may adopt sub-categories of a use and set the appropriate criteria to reflect varying needs of such sub-categories of uses. Flexibility inherent in the State process for designating uses allows the development of subcategories of uses within the general categories of the Clean Water Act to refine and clarify specific use classes. If the State wishes to adopt subcategories of uses specified in § 101(a)(2) of the CWA which require less stringent criteria, a use attainability analysis (UAA) must be conducted as defined under § 131.10(j)(2). EPA recommends the addition of language to this section which discusses the requirement of a UAA. In addition, a reference to § 2.303 of the Arkansas standards document would assist in further clarification.

§ 2.308 - Site Specific Criteria

Changes - This new section was added to describe EPA recommendations and methods to be used when establishing criteria.

Water quality criteria which protect designated uses must be adopted by the State and must be based on sound scientific rationale. Under section 304(a) of the CWA, EPA publishes water quality criteria that consist of scientific information which support recommended concentrations of specific chemicals or levels of parameters in surface water that protect aquatic life and human health. States may use these contents as the basis for developing enforceable water quality standards.

§ 2.309 - Temporary Variance

Changes - A provision was added which allows variances to be granted to existing permitted discharge facilities.

States may include policies such as variance procedures in their water quality standards, as defined under 40 CFR 131.13. Variance procedures involve the same procedural requirements as removing a designated use, but unlike use removal, variances are both discharger and pollutant specific, are time-limited, and do not forego the currently designated use. This

provision is consistent with these requirements by including a limit on the variance of no longer than three years, granting the variance to the requesting discharger for a specified constituent, and requiring approval by the State and EPA.

CHAPTER 4

§ 2.404 - Mixing Zones

Changes - A statement was added which prohibits mixing zones for the two parameters of oil and grease and bacteria, in addition to situations where background flow is less than critical flow, and areas where background concentrations exceed criteria.

The federal water quality standards regulation allows states to adopt policies authorizing the use of mixing zones when establishing water quality-based permit limits, as defined under 40 CFR 131.13. Mixing zones should not impair the integrity of the waterbody as a whole and there should be no significant health risks. In general, mixing zones should not be permitted where they may endanger critical areas (e.g., drinking water supplies, recreational areas, areas with sensitive biota). The justification for mixing zones is usually based on the time-exposure relationship. These specific parameters, oil and grease and bacteria, lack such a relationship. The addition of this prohibition language protects human health and aquatic life, and therefore supports the Clean Water Act goals of maintaining and improving water quality.

CHAPTER 5

§ 2.507 - Bacteria

Changes - Language prohibiting mixing zones for discharges of bacteria was added.

It is at the State's discretion to establish mixing zone policies. The prohibition of a mixing zone for a particular pollutant should be considered if there is a reasonable potential that the pollutant could adversely impact the waterbody as a whole, including its biota. The addition of this prohibition language protects human health, and therefore supports the Clean Water Act goals of maintaining and improving water quality.

§ 2.508 - Toxic Substances

Changes - Language was added allowing No Observed Effect Concentrations (NOECs) and other literature values to be considered; dissolved metals criteria for the protection of aquatic life was added; a new statement was added regarding the development of permit limitations for dissolved metals.

In the National Toxics Rule (NTR; December 22, 1992), EPA promulgated chemical-specific, numeric criteria for priority toxic pollutants for 14 states, including Arkansas. This promulgation was necessary to bring all States into compliance with the requirements of Section

303(c)(2)(B) of the Clean Water Act. On May 4, 1995, EPA amended the NTR to express the aquatic life criteria for metals as dissolved in the Interim Final Rule - Revision of States' Compliance. This decision was based on EPA's determination that dissolved metal more closely approximates the fraction of total metal that is biologically available and toxic to aquatic organisms. In adopting metals criteria with the appropriate conversion factors (from total recoverable to dissolved), the State can consider site-specific partitioning (a physical process whereby dissolved substances adhere to particulate material and become significantly less toxic to aquatic biological organisms) in permitting. With the adoption of these promulgated metals criteria (with conversion factors), Region 6 will recommend that the Agency initiate the rulemaking necessary to withdraw these criteria.

The State has also included language which allows the use of the No Observed Effect Concentration (NOEC) and other toxicity test endpoints for the establishment of site-specific numeric criteria. In establishing the use of various toxicological endpoints for site-specific criteria, the State has provided references to promulgated biological assay methodologies and EPA guidance in the methodology for revising State-wide numeric criteria for the protection of aquatic life and the associated beneficial uses.

§ 2.510 - Oil and Grease

Changes - Language prohibiting mixing zones for discharges of oil and grease was added.

It is at the State's discretion to establish mixing zone policies. The prohibition of a mixing zone for a particular pollutant should be considered if there is a reasonable potential that the pollutant could adversely impact the waterbody as a whole, including its biota. The addition of this prohibition language protects aquatic life, and therefore supports the Clean Water Act goals of maintaining and improving water quality.

§ 2.511 - Mineral Quality

Changes - Redundant narrative on chlorides and sulfates was deleted.

Appendix A - Designated Uses, Specific Standards and Maps

Changes - Waterbodies recently designated as Natural and Scenic Waterways were added to the appendix.

Appendix B - Environmental Improvement Projects

Changes - The content of this appendix incorporates House Bill 1563, entitled "An Act to Encourage Long-term Environmental Projects."

Appendix B is intended to provide implementation for the general remediation provision found in **Section 2.105 - Environmental Improvement Projects**. However, EPA considers these

provisions susceptible to application inconsistent with the Clean Water Act and the Water Quality Standards Regulation.

EPA recommends that (1) the implementation language contained in **Appendix B** be modified to meet the requirements of the CWA and 40 CFR Part 131, or (2) specific decisional criteria be referenced in **Section 2.105 - Environmental Improvement Projects** and incorporated into an updated Continuing Planning Process document. Until such implementation is developed, all environmental improvement projects will be reviewed by EPA on a case-by-case basis. The following is a discussion of specific concerns EPA has identified:

Section 3.

EPA understands that a watershed which has significant historical impacts will, in many cases, never be able to support uses equivalent to the ecoregional reference that existed prior to its degradation. However, setting a target before remedial activity has been initiated may be interpreted as inconsistent with the CWA and the Standards Regulation. Specifically, the language in Section 3, taken with subsequent paragraphs, may be interpreted to allow a petitioner to seek a *permanent* standard (use/criteria) modification that may be *less protective* than the ecoregional baseline standard without a determination of what uses may be attained through a UAA as required by 40 CFR 131.10.

Section 4.

In a closely related problem to what is described under Section 3, this section specifies that the Commission has the authority to establish a subcategory of use, but does not insure that this action will meet federal requirements. 40 CFR 131.10(j)(2) requires a UAA to be developed whenever a State establishes a subcategory of use (as specified in section 101(a)(2) of the Act) that requires less stringent criteria.

SECTION II: ITEM DISAPPROVED BY EPA

CHAPTER 5

§ 2.501 - Applicability

Changes - The last sentence was modified to allow for occasional exceedances of criteria due to “naturally occurring excursions.”

Discussion - It is recognized that on occasion water quality standards may be exceeded due to natural processes in the watershed which the State does not consider a violation of the standards. However, State regulations do not include a clear definition of what constitutes “natural background” concentrations or “naturally occurring excursions.” As presently designed, this provision would not ensure that these excursions would be due to non-anthropogenic events only and does not make the differentiation between point and nonpoint sources in the cause of this excursion. In order to address this disapproval, the state may adopt specific definitions for

“natural background” and “naturally occurring excursions” to further clarify the applicability of this statement. The following are examples which the State may adopt:

Natural Background - ambient concentration of a parameter due to non-anthropogenic sources, i.e., non-manmade sources; concentration does not interfere with support of designated uses nor the level of aquatic life expected to occur naturally at the site absent any interference by humans

Naturally Occurring Excursion - temporary deviation from natural background concentrations due to storm events, e.g., severe storm events which cause natural erosion of banks increasing turbidity levels and sedimentation in unaltered stream segments.

Should the State not make the required modifications, EPA reserves the right to act under Section 303(c)(4)(B) of the Clean Water Act to promulgate revised water quality standards to comply with the Act.