UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MAY 08 2013

Mr. Doug Szenher
Public Outreach and Assistance Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

RE: Proposed Regulation Change for Arkansas Regulation 2 (Arkansas Water Quality Standards)

Dear Mr. Szenher,

Enclosed are the Environmental Protection Agency's (EPA) comments for the proposed revisions to Regulation 2 (Arkansas Water Quality Standards). The EPA commends the Arkansas Department of Environmental Quality (ADEQ) for its continued commitment in reviewing and revising the state's water quality standards regulation.

The current draft does not reflect the recent adoption of House Bill 1929 by the Arkansas legislature. Please apprise us of any proposed changes to Regulation 2 as a result of the bill to ensure consistency with the Clean Water Act. The enclosed comments address this issue and others; however, they do not constitute a finding or decision by EPA.

Thank you for the opportunity to provide comment. We look forward to continuing to work with ADEQ in further developing the state's water quality standards. If you have questions on these comments please contact me at (214) 665-6653 or Matt Hubner at (214) 665-9736.

Sincerely,

for

Jane B. Watson, Ph.D.
Associate Director
Ecosystems Protection Branch
Water Quality Protection Division

Enclosures

cc: Steve Drown, Manager, Water Division, ADEQ
Sarah Clem, Branch Manager, Water, ADEQ
Mary Barnett, Ecologist Coordinator, ADEQ

EPA COMMENTS ON DRAFT REVISIONS TO ARKANSAS'S REGULATION No. 2

General Comments

The following comments by the Environmental Protection Agency (EPA) on draft revisions to Arkansas's Regulation No. 2 include questions and concerns related to the effects of the Arkansas legislature's recent approval of HB 1929 (Enclosure 2) even though changes authorized by the bill are not currently included in the draft revisions. HB 1929 appears to mandate changes to water quality standards for minerals criteria in unclassified ecoregion streams, as well as to require removal of drinking water protections and criteria for those waterbodies not currently designated as a public drinking water supplies. EPA would ask the Arkansas Department of Environmental Quality (ADEQ) and the Arkansas Pollution Control and Ecology Commission (APC&EC) if they plan to propose to modify Reg. 2 to reflect these changes. As noted by EPA in its recent correspondence with ADEQ regarding the bill in its draft form and in its April 5, 2013 response to Senator Boozman's February 28, 2013 letter (Enclosures 3, 4 and 5, respectively), any changes to state water quality standards specified in the bill must be enacted in accordance with CWA requirements for revision of state water quality standards , including requirements for public participation and review and approval by EPA.

Specific Comments

2.101. Authority. The last sentence strikes "*as amended*." As this is a revision of the Regulation No. 2, would it not be appropriate to insert "as revised" or similar language?

2.104. Policy of Compliance. The second sentence refers to the use of compliance schedules during permit renewal. ADEQ may need to consider use with permit modifications as well.

2.105. Environmental Improvement Projects. Reg. 2 states "*The Commission may… grant modifications to General and Specific Standards or establish a subcategory(ies) of use(s) for completion of long term Environmental Improvement Projects*." EPA suggests insertion of language at the end of this sentence to the effect of, "subject to review and approval by EPA."

2.106. Definitions;

- Bioaccumulation: The definition refers to the uptake of a compound by an aquatic organism. This definition requires further clarification on what type of compound(s) would be included.
- Critical flows; specifically for minerals. Recently Arkansas legislature adopted HB 1929 which promotes a 4 cfs critical flow for unclassified waterbodies covered under the Ecoregion Reference Stream Minerals Values. This is not reflected in the draft and would require appropriate supporting documentation for approval.

- Q7-10. 7Q-10 flow has been changed to Q7-10 flow. Regulation No. 6 and the Continuing Planning Process (CPP) interchangeably use 7Q-10 flow. EPA recommends review for consistency upon revision of these documents.

2.404. Mixing Zones. Though EPA agrees with the intent of "*careful consideration*" in the instances of mixing zones for bioaccumulative, persistent, carcinogenic, mutagenic, and teratogenic substances, it is unclear what the process will be for such consideration. Adoption of appropriate water quality standards for such substances in coordination with a clear implementation policy would be the most appropriate method for consistently managing such pollutants in discharges.

2.405. Biological Integrity. As the revisions to this section note, "*Such data may be used to develop permit effluent limitations or conditions.*" There is need to expand on procedures required for an acceptable biota assessment. To date, there are no detailed implementation procedures found in Reg. 2, Reg. 6 or the CPP. Additionally, it is difficult to draw a connection from the Biological Integrity provision back to the Designated Uses that discuss the types of species that should be present in various ecoregions.

2.406. Color. What is the method by which color is measured and assessed, what units, etc?

2.409. Toxic Substances. What about bioaccumulative pollutants? This provides a link back to Reg. 2.404 for Mixing Zones which states that "*Careful consideration will be given to the appropriateness of a mixing zone where a substance discharged is bioaccumulative, persistent, carcinogenic, mutagenic, or teratogenic*."

2.503. Turbidity. EPA disapproved the change of "Storm Flows" to "All Flows", in 2008. The attached Record of Decision (enclosure 6) outlines the reason for disapproval. The inclusion of "All Flows" in this revision without supporting justification limits EPA's understanding as to why it would now be appropriate and approvable? In addition, the Reg states "*Additionally, the non-point source runoff shall not result in the exceedance of the in stream all flows values in more than 20% of the ADEQ Department ambient monitoring network samples taken in not less than 24 monthly samples*." This language limits assessments to only ADEQ department ambient monitoring network data when all available data should be considered.

2.505. Dissolved Oxygen. The Reg. states "*However, field verification is required in areas suspected of having significant groundwater flows or enduring pools which may support unique aquatic biota. In such waters the critical season standard for the next size category of stream shall apply.*" It seems like this would be an appropriate section to list those waters that would be considered to have naturally low DO levels and those that do not.

2.507. Bacteria. This provision states that Arkansas Department of Health has the approval and disapproval authority for surface waters designated for public water supply. How will the recent

approval of HB 1929 affect this statement as the bill appears to mandate removal of public water supply uses for all unclassified waterbodies in the State of Arkansas?

2.509. Nutrients. EPA encourages efforts such as the Beaver Lake project in moving towards nutrient criteria development; however, we strongly encourage ADEQ to move towards the establishment of numeric nutrient criteria for all waterbodies in lieu of the narrative criteria. Additionally, the standards should be linked to the aquatic life designated use.

2.511 (B) Ecoregion Reference Stream Minerals Values. The draft Reg. 2 language states that "*The values listed in the table below are not intended to be, nor will be, used by the Department to evaluate attainment of the water quality standards*." This statement suggests that the values identified for unclassified ecoregion waters of the state are not themselves water quality standards. EPA disagrees. EPA records show that Arkansas adopted – and EPA approved – these Ecoregion Values in the early 1990s as minerals criteria intended to be protective of aquatic life.

Historical documentation from past triennial revisions indicates that ADPC&E adopted these Ecoregion (ER) Mineral Values as criteria protective of the aquatic life beneficial use for unclassified waterbodies for which no site-specific criteria apply. In response to a comment received during its 1987 triennial review public participation process regarding the appropriateness of the ecoregion minerals values to protect beneficial uses, ADPC&E responded:

> *"The Agency understands that specific standards are designed to protect the designated uses… The basic philosophy of the Agency has been to establish ambient conditions as standards and allow for future modification of those standards on a site-specific basis*." See ADEQ's 1987 Responsiveness Summary, Enclosure 8.

The Public Notice for ADEQ's 1987 WQS revisions further stated:

> *"Minerals standards in specifically listed waters are modified where necessary, so that those values do not exceed the domestic water supply requirements of 250/250/500 mg/l of chlorides, sulfates and total dissolved solids, respectively. Additionally, standards for waters which are not listed are established by ecoregion*." See ADEQ's 1987 Public Notice, Enclosure 9.

In addition to their use for unclassified waters under Reg. 2.511(B), ADEQ has historically referenced these ER Minerals Values as site-specific criteria necessary to protect the beneficial uses of certain waterbodies listed under 2.511(A). The current draft of Reg. 2 continues to do so, specifying "ER" as the protective site-specific criteria for various listed waterbodies. As the ER values are identified as protective standards in these instances, they must also be considered as such for unclassified waterbodies covered by 2.511(B).

ADEQ has in the past used these ER Minerals Values to assess attainment of designated uses as well. This practice ceased in 2004 when the state changed its assessment methodology to reflect language similar to that now included in the draft Reg. 2, despite no change to state water quality standards. ADEQ did not provide a scientific rationale for this change in its interpretation of 2.511(B) to exclude ER Minerals Values from its 2004 303(d) list assessment methodology and has not done so in subsequent submittals of 303(d) list assessment methods. However, in accordance with the state's Continuing Planning Process (CPP), ADEQ continues to implement the Ecoregion Values as criteria in other programs, including its NPDES permitting program. For instance, an ADEQ NPDES permit recently submitted to EPA for review includes the following language:

> The ecoregion minerals standards contained in Reg. 2.511(B) are in-stream standards, i.e., the discharges may not cause the levels in the stream to exceed those levels and the standards are not meant to be permit limits on an individual outfall.
>
> The headwaters of Loutre Creek are located approximately 1,000 feet north of the permittee's northern property line. All wastewater discharges from Outfalls 001 through 007 are made into Loutre Creek before it leaves the permittee's property. Since the permittee is responsible for the majority of water in Loutre Creek when it leaves their property, the Department has included SMS 008 in the permit with minerals limits set equal to the ecoregion standards. This will allow the permittee the opportunity to demonstrate that they are not causing exceedances of the ecoregion standards. See ADEQ draft Permit, Enclosure 7.

Because the Ecoregion Minerals Values specified in Reg. 2.511(B) were adopted by the state and approved by EPA as default minerals criteria to be applied in waters lacking site-specific criteria [and are in fact referenced as the appropriate site-specific criteria for certain waters listed in Reg. 2.511(A)], the language now included in ADEQ's draft revisions to Reg. 2 in effect removes criteria that are currently included in Arkansas's water quality standards to protect the designated aquatic life use in these waters. Under the CWA, such criteria cannot be removed unless alternate criteria are in place sufficient to protect the use. Thus, if ADEQ revises its water quality standards to include the draft language , it must propose a replacement set of scientifically defensible values for the protection of aquatic life in the subject waterbodies. The draft in its current form does not propose to do so.

<u>2.511 (C). Domestic Water Supply Criteria.</u> HB 1929 affects this section by requiring removal of the criteria protective of drinking water put in place for all waterbodies of the state. Though this is not a CWA 101(a)(2) designated use, EPA notes that the current draft does not attend to this issue, and that removal of these protections would bypass the public process and approval/disapproval authority, as specified in Reg. 2, of the Arkansas Department of Health. Additionally, it is unclear in the current draft what waterbodies and segments are to retain drinking water criteria?

2.512. Ammonia. The Reg. states "*The total ammonia nitrogen (N) criteria and the frequency of occurrence established in the following tables are as follows*:" The ammonia standard has language that excludes typical monitoring data. Specifically, the standard states that the chronic criterion will be assessed based on a thirty day average concentration. The state collects the vast majority of its monitoring data on a monthly schedule.

Appendix A. Are the revised maps utilizing the most recent ecoregion map data to delineate the ecoregion boundaries? It is important for ecoregion boundaries to be reflective of the most recent and scientifically supportable information (i.e., 2004 Level III and IV EPA ecoregion poster).

Stricken language would be deleted from and underlined language would be added to present law.

State of Arkansas *As Engrossed H3/18/13*
89th General Assembly **A Bill**
Regular Session, 2013 HOUSE BILL 1929

By: Representatives Davis, Alexander, D. Altes, C. Armstrong, E. Armstrong, Baine, Ballinger, Baltz, Barnett, Bragg, Branscum, J. Burris, Clemmer, Cozart, Dotson, C. Douglas, Eubanks, Farrer, Ferguson, Gillam, Harris, Hickerson, Hobbs, House, Hutchison, Jett, Lea, Lowery, McElroy, D. Meeks, S. Meeks, Miller, Neal, Payton, Ratliff, Rice, Steel, Wardlaw, Westerman, B. Wilkins, Wren
By: Senators D. Sanders, Burnett, Caldwell, E. Cheatham, J. Dismang, J. English, Files, K. Ingram, Irvin, B. King, B. Sample, D. Wyatt

For An Act To Be Entitled

AN ACT TO AMEND THE LAWS PERTAINING TO THE PROMULGATION OF WATER QUALITY STANDARDS; TO IMPROVE THE PROCESS FOR DEVELOPING AND IMPLEMENTING WATER QUALITY STANDARDS; TO DECLARE AN EMERGENCY; AND FOR OTHER PURPOSES.

Subtitle

TO AMEND THE LAWS PERTAINING TO THE PROMULGATION OF WATER QUALITY STANDARDS; TO IMPROVE THE PROCESS FOR DEVELOPING AND IMPLEMENTING WATER QUALITY STANDARDS; AND TO DECLARE AN EMERGENCY.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. DO NOT CODIFY. Legislative findings and intent.

(a) The General Assembly finds that:

(1) Under current interpretations by the United States Environmental Protection Agency, the development, implementation, and assessment of water quality standards required under the Clean Water Act, 33 U.S.C. § 1251 et seq., are to be based on sound scientific and statistical principles, among other things, and should consider readily available data

that is consistent with and relevant to the water use to be maintained;

(2) Federal law requires the consideration of certain relevant factors, including natural variability and statistical variability over periods of time that are relevant to the water use to be maintained;

(3) After consideration of readily available data, reliance on data that is not significant or meaningful, is incomplete, is not indicative of conditions relevant to the water use to be maintained, is speculative, is inconclusive or reasonably supportive of different conclusions, or is otherwise not well-suited to the purpose for which it is being used, has the potential to lead to unnecessary regulation and the inefficient use and allocation of scarce resources;

(4) The State of Arkansas has a well-developed and long-standing program of sampling the quality of waters subject to various uses;

(5) There is a rational basis found in sound scientific and statistical principles for using long-term averages in assessing mineral concentrations in a stream;

(6) The Arkansas Department of Environmental Quality's analysis of data from Arkansas streams demonstrates that four cubic feet per second (4 ft^3/s) is the median flow for small streams, which makes this measure an appropriate indicator for stream flow when long-term flow data is not available, thereby avoiding unnecessary regulation and the inefficient use of state resources;

(7) It is appropriate and consistent with sound scientific and statistical principles to use the greater of long-term average flows or four cubic feet per second (4 ft^3/s) for assessing mineral concentrations in streams; and

(8) Because of the existing technological and economic limits on treatability of dissolved minerals and the likely localized economic impacts of the treatability requirement, it is an inefficient use of scarce resources to apply domestic water supply uses and criteria to streams, stream segments, or other bodies of water that do not have an existing domestic water supply use or that do not have a demonstrated and reasonable potential to be used as a domestic water supply source.

(b) The intent of this act is to:

(1) Provide for the consideration of existing and readily available data and information relevant to the development, implementation,

and assessment of water quality standards for minerals;

(2) Provide standards for determining the data that should be considered and relied on by the State of Arkansas and its agencies for the development, implementation, and assessment of water quality standards for minerals; and

(3) Direct state agencies to support the development, implementation, and assessment of water quality standards according to the provisions of this act.

SECTION 2. Arkansas Code § 8-4-202(b)(3), concerning the rules and regulations the Arkansas Pollution Control and Ecology Commission may promulgate with respect to water pollution, is amended to read as follows:

(3)(A) Water quality standards, performance standards, and pretreatment standards.

(B) Water quality *standards for minerals adopted* under subdivision (b)(3)(A) of this section shall comply with the following requirements without precluding the evaluation of existing and readily available water quality-related data:

(i) The development and implementation of standards and criteria for minerals, including without limitation total dissolved solids, chlorides, and sulfates, and the assessment of a stream's or a stream segment's conformity with or attainment of a standard or criteria for minerals shall be based on the greater of the average flow in the stream or stream segment or four cubic feet per second (4 ft^3/s);

(ii) The development and implementation of standards or criteria for minerals, including without limitation total dissolved solids, chlorides, and sulfates, in order to protect the use of a domestic water supply, and the assessment of a stream's or a stream segment's conformity with or protection of the use of a domestic water supply shall be based on the greater of the average flow in the stream or stream segment or four cubic feet per second (4 ft^3/s);

(iii) The assessment of a stream, stream segment, lake, or reservoir by the Arkansas Department of Environmental Quality for conformity with or attainment of a water quality standard for minerals for purposes of 33 U.S.C. § 1313(d) shall be based on the average concentration of minerals in the stream, stream segment, lake, or reservoir using at least

sixty (60) actual measured samples taken at regular intervals over at least a five-year period;

(iv)(a) Except as provided in subdivision (b)(3)(B)(iv)(b) of this section, a water quality standard to protect or maintain the use of a domestic water supply may be developed and implemented only for a stream segment, lake, or reservoir that:

(1) Has an existing use as a domestic water supply; or

(2) Is listed in the Arkansas Water Plan as a planned or potential domestic water supply.

(b) The domestic water supply use shall be d*esignated for all bodies of water within the watershed of a lake or reservoir used as a public water supply* unless the designated use is or has been removed under the regulations of the commission.

(c) The commission shall regularly publish in Regulation No. 2 a list of the stream segments or reservoirs to which subdivision (b)(3)(B)(iv)(a) of this section applies;

(v)(a) Before commencing a study that would purport to allocate loads for permissible discharges to a stream, stream segment, lake, or reservoir in order to conform to a water quality standard, including without limitation a total maximum daily load study under 33 U.S.C. § 1313(d), the person conducting the study shall give written notice to all persons who are permitted to discharge directly or indirectly into the stream, stream segment, lake, or reservoir.

(b) The notice required under subdivision (b)(3)(B)(v)(a) of this section shall:

(1) Identify the person responsible for conducting the study;

(2) Explain the purpose of the study and the method that will be used to conduct the study; and

(3) Provide instructions on obtaining additional information about the study.

(c) At the time a draft report of the study under this subdivision (b)(3)(B)(v) is prepared, a copy of the draft report shall be sent to each:

(1) Person that holds a permit to

discharge into the stream, stream segment, lake, or reservoir;

(2) Public drinking water treatment system whose source water's watershed contains the stream, stream segment, lake, or reservoir; and

(3) Person that has requested a copy of the results or report of the study.

(d) Before the study under this subdivision (b)(3)(B)(v) is finalized, the Arkansas Department of Environmental Quality shall conduct a public hearing on the study if requested by a:

(1) Person holding a permit to discharge to the stream, stream segment, or reservoir; or

(2) Public drinking water treatment system whose source water's watershed contains the stream, stream segment, lake, or reservoir.

(e) A study conducted under this subdivision (b)(3)(B)(v) shall not establish a waste load allocation for a stream, stream segment, lake, or reservoir for purposes of protecting the use of a domestic water supply unless the department has first certified that:

(1) There is an existing domestic water supply use for the stream, stream segment, lake, or reservoir; or

(2) The stream segment or reservoir is listed in the Arkansas Water Plan as a planned or potential domestic water supply;

(vi) Within thirty (30) days after the receipt of an application for an individual permit to discharge into a stream, stream segment, or reservoir, the department shall certify to the permit applicant whether the stream segment or reservoir that will receive the proposed discharge is:

(a) An existing domestic water supply; or

(b) Listed in the Arkansas Water Plan as a planned or potential domestic water supply; and

(vii) The values for dissolved minerals listed in Arkansas Pollution Control and Ecology Commission Regulation No. 2, § 2.511(B) shall not be used to evaluate or assess the attainment of water quality standards.

(C) A term or provision in a National Pollutant Discharge

Elimination System permit or an order related to a National Pollutant Discharge Elimination System permit that exists as of the effective date of this act but that has not yet become effective and does not comply with or was not developed according to subdivisions (b)(3)(B)(i)-(iv) of this section shall be:

(i) Stayed upon application to the commission by a person regulated under the noncompliant National Pollutant Discharge Elimination System permit term or condition or an order related to the noncompliant National Pollutant Discharge Elimination System permit; or

(ii) Waived upon application to the commission by a person regulated under the noncompliant National Pollutant Discharge Elimination System permit term or condition or an order related to the noncompliant National Pollutant Discharge Elimination System permit until an applicable National Pollutant Discharge Elimination System permit term or condition or an order related to an applicable National Pollutant Discharge Elimination System permit that complies with subdivisions (b)(3)(B)(i)-(iv) of this section becomes effective.

/s/Davis

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

FEB 26 2013

Ms. Teresa Marks
Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

RE: Draft House Bill: An Act to Improve the Process for Developing and Implementing Water Quality Standards

Dear Ms. Marks:

Thank you for sharing the draft house bill referenced above. Enclosed are the Environmental Protection Agency Region 6's comments on the prospective legislation. Based on our initial review, if it were to pass, the draft bill would be problematic for both the Arkansas Department of Environmental Quality and the EPA. As now written, the draft bill appears to contain language which contradicts statutory and regulatory requirements and precludes public participation.

If you have any questions or concerns, please contact me at (214) 665-3187, or have your staff contact Philip Crocker or Russell Nelson at (214) 665-6646 or (214) 665-6646 respectively.

Sincerely,

Stacey B. Dwyer

for William K. Honker, P.E.
Director
Water Quality Protection Division

Enclosure

cc: Steve Drown, Chief, Water Division
Arkansas Department of Environmental Quality

Environmental Protection Agency – Region 6
Comments on the Draft House Bill

AN ACT TO IMPROVE THE PROCESS FOR DEVELOPING AND IMPLEMENTING WATER QUALITY STANDARDS

Subtitle
TO AMEND THE PROCESS FOR DEVELOPING AND IMPLEMENTING WATER QUALITY STANDARDS

General Comments:
The apparent purpose of the Bill is to reduce the impact (financial/regulatory) on entities that discharge or may discharge to Arkansas waters which have domestic water supply as a "designated," but not current, use. Obviously EPA has an interest in the procedures which Arkansas follows when altering water quality standards – including the designation of uses. The Bill does not comport with CWA requirements which govern establishment and/or revision of State Water Quality Standards. As an example, there is a problem with the Bill's intent to remove "domestic water supply" from a water body's designated uses, if the water body does not currently serve as a domestic supply and is not expected to serve as a domestic water supply in the future. For water bodies which have previously served as a domestic water source, such use would be considered an "existing" use and therefore not removable under the CWA.

SECTION 1. Findings and Purpose.

Paragraph (a)(3):
This paragraph refers to consideration of readily available data, specifically referring to the reliance on data referred to as "limited" in regulatory decisions. The primary concern with this language is that it provides no indication of whom or what entity would determine that limited data has the potential to lead to unnecessary regulation and inefficient use resources. It is worth noting that that the scarcity of resources is often why data is limited and why decisions must often be made based on limited data.

This language appears to suggest allowing judgment to be made on which data that the Arkansas Department of Environmental Quality (ADEQ) will use. Both Region 6 and ADEQ are required by statute and regulation to make decisions at times where data is limited. While both Region 6 and ADEQ would like to be able to make decisions in an abundance of data, both depend on highly qualified, experienced staffs to utilize their best professional judgment in making recommendations that allow appropriate decisions to be made. However, EPA may have a different view of available data and its significance. EPA HQ Office of General Counsel has this to add about credible data laws: There is an adverse 11th Circuit decision holding that Florida's credible data law (limiting the data for listing to those collected within the past 7.5 years) contradicts the CWA and regulatory requirements to consider all existing and readily available data and information. There is also an 8th Circuit decision upholding EPA's action on Iowa's list where the state relied on its credible data law to not consider data and EPA, on its own, considered the data when deciding whether to add waters to Iowa's list.

Paragraph (a)(5):
This paragraph indicates that there is a sound basis for using long-term averages in assessing in-stream minerals concentrations. Arkansas has established a well-developed and long-standing sampling program. However, the paragraph could be interpreted to mean that long-term averages could be used in any water, whether adequate data exists or not. Further, there is nothing to specify what duration of sampling or amount of data would be necessary to be considered adequate to establish long-term averages. Information on how long-term averages would be calculated and implemented is lacking.

Paragraph (a)(6-7):
The current standards state that for minerals criteria - harmonic mean flow or 4 cfs apply except in those waters listed in the standards (Reg 2.511) or those waters in Reg 2.511 which are noted for application of a 4 cfs critical flow. Stating that stream data analysis by ADEQ has demonstrated that 4.0 cubic feet per second is the median flow for small streams and thus is an appropriate indicator for stream flow when long-term flow data is not available is inconsistent with the currently approved water quality standards. Without reviewing the data alluded to, it would not be possible to conclude that 4.0 cfs is the median flow for small streams in Arkansas and is not appropriate to use 4 cfs if data shows lesser flow. It is unclear if the use of 4 cfs as a default flow is specific to mineral or all effluent limitations. Accordingly, the use of 4 cfs as a minimum flow for the application of Arkansas mineral standards (also Section 1 (a)(7)) appears insufficiently justified.

Further, the assertion that 4.0 cfs is an appropriate indicator for stream flow for such water bodies is inconsistent with the State's own assessment and proposed draft revisions of Arkansas Pollution Control and Ecology Commission's Regulation No. 2, which define a flow of 1.0 cfs for watersheds less than 10 sq. mi. for the primary season critical flow.

Paragraph (a)(8):
Language in this section refers to "economic limits on treatability" of dissolved minerals and the likely "localized economic impacts of treatability requirement ..." This provision appears to establish an automatic statutory removal of designated and perhaps existing (under the CWA) uses. Such an approach appears inconsistent with CWA Section 303(c) and standards regulation. It is possible for the state to modify either criteria or designated uses in affected streams within the standards development process through the development of a use attainability analyses as outlined in 40 CFR 131.10(g)(6).

Arkansas has long held a default drinking water use for all waters. Such a designation is not required by the CWA or standards regulation. The removal of designated uses does not require legislative action, although the state cannot remove existing uses. EPA would not object to the state proposing modifications of its standards removing the drinking water use where it is not an existing use. Removing designated drinking water uses would not preclude the state from re-establishing those uses when need to support population growth in the state.

SECTION 2. Arkansas Code §8-4-202(b)(3) concerning the authority to 16 establish water quality standards

Paragraph (b)(1):
Language in this provision seems to suggest an alternate approach for establishing discharge effluent limitations, other than as described in the approved NPDES program administered by ADEQ. In addition, the language "discharged . . . into publicly owned treatment facilities" raises possible concerns related to the NPDES program's pretreatment program requirements and/or the federal effluent limitation guidelines to the extent they may apply to centralized waste treatment. In addition, effluent limits that may be adopted and placed in the state's water quality standards will not be approved as standards.

Paragraph (b)(3)(B)(1):
The provision, and others which follow, refer to average flow without adequate definition. The term "average" can be interpreted as an arithmetic mean, a geometric mean, or a median, to name but a few possible meanings of the word average. Again, this Section (and those which follow) incorporates an alternate minimum flow of 4.0 cfs which is not sufficiently justified and is not consistent with the existing standards. (See comments for Paragraph (a)(6) above)

Paragraph (b)(3)(B)(2):
See comments for Paragraph (a)(6) above.

Paragraph (b)(3)(B)(3):
This provision appears to represent a crude assessment methodology which is inconsistent with requirements of the CWA, particularly CWA Section 303(d) (e.g., use of all readily available data). The provision states that assessments will be made using no less than 60 samples over 5 years. There is no indication of how assessments will be made if fewer than 60 are available. The requirement to use 60 data point minimum over five years would preclude use of data from Arkansas' fixed station monitoring network if a single sample was not collected or analyzed during a five year period. Further, a 60 data point minimum would preclude use of data from the state's roving network – 2 years x bimonthly = 12 data points.

Paragraph (b)(3)(B)(4):
If enacted, this paragraph appears to mean that any waters that do not already have an existing drinking water use cannot be designated as such. This could create a significant problem that could limit future growth in some parts of the state by limiting new domestic water supplies for stream segments not currently designated as a planned/potential domestic water supply. The paragraph needs to clarify its intended meaning for the word "existing." The term has specific meaning under the standards regulation and that meaning appears at odds with what the Bill seems intent on doing. If a designated use is an existing use (as defined in 40 CFR 13 1.3) for a particular water body, the existing use cannot be removed unless a use requiring more stringent criteria is added. Protections of existing uses are also outlined in EPA's antidegradation policy at 40 CFR 131.12.

Paragraph (b)(3)(B)(5):
This provision speaks directly to the procedures and criteria for developing approvable TMDLs. To the extent this provision may be relied upon to restrict or inhibit TMDL development, EPA would view the provision negatively. This language is not consistent with 40 CFR 130.7(e),

which allows for the development of TMDLs "for the specific purpose of developing information," also known as informational TMDLs. The language in this paragraph prevents the establishment of informational TMDLs which apply domestic water supply uses if the water is not listed in the State Water Plan as having an existing/planned/potential domestic water supply use.

In addition, the sentence beginning at line 19 and continuing to line 22 appears to set up a public participation process which favors discharger input over those of the at large public. Specifically, the provision suggests that public hearings will only be held if requested "by any person holding a permit to discharge..." The sentence beginning on line 22 prohibiting establishment of a "waste load allocation...for purposes of protecting a domestic water supply unless...a domestic water supply use actually exists..." is not appropriate. The CWA requires TMDLs to be established to address designated use impairments identified in CWA section 303(d) lists. A domestic water use may have been impaired by past practices causing the water body to no longer have such use in place.

Paragraph (b)(3)(C):
This provision is particularly troublesome as is appears to be an attempt to negate already imposed regulatory requirements which have not yet reached their effective dates. This effectively blocks the proposed draft revisions to Regulation No. 2 if such revisions aren't approved prior to the passage of this bill. Without belaboring the point, this provision may be viewed as modifying NPDES permits without complying with the permit modification process. And, although the provision refers to "water quality standard(s), regulation(s), order(s), or permit(s) existing as of the effective date of this act," it is not clear whether the Section would work to nullify WLAs already established by TMDLs but not yet implemented via NPDES permits. Federal requirements dictate that permit effluent limitations be consistent with the requirements and assumptions of TMDLs.

SECTION 3. EMERGENCY CLAUSE

The phrase "avoid unnecessary regulation" appears to limit state agencies' regulatory authority previously granted under state law to develop methodologies for developing, implementing, and assessing state water quality standards. Further, this clause appears to mean that water quality standards previously approved, and in effect federalized by EPA, could be disregarded, which is inconsistent with the CWA.

JOHN BOOZMAN
ARKANSAS
320 HART SENATE OFFICE BUILDING
WASHINGTON, DC 20510
202-224-4843

Enclosure 4

COMMITTEES
AGRICULTURE, NUTRITION AND FORESTRY
COMMERCE, SCIENCE AND TRANSPORTATION
ENVIRONMENT AND PUBLIC WORKS
VETERANS' AFFAIRS

United States Senate

WASHINGTON, DC 20510

February 28, 2013

Regional Administrator Ron Curry
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dear Administrator Curry:

As the new Ranking Member of the Senate Subcommittee on Water and Wildlife, I am writing to request that Region 6 of the U.S. Environmental Protection Agency (EPA) work collaboratively with the State of Arkansas and our citizens in efforts to improve the process of modernizing water quality standards for minerals, as well as associated guidelines and values, to account for more detailed scientific information or errors made during the initial establishment of such standards. I also request your timely response to several related inquiries.

As you know, under the Clean Water Act (CWA) state-established water quality standards are intended to set the maximum concentrations of various pollutants that would not interfere with certain designated uses (such as fisheries or recreation) of each regulated waterbody. The CWA concept of using state-established standards to protect water quality for such uses is sound. However, there must be a workable process to correct errors and excesses in the law's implementation or to modernize standards based on new information. Decades ago, the State of Arkansas established a number of values that likely exceed what would be required to ensure that particular waterbodies protect uses as required by the CWA. More recently, implementation of these values or standards have led to the threat of exceptionally severe National Pollution Discharge Elimination System (NPDES) permits for many Arkansas municipalities and industrial dischargers.

In many rural, low-income communities, there is no practical recourse available when standards need to be updated. My understanding is that the EPA effectively requires an expensive, site-specific scientific study before state-established water quality standards can be revised. Few Arkansas communities have the resources to fund such a study, particularly when the outcome is uncertain and a costly NPDES permit may be immediately issued notwithstanding a study's outcome. The CWA is built on the principle of federal-state partnerships to protect water quality. Accordingly, I request that the EPA work collaboratively with the State of Arkansas to address this issue, and I request your response to the following questions and items:

1. What actions could the EPA take, under its existing authority, to simplify the process of modifying water quality standards, criteria, or certain designated uses to reduce costs for dischargers while ensuring that waterbodies meet their existing uses or designated uses that are practically and realistically attainable? Please elaborate.

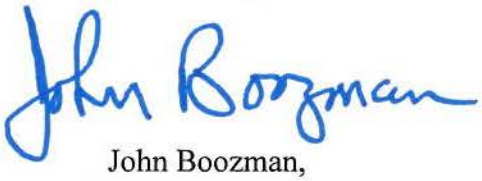
106 W. MAIN ST. SUITE 104 EL DORADO, AR 71730 870-863-4641
1120 GARRISON AVE. SUITE B FORT SMITH, AR 72901 479-573-0189
300 S. CHURCH ST. SUITE 400 JONESBORO, AR 72401 870-268-6925
1401 W. CAPITOL AVE. PLAZA F LITTLE ROCK, AR 72201 501-372-7153
213 W. MONROE SUITE N LOWELL, AR 72745 479-725-0400
1001 HWY. 62 E. SUITE 11 MOUNTAIN HOME, AR 72653 870-424-0129
620 E. 22ND ST. SUITE 204 STUTTGART, AR 72160 870-672-6941

2. As I understand it, the EPA recommends water quality criteria for entire ecoregions. Accordingly, would it be possible for the EPA to work with the state to adjust standards in each of Arkansas's regions without requiring the expenditure of untold millions of taxpayer dollars on numerous site-specific studies?
3. If the EPA was to undertake such collaborative work with the state, would it be possible to allow dischargers to continue operating at current limits while a process is developed to modernize the standards?
4. In order to simplify the process of modifying water quality standards (as mentioned in Question 1) does the EPA need new statutory authority? If so, please explain.
5. Is the EPA able to provide financial and technical assistance and/or any other kind of support to communities that wish to conduct site-specific studies in order to determine whether the modification of water quality standards is justified? If so, please elaborate.
6. What can be done to strengthen federal-state partnerships to ensure that states play a leading role in water quality standard modernization?
7. Does the EPA require a higher standard of scientific integrity and quality when evaluating a state's effort to relax a water quality standard than it requires when evaluating a state's effort to strengthen a water quality standard? Please provide a detailed explanation of the EPA's answer to this question, including specific examples from EPA Region 6.

I look forward to receiving your response to these items as well as any additional information you can provide. I request a comprehensive response no later than 30 days following the receipt of this letter.

Rural Arkansas communities are stretched thin as they try to meet their basic responsibilities to our citizens. Low-income families that rely on local services are most likely to be impacted by unnecessary spending related to standards that go beyond what is necessary for waterbodies to meet their designated use or uses that are practically and realistically attainable. Principles of justice and fairness require that we protect our environment while minimizing unintended consequences and the related costs that fall on families struggling in our present economy. I hope you share my view that we owe it to our communities to ensure that the federal-state partnership in water quality protection works appropriately and efficiently to protect the environment without imposing undue burdens on families and communities. I would appreciate your prompt attention to this matter and look forward to your response.

Sincerely,



John Boozman,
Ranking Member,
Subcommittee on Water and Wildlife
Committee on Environment and Public Works
U.S. Senate

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202 – 2733

Office of the Regional Administrator

April 5, 2013

The Honorable John Boozman
United States Senate
Washington, D.C. 20510

Dear Senator Boozman:

Thank you for your letter of February 28, 2013, to the U.S. Environmental Protection Agency regarding water quality standards for minerals in Arkansas. The EPA actively collaborates with the Arkansas Department of Environmental Quality to protect human health and the environment, including the process of revising water quality standards for the state.

The Clean Water Act allows states to adopt standards more stringent than nationally recommended criteria. As the primary environmental authority in Arkansas, the ADEQ recommends water quality standards for the state. The existing ecoregion criteria for minerals were established in the late 1980s by the Arkansas Pollution Control and Ecology Commission as a result of the ADEQ's extensive work. Water quality standards, which among other things are used to develop water quality-based National Pollutant Discharge Elimination System permit effluent limits, may be revised by the state at its discretion. New or amended standards must be scientifically defensible and protective of the most sensitive use. Though the EPA's primary role is oversight, our collaboration with Arkansas helps ensure that potential revisions to the minerals criteria meet the requirements of the CWA. Additionally, answers to your seven numbered questions are provided in the enclosure.

We will continue working collaboratively with Arkansas addressing criteria for minerals. The EPA strives to efficiently work with states improving environmental and health protection for all communities.

If you have any further questions, please contact me at (214) 665-2100, or your staff may contact Ms. LaWanda Thomas, Congressional Liaison, at (214) 665-7466.

Sincerely,

Ron Curry
Regional Administrator

Enclosure

cc: please see page 2

cc: Ms. Teresa Marks
Director, Arkansas Department of Environmental Quality

Mr. Steve Thompson
Executive Director, Oklahoma Department of Environmental Quality

EPA RESPONSE TO SPECIFIC QUESTIONS

As noted in your letter, the Clean Water Act (CWA) establishes states as the primary authority for the development and adoption of water quality standards. Specifically, section 303(c)(1) of the CWA requires states to periodically, but at least once every three years, hold public hearings to review applicable water quality standards (WQS) and, as appropriate, to modify and adopt standards. EPA's role in this process is one of oversight, but we have always considered up front collaboration to be an essential step in the WQS process.

We are working closely with the state to evaluate the existing ecoregion criteria that the Arkansas Pollution Control and Ecology Commission established in the late 1980s as a result of extensive work conducted by the Arkansas Department of Environmental Quality (ADEQ). The current minerals provisions and criteria in the Arkansas WQS were developed and adopted by Arkansas and may be revised at the state's discretion. New or amended provisions and criteria must be scientifically defensible and protective of the most sensitive use. Our collaboration will help ensure that any potential revisions to the minerals criteria will meet these expectations.

I certainly understand your concerns and those of rural communities that experience difficulty meeting their National Pollution Discharge Elimination System (NPDES) permit effluent limits. Arkansas has the option of developing site specific criteria for individual streams based on procedures outlined in the Arkansas WQS Regulation No. 2 and the state's continuing planning process (CPP). The cost of studies for criteria development often depends on the complexity of the site, which is out of EPA's control. As outlined in the answer to your questions below, EPA is working with the state to evaluate measures to assist Arkansas.

In response to your specific questions:

1. **What actions could the EPA take, under its existing authority, to simplify the process of modifying water quality standards, criteria, or certain designated uses to reduce costs for dischargers while ensuring that waterbodies meet their existing uses or designated uses that are practically and realistically attainable? Please elaborate.**

   The CWA §303(c) gives states primary responsibility for adoption and revision of water quality standards. The EPA only promulgates water quality standards if it finds a state's WQS fail to meet the requirements of the Act. The Act provides the EPA no authority to disapprove a state standard because it is more protective than EPA recommendations.

   The documentation requirements for development of a site-specific criterion by an affected discharger are generally developed by the states for inclusion in their CPPs. EPA may advise states on methodologies avoiding unnecessary costs, but any such methodology must be sufficient to demonstrate the resulting criterion will protect the most sensitive designated use a state has assigned the receiving water. *See* 40 C.F.R. §131.11. The development of site specific criteria frequently requires scientific analysis and attendant costs.

   The EPA has no discretion to modify the requirements outlined in the CWA; however, we make every effort to work with states prior to adoption of standards to ensure they meet the statutory and regulatory requirements.

2. **As I understand it, the EPA recommends water quality criteria for entire ecoregions. Accordingly, would it be possible for the EPA to work with the state to adjust standards in each of Arkansas's regions without requiring the expenditure of untold millions of taxpayer dollars on numerous site-specific studies?**

As required by CWA §304(a), EPA publishes criteria recommended for national application. Arkansas has historically opted to develop some standards on an ecoregion basis, and the EPA has supported this geographic framework. The EPA's 304(a) criteria recommendations are based on a comprehensive toxicological evaluation of a broad range of contaminants. For toxic pollutants, the documents are based on the relevant acute and chronic toxicity information for aquatic life and derive the criteria that the agency recommends to protect aquatic life resources.

The 304(a) recommended criteria are based on assumptions that may not accurately reflect actual water quality in particular ecoregions or waters. The Standards Regulation allows states to develop numerical criteria or modify EPA's recommended criteria to account for site-specific or other scientifically defensible factors. After substantial study and analysis, Arkansas developed its standards using an ecoregion approach that more closely reflects actual conditions in that state than EPA's recommended criteria. Nevertheless, conditions may vary within its ecoregions, necessitating the development of site-specific criteria, particularly because of the state's naturally low-hardness waters. The highly variable natural minerals concentrations in the waters of Arkansas make it difficult to have a "one size fits all" approach that would adequately protect the sensitive aquatic resources which have long been established in these waters. In the years since it approved Arkansas's minerals standards, the EPA has reviewed numerous site-specific criteria revisions. EPA approved most of them, but disapproved a few that were not supported by adequate scientific analysis.

EPA has developed guidance for states on modifying national criteria and is currently working on revisions to the 1988 chloride criteria and development of sulfate and conductivity criteria documents. This information should prove useful to Arkansas when published. Because of the complexity of this situation, Region 6 is working closely with ADEQ to evaluate appropriate options for the state to utilize in future minerals standards revisions and remains committed to doing so.

3. **If EPA was to undertake such collaborative work with the state, would it be possible to allow dischargers to continue operating at current limits while a process is developed to modernize the standards?**

Arkansas's NPDES permit effluent limits are derived from approved Arkansas WQS as required by CWA §301(b)(1)(C). For the state to allow dischargers to operate with limits that exceed Arkansas's WQS would only be permissible with the adoption of a temporary WQS variance. EPA's Standards Regulation allows for temporary variances and the EPA has produced guidance for their development. Arkansas has a general provision for variances in their WQS, but currently that provision lacks detailed implementation measures. The lack of such measures inhibits its use as a viable option and the state has yet to issue variances. Region 6 has worked to provide information to Arkansas regarding necessary details for the adoption of implementation procedures and will continue to provide support in such efforts.

4. **In order to simplify the process of modifying water quality standards (as mentioned in Question 1) does the EPA need new statutory authority? If so, please explain.**

We do not feel that a new statutory process is necessary to review and potentially revise existing standards, as states routinely do so within the bounds of the CWA and associated regulations.

5. **Is the EPA able to provide financial and technical assistance and/or any other kind of support to communities that wish to conduct site-specific studies in order to determine whether the modification of water quality standards is justified? If so, please elaborate.**

EPA will continue to provide available resources (grant funding and technical resources) as well as seek out any additional funding options to assist the state in evaluating options and potentially revising water quality standards for minerals. EPA is presently investigating the possibility of contract funding to assist the state in evaluating and developing minerals criteria, but we do not have resources to support communities that wish to develop site-specific criteria.

6. **What can be done to strengthen federal-state partnerships to ensure that states play a leading role in water quality standard modernization?**

Because the CWA establishes states as the primary authority for development of WQS, states play the leading role in WQS modernization. To foster such leadership and to further partnership, EPA has expressly involved the states in national monthly and annual meetings of the Water Quality Standards Managers Association. This month, for instance, Region 6 invited states to its regional office for the annual Regional Technical Advisory Group (RTAG) meeting on nutrients as well as hosted a meeting for WQS state and federal partners.

7. **Does the EPA require a higher standard of scientific integrity and quality when evaluating a state's effort to relax a water quality standard than it requires when evaluating a state's effort to strengthen a water quality standard? Please provide a detailed explanation of the EPA's answer to this question, including specific examples from EPA Region 6.**

Yes. States have the primary authority to establish WQS. Pursuant to CWA §303(c), EPA's review process ensures new or revised standards meet the requirements of the Clean Water Act and EPA's implementing regulations. However, the EPA does not have authority to disapprove standards that are more protective than the minimum needed to meet CWA requirements. *City of Albuquerque* v. *Browner*, 97 F.3d 415, 426 (10th Cir. 1996).

There are two circumstances in which that situation may occur. First, EPA's 304(a) nationally recommended criteria have already undergone significant scrutiny before publication and there is no reason to anticipate a state's adoption of more stringent criteria would provide inadequate protection. 40 C.F.R. §131.11(b)(1)(i) allows states to rely on those recommendations in adopting criteria without providing EPA scientific justification. The *City of Albuquerque* case referenced above is an example of such an approval. There the Pueblo of Isleta adopted an arsenic criterion based on EPA's 304(a) recommendation, but required that it be implemented by means EPA regarded unduly stringent. After EPA informed it of that view, the Pueblo nevertheless adopted the criterion, EPA approved it, and the Agency's approval was upheld on judicial review.

Second, states may on occasion revise a previously approved criterion to render it more protective. Because it has already found the less stringent criterion sufficient for compliance with the Act, the

EPA does not generally require the state to demonstrate the more protective criterion is also sufficient. Prior to adoption of the Arkansas ecoregion criteria for minerals, streams not specifically identified in the WQS had minerals criteria in place for the protection of drinking water uses. Adoption of the Arkansas ecoregion criteria established more strict values for such streams. At the time of the study, EPA was developing its national criteria for chloride, and the state had concern that adoption of these criteria on a state-wide basis would not be adequately protective.

Finally, as noted in question four, EPA has approved numerous site-specific minerals criteria revisions where standards are relaxed. In one recent instance, the City of Jonesboro, Arkansas, was able to relax its more stringent criteria for Bayou DeView and tributaries to those approaching the values derived in the ecoregion study. This study utilized a weight of evidence approach to scientifically justify relaxing the criteria.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JAN 24 2008

Steve Drown
Chief, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: Arkansas Triennial ("Phase I") Revisions to Regulation No. 2

Dear Mr. Drown:

Thank you for your recent letter, dated November 20, 2007, requesting review and approval of several revisions to Arkansas' Regulation No. 2, *Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas*. This letter pertains to the U.S. Environmental Protection Agency's (EPA) review of Arkansas' triennial "Phase I" revisions adopted by the Arkansas Pollution Control and Ecology Commission (APC&EC or Commission) via Minute Order No. 07-35 on September 28, 2007.

"Phase I" of Arkansas' triennial review focused on issues related to Extraordinary Resource Waters (ERWs), Ecologically Sensitive Waterbodies (ESWs), and Natural and Scenic Waterways (NSWs) within the State of Arkansas. The triennial "Phase I" review resulted in revisions to Regulations 2.304 and 2.306, along with the development of new Regulations 2.310 and 2.311, and new Appendices D, E, and F. In summary, these new and revised provisions establish processes for determining whether a proposed physical habitat alteration to an ERW, ESW, and NSW is "significant," for removing an ERW, ESW, or NSW designated use from a free-flowing waterbody for the purpose of constructing a reservoir to provide a domestic water supply, and for adding the ERW, ESW, or NSW designated use to a waterbody.

As noted above, these revisions were submitted by the Arkansas Department of Environmental Quality (ADEQ or Department) for EPA review via letter dated November 20, 2007, as required under federal regulations at 40 C.F.R. 131.5, along with an attorney's statement certifying that the revised water quality standards (WQS) were duly adopted pursuant to the laws of the State of Arkansas. EPA received the WQS submission on November 26, 2007.

For reasons described in the enclosed Record of Decision (ROD), EPA is hereby disapproving the WQS revisions to Regulation 2.304 and associated new Appendix D. Please note that based on the record associated with them, it appears the State's revisions to Regulation 2.304 were intended to accommodate construction of low head weirs in ERWs, ESWs, or NSWs as an alternative to removing the ERW, ESW, or NSW designated use for the purpose of constructing a reservoir to provide a domestic water supply. However, the revisions to Regulation 2.304 were not facially limited to that alternative, and, as explained in EPA's

enclosed ROD, the use of the word "impair" would also have allowed authorization of other activities resulting in substantially greater degradation than the State associates with low head weirs. Today's disapproval of the revisions to Regulation 2.304 should not be regarded as expressing any EPA view on whether the use of such weirs might be approved under Regulation 2.305.

In addition, as further described in the enclosed ROD, EPA is taking no action on revisions to Regulation 2.306, new Regulations 2.310 and 2.311, and associated new Appendices E and F. These revisions to Regulation No. 2 establish State procedures and decisional criteria that do not constitute new or revised WQS, and are thus not subject to EPA review under Clean Water Act (CWA) § 303(c). However, if and when the State exercises Regulations 2.310 or 2.311, any resulting revisions to a use designation would constitute a new or revised WQS requiring submission to EPA for review and approval/disapproval. In order for EPA to approve such revisions they must comply with CWA § 303(c) and EPA's implementing regulation at 40 C.F.R. § 131.10.

Section 7(a)(2) of the Endangered Species Act (ESA), requires that federal agencies consult with the U.S. Fish & Wildlife Service and/or National Marine Fisheries Service, as appropriate, to insure that actions they take, fund, or authorize are not likely to jeopardize the continued existence of listed species or result in the adverse modification or destruction of critical habitat. In accordance with the Service's consultation regulation at 50 C.F.R. § 402.14(a), EPA has determined that today's decision will have no effect upon listed species or critical habitat in Arkansas. Under 40 C.F.R. §131.21(c), new and revised standards do not go into effect for CWA purposes until approved by EPA. Therefore, the previously approved Regulation 2.304 remains in effect for CWA purposes. Further, as noted above, EPA has neither approved nor disapproved revisions to Regulation 2.306, new Regulations 2.310 and 2.311, and new Appendices E and F. As such, there is no EPA action upon which the Agency needs now consult. If Arkansas' utilization of the procedures in Regulations 2.310 and 2.311 results in a future revision to its WQS, however, such WQS revisions will themselves be subject to EPA review and approval on a case-by-case basis. Whether EPA action on such revisions warrants ESA consultation will be determined at that time.

I would like to acknowledge the efforts of the Commission and the Department, in the development of these revised standards, and in particular, the State's efforts to inform and involve the citizens of Arkansas in this WQS revision process. We look forward to working with you during the next triennial review. If you have any questions or concerns, please contact me at (214) 665-7101, or have your staff contact Melinda McCoy at (214) 665-8059.

Sincerely yours,

WK Honker

Miguel I. Flores
Director
Water Quality Protection Division

Enclosure

RECORD OF DECISION:

REGULATION NO. 2: *REGULATION ESTABLISHING WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE STATE OF ARKANSAS*

Revisions Adopted by the Arkansas Pollution Control and Ecology Commission via Minute Order No. 07-35

U.S. EPA REGION 6
WATER QUALITY PROTECTION DIVISION
January 2008

Table of Contents

I. Introduction

Background

As described in § 303(c) of the Clean Water Act (CWA) and in the water quality standards (WQS) regulation at 40 C.F.R. § 131.20, states and authorized tribes have primary responsibility to develop and adopt WQS to protect their waters. State and tribal WQS consist of three primary components: designated uses, criteria to support those uses, and an antidegradation policy. In addition, CWA § 303(c)(1) and 40 C.F.R. § 131.20 require states to hold public hearings at least once every three years to review and, as appropriate, modify and adopt standards. Under 40 C.F.R. § 131.21, the Environmental Protection Agency (EPA) reviews new and revised surface WQS that have been adopted by states and authorized tribes. Authority to approve or disapprove new and/or revised standards submitted to EPA for review has been delegated to the Water Quality Protection Division Director in Region 6. State or tribal water quality standards are not considered effective under the CWA until approved by EPA.

The purpose of this Record of Decision is to provide the basis for EPA's review and actions concerning revisions to Regulation No. 2: *Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas* adopted by the Arkansas Pollution Control and Ecology Commission (APC&EC or Commission) via Minute Order No. 07-35 on September 28, 2007.

Chronology of Events

On January 13, 2006, the River Valley Regional Water District (RVRWD) filed a petition with the APC&EC to initiate third party rulemaking to amend Regulation No. 2. RVRWD is a public, nonprofit regional water distribution district whose mission is "to acquire safe and dependable water supplies and to distribute water efficiently to consumers and communities in the Crawford County area" of Arkansas. Through its petition, the RVRWD proposed amendments to Regulation 2.304 ("Physical Alteration of Habitat") of the State's WQS that would "establish a procedure by which regional water distribution districts and other public water authorities would be able to seek Commission approval to use extraordinary resource waters as a source of drinking water supply." The petition also referred to RVRWD's plans to utilize water from upper Lee Creek (an Extraordinary Resource Water), that would be impounded by the proposed Pine Mountain Dam, as a source of drinking water supply.

While the petition specifically referred to Extraordinary Resource Waters (ERWs), the proposed amendments described in the petition would have also applied to Ecologically Sensitive Waterbodies (ESWs) and Natural and Scenic Waterways (NSWs). ERWs, ESWs, and NSWs are also each identified as "outstanding state or national resource" waters (ONRWs) in Arkansas' antidegradation policy in Regulation 2.203 of the State's WQS.

The public comment period on the proposed amendments associated with RVRWD's petition ended on June 2, 2006. The APC&EC directed both RVRWD and the Arkansas Department of Environmental Quality (ADEQ or Department) to prepare and file a

Statement of Basis and Purpose and a *Responsiveness Summary* to comments received on the proposed amendments.

In its June 28, 2006, *Statement of Basis and Purpose* on RVRWD's petition, ADEQ formally responded to the petition stating that: "An amendment to Regulation No. 2 with such far-reaching effects is best brought forward during the Department's triennial review of [Arkansas'] water quality standards" (brackets added).

Accordingly, ADEQ began its triennial review of Regulation No. 2 on February 10, 2006, approximately one month after RVRWD filed its petition to initiate third party rulemaking. ADEQ organized its triennial review into two phases. "Phase I" of the review focused on issues related to ERWs, ESWs, and NSWs, and sought to develop alternative revisions to RVRWD's proposed amendments to Regulation No. 2. As a result of this process, APC&EC eventually adopted ADEQ's proposed amendments to Regulation No. 2 instead of RVRWD's proposed amendments. EPA received the adopted amendments to Regulation No. 2 on November 26, 2007. Provided below is a detailed chronology of events associated with ADEQ's triennial "Phase I" review.

February 10, 2006	The ADEQ issued a news release announcing seven public informational meetings to begin its triennial review of Regulation No. 2.
March 2, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at Northridge Middle School in Van Buren, Arkansas.
March 9, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at Arkansas State University in Mountain Home, Arkansas.
March 16, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at South Arkansas Community College in El Dorado, Arkansas.
March 23, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at the Clarion Inn in Fayetteville, Arkansas.
March 30, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at Henderson State University in Arkadelphia, Arkansas.
April 6, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at the Nettleton High School Commons in Jonesboro, Arkansas.
April 13, 2006	ADEQ held a public meeting on the triennial review of Regulation No. 2 at the State Police Headquarters in Little Rock, Arkansas.

May 30, 2006	ADEQ held its first "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas.
June 12, 2006	ADEQ held its second "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas.
June 22, 2006	ADEQ held its third "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas.
July 20, 2006	ADEQ held its fourth "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas, during which the Department presented its July 20, 2006, draft of proposed revisions to Regulation No. 2.
August 21, 2006	Melinda Nickason, Arkansas WQS Coordinator, EPA Region 6, sent comments electronically to Ellen Carpenter, Chief, Legal Division, ADEQ, on the Department's July 20, 2006, draft of proposed revisions to Regulation No. 2.
August 22, 2006	ADEQ held its fifth "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas, during which the Department presented its August 18, 2006, draft of proposed revisions to Regulation No. 2.
September 8, 2006	ADEQ filed a petition with the Commission to initiate rulemaking to amend Regulation No. 2.
September 19, 2006	River Valley Regional Water District filed a motion with the Commission to deny ADEQ's petition to initiate rulemaking.
September 19, 2006	ADEQ filed an amended petition with the Commission to initiate rulemaking to amend Regulation No. 2.
September 21, 2006	ADEQ filed a second amended petition with the Commission to initiate rulemaking to amend Regulation No. 2.
September 22, 2006	The Commission's Regulations Committee met to review ADEQ's second amended petition and voted to refer the matter to the entire Commission.
September 22, 2006	The Commission accepted the recommendation of the Regulations Committee concerning ADEQ's second amended petition and initiated the rulemaking proceeding (Docket No. 06-010-R) via Minute Order No. 06-39.
October 1-2, 2006	ADEQ published a public notice concerning the proposed rulemaking in the *Arkansas Democrat – Gazette.*
November 16, 2006	ADEQ held a public hearing on the proposed rulemaking at Arkansas State University in Mountain Home, Arkansas.

November 20, 2006	ADEQ held a public hearing on the proposed rulemaking at the Clarion Inn in Fayetteville, Arkansas.
November 27, 2006	ADEQ held a public hearing on the proposed rulemaking at South Arkansas Community College in El Dorado, Arkansas.
December 4, 2006	ADEQ held a public hearing on the proposed rulemaking at Northridge Middle School in Van Buren, Arkansas.
December 11, 2006	ADEQ held a public hearing on the proposed rulemaking at Harrison High School in Harrison, Arkansas.
January 4, 2007	ADEQ held a public hearing on the proposed rulemaking at National Park Community College in Hot Springs, Arkansas.
January 4, 2007	ADEQ held a public hearing on the proposed rulemaking at the Montgomery County Courthouse in Mount Ida, Arkansas.
January 18, 2007	ADEQ held a public hearing on the proposed rulemaking at Arkansas Tech University in Russellville, Arkansas.
January 18, 2007	ADEQ held a public hearing on the proposed rulemaking at Henderson State University in Arkadelphia, Arkansas.
January 22, 2007	ADEQ held a public hearing on the proposed rulemaking at the State Police Headquarters in Little Rock, Arkansas.
February 1, 2007	Miguel Flores, Director, Water Quality Protection Division, EPA Region 6, sent comment letter regarding proposed revisions to Regulation No. 2 to Doug Szenher, Public Outreach and Assistance Division, ADEQ.
February 5, 2007	The public comment period ended on the proposed rulemaking to amend Regulation No. 2.
April 13, 2007	ADEQ filed a motion with the Commission to extend its time to file a *Statement of Basis and Purpose* and *Responsiveness Summary* until June 1, 2007.
April 27, 2007	The Commission passed Minute Order No. 07-12 granting ADEQ an extension of time to file a *Statement of Basis and Purpose* and *Responsiveness Summary* until June 1, 2008.
May 25, 2007	Melinda Nickason, Arkansas WQS Coordinator, EPA Region 6, sent comments electronically to Bob Singleton, Water Quality Planning Branch, Water Division, ADEQ, on the Department's June 2007, draft of proposed revisions to Regulation No. 2.

June 1, 2007	Teresa Marks, Director, ADEQ, sent a letter to Dana Samples, Chair, APC&EC, and Randy Young, Chair, Regulations Committee, APC&EC, requesting an extension of time to file a *Statement of Basis and Purpose* and *Responsiveness Summary* until June 8, 2007.
June 1, 2007	Michael O'Malley, Administrative Hearing Officer, APC&EC, sent a letter to Teresa Marks, Director, ADEQ, granting ADEQ an extension of time to file a *Statement of Basis and Purpose* and *Responsiveness Summary* until June 8, 2007.
June 4, 2007	ADEQ held its sixth "2007 Triennial Review Work Group" meeting in Little Rock, Arkansas, during which the Department presented its June 2007, draft of proposed revisions to Regulation No. 2.
June 8, 2007	ADEQ filed a *Statement of Basis and Purpose* and *Responsiveness Summary* for proposed amendments to Regulation No. 2 with the APC&EC.
July 5, 2007	ADEQ formally presented the final proposed amendments to Regulation No. 2 to the Administrative Rules and Regulations Subcommittee of the Legislative Council.
August 15, 2007	ADEQ formally presented the final proposed amendments to Regulation No. 2 to the Agriculture, Forestry, and Economic Development Subcommittee of the Legislative Council and received approval from the Subcommittee.
August 24, 2007	Teresa Marks, Director, ADEQ, sent a letter to Thomas Schueck, Chair, APC&EC, and Randy Young, Chair, Regulations Committee, APC&EC, requesting an extension of time to present the final proposed amendments to Regulation No. 2 to the APC&EC for final adoption at the regularly scheduled September Commission meeting.
August 24, 2007	Michael O'Malley, Administrative Hearing Officer, APC&EC, sent a letter to Teresa Marks, Director, ADEQ, granting ADEQ an extension of time to present the final proposed amendments to Regulation No. 2 to the APC&EC for final adoption at the regularly scheduled September Commission meeting.
September 6, 2007	ADEQ again formally presented the final proposed amendments to Regulation No. 2 to the Administrative Rules and Regulations Subcommittee of the Legislative Council and received approval from the Subcommittee.
September 7, 2007	ADEQ filed with APC&EC a motion to adopt the final proposed amendments to Regulation No. 2.

September 20, 2007	ADEQ formally presented the final proposed amendments to Regulation No. 2 to the Public Health and Welfare Committee of the Legislative Council and received approval from the Committee.
September 28, 2007	ADEQ formally presented the final proposed amendments to Regulation No. 2 to the Regulations Committee of the APC&EC.
September 28, 2007	ADEQ formally presented the final proposed amendments to Regulation No. 2 to the APC&EC for adoption.
September 28, 2007	The Commission adopted the final proposed amendments to Regulation No. 2 via Minute Order No. 07-35.
October 1, 2007	ADEQ sent two copies of the adopted amendments to Regulation No. 2 to the Arkansas Secretary of State.
October 10, 2007	The final amendments to Regulation No. 2 adopted via Minute Order No. 07-35 became effective under State law.
November 26, 2007	Miguel Flores, Director, Water Quality Protection Division, EPA Region 6, received a letter dated November 20, 2007, from Steve Drown, Chief, Water Division, ADEQ, submitting the final amendments to Regulation No. 2 for EPA's review and approval.

Summary of Revisions to Regulation No. 2

In its June 8, 2007, *Statement of Basis and Purpose*, ADEQ stated that the triennial "Phase I" revisions to Regulation No. 2 "are intended to balance vital interests of the citizens of Arkansas for protecting ERWs, ESWs, and NSWs and providing potential drinking water supplies." New Regulation 2.310 and associated Appendix E establish a procedure for removing the ERW, ESW, or NSW designated use from a waterbody for the purpose of creating a reservoir to provide a domestic water supply. New Regulation 2.311 and associated Appendix F provide a procedure for adding the ERW, ESW, or NSW designated use to a waterbody or segment of a waterbody. Revisions to Regulation 2.306 reflect the inclusion of new Regulation 2.310 into Arkansas' WQS by adding references to ERWs, ESWs, and NSWs in both the title of Regulation 2.306 and within its text. Revisions to Regulation 2.304 and associated new Appendix D provide a procedure for the State of Arkansas to use in determining that a proposed physical alteration of habitat in an ONRW is not significant.

Revised Regulations 2.304 and 2.306, as well as new Regulation 2.310, 2.311, and Appendices D, E, and F are provided in Attachments A through G of this record of decision.

II. New or Revised Provisions for Which EPA is Taking No Action

Regulation No. 2.310, 2.311, and Appendices E and F

EPA regulations at 40 C.F.R. § 131 require that WQS include beneficial use designations for all waters of a state consistent with 40 C.F.R. § 131.10, water quality criteria supporting those use designations consistent with 40 C.F.R. § 131.11, and an antidegradation policy consistent with 40 C.F.R. § 131.12. In addition, 40 C.F.R. § 131.13 allows, but does not require, states to include policies affecting application of their WQS, e.g., mixing zone and variance policies.

State agencies charged with adopting and revising WQS may, and frequently do, include other types of regulations in their codification of WQS. That, however, does not render such regulations WQS *per se* and thus does not require that EPA review them pursuant to CWA § 303(c). Historically, however, EPA Region 6 has generally reviewed such regulations for consistency with the CWA when they were submitted by a state along with regulations that were in fact WQS. Recent litigation has called the wisdom of that approach into question. See, e.g., Florida Public Interest Research Group Citizen Lobby v. EPA, 386 F.3d 1070 (11th Cir. 2004). Region 6 is accordingly being somewhat more circumspect here than in some past actions.

Regulations 2.310 and 2.311 and associated Appendices E and F establish State procedures and decisional criteria for adding and removing the specific designated uses of "Extraordinary Resource Water," "Ecologically Sensitive Waterbody," or "Natural and Scenic Waterway." These regulations do not establish and are not themselves designated uses, water quality criteria, or an antidegradation policy. Therefore, they do not constitute new or revised WQS. Because Regulations 2.310, 2.311, and Appendices E and F are not new or revised WQS, EPA takes no action on them. However, if and when the State exercises Regulations 2.310 or 2.311, any resulting revisions to a use designation would constitute a new or revised WQS requiring submission to EPA for review and approval/disapproval. In order for EPA to approve such revisions they must comply with CWA § 303(c) and EPA's implementing regulation at 40 C.F.R. § 131.10.

Regulation No. 2.306

The State's revision to Regulation 2.306 reflects Arkansas' adoption of new Regulation 2.310. As revised, Regulation 2.306 now states (with deletions denoted by a line through the text and additions denoted by underlined text):

Reg. 2.306 **Procedures for Removal of Any Designated Use Except Fishable/Swimmable, Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway, and Modification of Water Quality Criteria not Related to ~~Fishable/Swimmable~~ These Uses**

This procedure is applicable in those cases where the Commission chooses to establish less stringent water quality criteria without affecting a fishable/swimmable use or the designated use of Extraordinary Resource Water or Ecologically Sensitive Waterbody or Natural and Scenic Waterway, or when the Commission chooses to remove a use ~~other than fishable/swimmable~~ which is not an existing use other than fishable/swimmable, Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway.

The Commission may allow a modification of the water quality criteria or the removal of a use which is not a fishable/swimmable use or designated use of Extraordinary Resource Water or Ecologically Sensitive Waterbody or Natural and Scenic Waterway to accommodate important economic or social development in a local area, if existing uses are maintained and protected fully and the requirements for public participation in the Continuing Planning Process are met. As a minimum, the following information shall be submitted to the ~~Department~~ Director before initiation of the public participation process:

(A) Technological or economic limits of treatability.
(B) Economic analysis of the impact on the local area.
(C) Documentation that the use being removed is not an existing use and that all other designated uses will be protected.

Modifications made pursuant to this section may be required to be rejustified for continued support. As community water needs change, or technological advancement, including long-term environmental improvement projects, make treatment options more practicable, the Commission may reevaluate the need for the reestablishment of the more stringent water quality criteria or the removed use.

Any waterbody on which such alterations are approved will be so listed in Appendix A with the applicable changes noted.

These revisions to Regulation 2.306 provide clarification that the procedures in Regulation 2.306 are not applicable to the ERW, ESW, and NSW designated uses, since new Regulation 2.310 applies to these three uses. As such, these revisions to Regulation 2.306 do not establish and are not themselves designated uses, water quality criteria, or an antidegradation policy and, therefore, do not constitute new or revised WQS. Because the revisions to Regulations 2.306 are not new or revised WQS, EPA takes no action on them.

III. New or Revised Provisions EPA is Disapproving

Regulation No. 2.304 and Appendix D

The State's revision to Regulation 2.304 affects the stringency of Arkansas' antidegradation policy and is thus subject to EPA review under CWA § 303(c). As revised, the regulation now states (with revisions denoted by underlined text):

(A) Significant physical alterations of the habitat within extraordinary resource waters, ecologically sensitive waterbodies or natural and scenic waterways are not allowed. For the purposes of this subsection, the Director may determine that a proposed physical alteration of the habitat is not significant if it is demonstrated that:

(1) The proposed physical alteration of habitat (a) will not impair water quality; (b) will not impair the natural flow regime; and (c) will not impair the habitat of fish, shellfish, or other forms of aquatic life; and
(2) there is no feasible alternative to the proposed project.

A request under this subsection for a determination that a proposed physical alteration of habitat is not significant shall be submitted to the Director in accordance with the procedures set forth in Appendix D.

(B) In other waters, where significant physical alterations of the habitat are proposed, the Department must be assured that no significant degradation of any existing use or water quality necessary to protect that use will occur. In order to make such determinations, the Department may require an evaluation of all practicable alternatives to the project including: an environmental assessment of the impacts of each alternative, an engineering and economic analysis, and a socio-economic evaluation of the project in the local area.

Adoption of these revisions alters Arkansas' application of its previously approved antidegradation policy by expanding or clarifying its views on allowable "not significant" degradation in an ONRW (i.e., ERW, ESW, or NSW). A question thus arises on whether allowing such degradation is consistent with 40 C.F.R. § 131.12(a)(3). It is not.

40 C.F.R. § 131.12(a)(3) generally prohibits authorization of an activity that diminishes ONRW water quality as it exists when the activity is authorized. That prohibition is facially absolute, but EPA has long interpreted 40 C.F.R. § 131.12(a)(3) as permitting some limited activities resulting in temporary and short term changes in the water quality of an ONRW. See 40 Fed. Reg. 51400, 51402 (November 8, 1983). It has also interpreted the term "degradation" as referencing detectable, rather than hypothetical, decreases in ONRW water quality. See Arkansas v. Oklahoma, 503 U.S. 91 (1992). A state's discretion for allowing ONRW water quality degradation is thus limited both as to magnitude (no detectable degradation) and duration (short term and temporary). When approved, the term "significant" in Regulation 2.304 was presumably subject to interpretation consistent with either or both of these limitations.

Under the revision at issue here, however, physical alterations to ONRWs would be allowed unless they "impair water quality."[1] Under the CWA, "impair" is a term of art that is somewhat narrower than its dictionary definition. "Impaired water," for instance, is typically used to characterize a water not attaining its designated uses and that must

[1] Given the State regulation's use of the term "water quality," it is not necessary to here determine whether "flow regime" and "habitat of fish, shellfish, or other forms of aquatic life" in Regulation 2.304(A) are encompassed by the term "water quality" in 40 C.F.R. §131.12(a)(3). Suffice it to say that both regulations should provide the highest level of antidegradation protection to "the chemical, physical, and biological integrity" of ONRWs.

accordingly be "listed" pursuant to CWA § 303(d). Consistent with such usage, Arkansas' Regulation 2.106 defines "impairment" as:

> Exceedances of the water quality standards by a frequency and/or magnitude which results in any designated use of a waterbody to fail to be met as a result of physical, chemical or biological conditions.

Given that definition of "impairment," the revised Regulation 2.304 prohibits only ONRW water quality degradation that precludes attainment of a designated use. In other words, physical alterations in an ONRW could presumably be authorized unless they caused exceedances of applicable criteria supporting the water's designated uses by a frequency and/or magnitude such that the designated use was no longer supported.[2] When ONRW water quality was higher than water quality criteria associated with its designated uses, the revisions to Regulation 2.304 would allow authorization of detectable degradation of existing water quality as long as the ONRW continued to comply with applicable criteria. As such, the revisions to Regulation 2.304 are inconsistent with the prohibition of 40 C.F.R. § 131.12(a)(3) against authorizing an activity that detectably diminishes existing ONRW water quality.

Further, the word "frequency" in the State's definition of impairment could presumably allow authorization of physical alterations causing recurring, e.g., seasonal, degradation of an ONRW as long as it continued to attain its designated use. Each recurrence might be viewed as "short term and temporary," but in the aggregate they could be long term and permanent. For that reason also, the revisions to Regulation 2.304 are inconsistent with 40 C.F.R. § 131.12(a)(3).

As revised, Regulation 2.304(A) provides no more antidegradation protection to ONRW water quality than Regulation 2.304(B) provides other Arkansas waters. The revisions to Regulation 2.304 are inconsistent with federal requirements and EPA accordingly disapproves them, including referenced Appendix D. Under 40 C.F.R. § 131.21(c), new and revised standards do not go into effect for CWA purposes until approved by EPA. Therefore, the previously approved Regulation 2.304 remains in effect for CWA purposes.

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[2] Water quality criteria are a commonly used factor for determining whether designated uses are attained. A state's regulatory description of a designated use, however, may itself provide additional factors that may be considered in determining compliance with WQS. See P.U.D. No. 1 of Jefferson County v. Washington Dept. of Ecology, 511 U.S. 700 (1994).

Attachment A – Revisions to Regulation 2.304[3]

Reg. 2.304 Physical Alteration of Habitat

(A) Significant physical alterations of the habitat within extraordinary resource waters, ecologically sensitive waterbodies or natural and scenic waterways are not allowed. For the purposes of this subsection, the Director may determine that a proposed physical alteration of the habitat is not significant if it is demonstrated that:

(1) the proposed physical alteration of habitat (a) will not impair water quality; (b) will not impair the natural flow regime; and (c) will not impair the habitat of fish, shellfish or other forms of aquatic life; and
(2) there is no feasible alternative to the proposed project.

A request under this subsection for a determination that a proposed physical alteration of habitat is not significant shall be submitted to the Director in accordance with the procedures set forth in Appendix D.

(B) In other waters, where significant physical alterations of the habitat are proposed, the Department must be assured that no significant degradation of any existing use or water quality necessary to protect that use will occur. In order to make such determinations, the Department may require an evaluation of all practicable alternatives to the project including: an environmental assessment of the impacts of each alternative, an engineering and economic analysis, and a socio-economic evaluation of the project in the local area.

[3] Revisions are denoted by underlined text. Comparison is from Arkansas Water Quality Standards (Regulation No. 2) version dated April 23, 2004 ("2004 Triennial Revision"), to version dated September 28, 2007 ("2007 Triennial Revision").

Attachment B – New Appendix D

APPENDIX D: PROCEDURES FOR OBTAINING DIRECTOR'S DETERMINATION ON THE PROPOSED PHYSICAL ALTERATION OF AN EXTRAORDINARY RESOURCE WATERS, ECOLOGICALLY SENSITIVE WATERBODY, OR NATURAL AND SCENIC WATERWAY

I. CONTENTS OF REQUEST FOR DETERMINATION

Any person may submit a written request to the Department seeking a determination on whether or not a proposed project will constitute a significant physical alteration of the habitat of an extraordinary resource water, ecologically sensitive waterbody, or natural and scenic waterbody. Such request shall include, at a minimum:

(A) A map depicting the location of the proposed project and the area to be altered by the project;
(B) A description of the project, including detailed design plans;
(C) An analysis of alternatives to the proposed project, including: an environmental assessment of the impacts of each alternative, the costs associated with each alternative, an engineering and economic analysis, and a socioeconomic evaluation of the project to the local area; and
(D) A technical report containing supporting documentation to demonstrate that the proposed project:
(1) will not impair water quality;
(2) will not impair the natural flow regime; and
(3) will not impair the habitat of fish, shellfish, or other forms of aquatic life

II. DEPARTMENT REVIEW OF REQUEST

(A) Upon receipt of the request and supporting documentation identified above, the Department shall review the alternatives analysis referenced in Appendix D, I (C). The Department may consult with professionals, as necessary, in reviewing the report. The Department shall review the alternatives analysis in order to:
(1) ensure that the alternatives analysis is complete;
(2) evaluate whether the analysis adequately addresses the environmental, social, and economic costs and impacts of each alternative; and
(3) determine whether any feasible alternatives exist for the proposed project.

(B) Following review of the alternatives analysis, the Department will review the technical report referenced in Appendix D, I (D). The Department may consult with professionals, as necessary, in reviewing the report. The Department shall review the technical report to evaluate the impacts of the proposed project on water quality, instream flow, and aquatic habitat. The Department will develop guidelines for drafting the technical report and identifying issues to be addressed.

III. DIRECTOR'S DETERMINATION

(a) Upon completing its review of the written request and supporting information, the Director shall issue a draft determination. The Director's draft determination shall include a written statement setting out the reasons for the determination and provide a draft decision on the proposed project which shall either:

1) authorize, with conditions as necessary, the alteration of the habitat because the proposed project does not constitute a significant alteration of the habitat and no feasible alternatives exist to the proposed project; or

2) deny the request to alter the habitat because:

(i) the proposed project constitutes a significant alteration of the habitat which is prohibited by Reg. 2.304(a); or

(ii) feasible alternatives to the proposed project exist.

(b) Public notice, notice of a public comment period, and notice of any public hearing on the Director's draft determination shall be provided in the same manner as that provided for a draft permit decision in Regulation No. 8. Thereafter, the Director shall issue a final determination. The final determination shall be issued and notice provided in the same manner as that provided for the issuance and notice of a final permitting decision in Regulation No. 8. The Director's determination may be appealed to the Commission in the same manner as permit appeals are provided for in Regulation No. 8.

IV. REQUIREMENT FOR SHORT TERM ACTIVITY AUTHORIZATION

If the Director authorizes the alteration of the habitat of an extraordinary resource water, ecologically sensitive waterbody, or natural and scenic waterway, then the party requesting the Director's Determination shall submit to the Department a request for a short term activity authorization in accordance with the requirements of Reg. 2.305.

V. OTHER REQUIRED PERMITS NOT WAIVED

Nothing contained herein shall be construed to relieve the petitioner of the requirements to obtain any other permit for the proposed project required by state or federal law.

Attachment C – Revisions to Regulation 2.306[4]

Reg. 2.306 Procedures for Removal of Any Designated Use Except Fishable/Swimmable, Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway, and Modification of Water Quality Criteria not Related to ~~Fishable/Swimmable~~ These Uses

This procedure is applicable in those cases where the Commission chooses to establish less stringent water quality criteria without affecting a fishable/swimmable use or the designated use of Extraordinary Resource Water or Ecologically Sensitive Waterbody or Natural and Scenic Waterway, or when the Commission chooses to remove a use ~~other than fishable/swimmable~~ which is not an existing use other than fishable/swimmable, Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway.

The Commission may allow a modification of the water quality criteria or the removal of a use which is not a fishable/swimmable use or designated use of Extraordinary Resource Water or Ecologically Sensitive Waterbody or Natural and Scenic Waterway to accommodate important economic or social development in a local area, if existing uses are maintained and protected fully and the requirements for public participation in the Continuing Planning Process are met. As a minimum, the following information shall be submitted to the ~~Department~~ Director before initiation of the public participation process:

(A) Technological or economic limits of treatability.
(B) Economic analysis of the impact on the local area.
(C) Documentation that the use being removed is not an existing use and that all other designated uses will be protected.

Modifications made pursuant to this section may be required to be rejustified for continued support. As community water needs change, or technological advancement, including long-term environmental improvement projects, make treatment options more practicable, the Commission may reevaluate the need for the reestablishment of the more stringent water quality criteria or the removed use.

Any waterbody on which such alterations are approved will be so listed in Appendix A with the applicable changes noted.

[4] Deletions are denoted by a line through the text and additions are denoted by underlined text. Comparison is from Arkansas Water Quality Standards (Regulation No. 2) version dated April 23, 2004 ("2004 Triennial Revision"), to version dated September 28, 2007 ("2007 Triennial Revision").

Attachment D – New Regulation 2.310

Reg. 2.310 Procedure for the Removal of the Designated Use of Extraordinary Resource Water, or Ecologically Sensitive Waterbody, or Natural and Scenic Waterway for the Purpose of Constructing a Reservoir on a Free Flowing Waterbody to Provide A Domestic Water Supply.

(A) An extraordinary resource water, ecologically sensitive waterbody, or natural and scenic waterway designated use may be removed from a free flowing waterbody for the purpose of constructing a reservoir to provide a domestic water supply, if it can be demonstrated that:

(1) the sole purpose for the funding and construction of the reservoir is to provide a domestic water supply; and

(2) there is no feasible alternative to constructing a reservoir in order to meet the domestic water needs of the citizens of the State of Arkansas.

The limitation in Subsection A(1) of this section does not prohibit incidental uses of the reservoir that are consistent with the use of domestic water supply.

(B) A petition to initiate rulemaking to remove an Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway designated use from a free flowing waterbody in order to construct a reservoir to provide a domestic water supply may be submitted to the Commission by a regional water distribution district, public facilities board, public water authority, or other public entity engaged in providing water to the public. Such petition, at a minimum, shall include:

(1) A map depicting the location of the proposed project and the area to be impounded;

(2) A description of the proposed project, including detailed design plans;

(3) A certification that the proposed structure to impound the free flowing stream shall be funded and constructed solely for the purpose of providing a domestic water supply;

(4) An evaluation of all alternatives to the proposed project, including:

(i) an environmental assessment of the impacts of each alternative on the instream and downstream water quality, the instream habitat, and the habitat and plant and animal life in the area upstream, downstream, and to be inundated by the proposed project;

(ii) the costs associated with, and an economic analysis for, each alternative;

(iii) an engineering analysis for each alternative; and

(iv) a socio-economic evaluation of the project to the local area and to the State as a whole; and

(5) Information and supporting documentation which address the criteria set forth in Appendix E;

(6) A recommendation to the Commission from the Director on whether or not the designated use should be maintained based upon a review of the information and supporting documentation required to be considered in Appendix E. The Director shall provide the petitioner with the Director's recommendation within 180 days of the Department's receipt of the petitioner's Appendix E submittal. If the Director does not deliver a recommendation to the petitioner within the 180

day time period, the petitioner may file its petition under this section without including a recommendation from the Director. The Director may submit a recommendation to the Commission at any time not less than 30 days prior to the Commission's final decision on the petition.
(7) A description of any proposed mechanisms for protecting the domestic water supply, including but not limited to prohibitions to be placed on commercial and residential development along the proposed shoreline of the impoundment, the controls to be placed on public access to the water supply, and the legal authority for establishing and maintaining these domestic water supply protections; and
(8) Any other submittals required by Regulation No. 8 for a petition to initiate rulemaking.

(C) The Commission, as part of its rulemaking decision, shall determine whether or not a feasible alternative to constructing a reservoir is available to meet the domestic water needs of the citizens of the State of Arkansas. The Commission shall set forth the reasons for its determination in writing. The designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway shall not be removed by the Commission if a feasible alternative to constructing a reservoir is available to meet the domestic water needs of the citizens of the State of Arkansas.

(D) The Commission, as part of its rulemaking, shall determine whether or not the sole purpose for the funding and construction of the reservoir is to provide a domestic water supply. The Commission shall set forth the reasons for its determination in writing. The designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway shall not be removed by the Commission if the purpose for the funding and construction of the reservoir is other than to provide a domestic water supply. In no circumstance, shall the designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway be removed by the Commission from a free flowing waterbody in order to construct a reservoir for recreational, flood control, or economic purposes other than providing a domestic water supply.

(E) The Commission, as part of its rulemaking decision, shall determine whether or not the designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway of a given waterbody should be maintained. The Commission shall set forth the reasons for its determination in writing, after considering the Director's recommendation referenced in Subsection (B)(6) of this section and reviewing the information and supporting documentation which address the criteria set forth in Appendix E.

Attachment E – New Appendix E

APPENDIX E: CRITERIA TO BE CONSIDERED IN DETERMINING WHETHER THE DESIGNATED USE OF EXTRAORDINARY RESOURCE WATER, ECOLOGICALLY SENSITIVE WATERBODY, OR NATURAL AND SCENIC WATERWAY SHOULD BE MAINTAINED

The determination of whether a designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway should be maintained in a given waterbody must be made on a case by case basis. At least 180 days prior to filing any petition authorized under Section 2.310 to initiate rulemaking with the Commission to remove the designated use of Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway from a free flowing waterbody for the purpose of constructing a reservoir to provide a domestic water supply, the petitioner shall submit to the Department information and supporting documentation which address each of the following:

(A) Describe generally and specifically the state of the existing water quality;
(B) Identify the presence of key and indicator species of fish adapted to flowing water systems and state the extent to which these species are present in the waterbody;
(C) Describe the extent to which water quality and physical habitat, including wetlands, support other plant or animal life and identify the species;
(D) Identify the presence of, and state the extent to which, other wildlife uses are dependent upon the waterbody;
(E) State the extent to which water quality and physical habitat support threatened, endangered, or endemic aquatic or semi-aquatic species and identify those species;
(F) Specify the extent to which the waterbody supports a high diversity of aquatic species and identify the presence and frequency of the species;
(G) Describe and identify the extent to which physical or chemical characteristics of the waterbody provide an unusual or uncommon aquatic habitat;
(H) Describe the extent to which physical or chemical characteristics give the waterbody unusual or unique aesthetic attributes;
(I) Specify the extent of the use of the waterbody for recreation in or on the water, such as fishing, swimming, and boating (including but not limited to canoeing, kayaking, or rafting), or use of the waterbody for commercial activity, including tourism;
(J) Identify and describe the intangible social values associated with the free flowing characteristics of the waterbody;
(K) Identify the presence and location of gorges, rapids, waterfalls, or other significant geologic features;
(L) Identify the presence and location of scenic areas and sites potentially impacted by the reservoir;
(M) Identify the presence and location of rare and/or irreplaceable natural areas potentially impacted by the reservoir;
(N) Identify the presence and location of known archeological sites potentially impacted by the reservoir;

(O) Identify the presence and location of historic resources potentially impacted by the reservoir;
(P) Delineate the extent to which the waterbody is located within the boundaries of, flows through, or is adjacent to state or federal forest land, parks, natural areas, nature preserves, refuges, or wildlife management areas;
(Q) Describe the extent to which the waterbody is used for educational, scientific, or research purposes;
(R) Identify the waterbody's use or potential use as an ecoregion reference stream;
(S) Describe the land uses, and the geographical extent of each, occurring within the watershed;
(T) Identify the presence and location of all permitted point sources discharging to the waterbody;
(U) Identify the presence and location of existing alterations, diversions or manmade impoundments; and
(V) Provide the frequency of occasions when there is no natural flow in the waterbody, and the 7Q10 flow values for the waterbody.

Attachment F – New Regulation 2.311

Reg. 2.311 Procedure for the Addition of the Designated Use of Extraordinary Resource Water, or Ecologically Sensitive Waterbody, or Natural and Scenic Waterway to a Waterbody or Segment of a Waterbody.

(A) Any waters of the State may be nominated for designation as an Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway by submitting a petition to initiate rulemaking to the Arkansas Pollution Control and Ecology Commission. Such petition shall include, at a minimum, the following:

(1) Name of petitioner;
(2) Petitioner's mailing address and telephone number;
(3) Name and location description of the waterbody or segment proposed for designation;
(4) A map depicting the waterbody or segment proposed for designation;
(5) Petitioner's interest in the proposed action;
(6) Statement of potential benefits and impacts of the proposed action, including economic benefits and impacts;
(7) Evidence of requests for resolution(s) by appropriate local government(s) regarding the nomination of the waterbody as an Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway;
(8) Supporting documentation for the designation, including information which addresses the factors listed in Appendix F, I (A) through (P);
(9) Recommended language change necessary to affect this proposed change to any Commission regulation; and
(10) Any other submittals required by Regulation No. 8 for a petition to initiate rulemaking.

(B) The Commission, as part of its rulemaking, shall set forth in writing the reasons for its final decision.

Attachment G – New Appendix F

APPENDIX F: FACTORS CONSIDERED IN ADDING THE DESIGNATED USE OF EXTRAORDINARY RESOURCE WATER, ECOLOGICALLY SENSITIVE WATERBODY, OR NATURAL AND SCENIC WATERWAY TO A WATERBODY OR WATERBODY SEGMENT

The Commission shall consider the following supporting documentation in determining whether a waterbody should be designated as an Extraordinary Resource Water, Ecologically Sensitive Waterbody, or Natural and Scenic Waterway:

(A) Location – The waterbody is within the boundaries of or flows through or is adjacent to state or federal forest land, parks, natural areas, nature preserves, refuges, or wildlife management areas, or the watershed may include remote, primitive, or relatively undeveloped areas;

(B) Existing water quality – pristine, naturally-occurring, or unique;

(C) Ecological value – The presence of water quality and physical habitat that supports threatened, endangered, or sensitive species, the presence of any threatened, endangered, or sensitive species, and/or water quality that supports an exceptional high diversity of aquatic species (fish or benthic macroinvertebrates) as categorized by an appropriate index of biological integrity (IBI) protocol;

(D) Presence of physical or chemical characteristics that provide an unusual or uncommon aquatic habitat;

(E) Special attributes of the waterbody that make it an outstanding resource, including but not limited to the presence of archeological sites, historical sites, or rare or valuable wildlife habitat;

(F) Aesthetic Value- the presence of scenic areas or sites or scenic beauty resulting from natural features of the basin such as flow, topography, geology, ecology, physiography (i.e., waterfalls, gorges, rapids, or other special features), or the presence of characteristics giving the waterbody unique or unusual attributes;

(G) Recreational Value- Use of the waterbody for:

(1) Fishing, rafting, kayaking, camping, family outings, backpacking, bird watching, etc.,

(2) Presence of hiking trails or scenic road or highway alongside, and

(3) Attracting tourism;

(H) Use of the waterbody for educational, scientific, or research purposes;

(I) Presence of rare and/or irreplaceable natural areas; and

(J) Impacts the designation may have on current uses, upstream users, downstream users, and potential future uses of the waterbody or waterbody segment.

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Enclosure 7

Permit Number: AR0000647
AFIN: 70-00016

AUTHORIZATION TO DISCHARGE WASTEWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. §1251 et seq.),

The applicant's mailing and facility address is:

Lion Oil Company
El Dorado Refinery
1000 McHenry Avenue
El Dorado, AR 71730

is authorized to discharge from a facility located as follows: located between Highway 15 and Highway 82 Bypass in Union County, Arkansas.

Latitude: 33° 12' 4.12"; Longitude: 92° 40' 24.76"

to receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006, and 007 - Loutre Creek, thence to Bayou de Loutre, thence to the Ouachita River in Segment 2D of the Ouachita River Basin.

Outfall 010 – via the joint pipeline to the Ouachita River, approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam at Latitude: 33° 17' 31"; Longitude: 92° 28' 14".

The outfall is located at the following coordinates:

Outfall 001:	Latitude: 33° 11' 50.1"; Longitude: 92° 40' 40.4"
Outfall 002:	Latitude: 33° 12' 04.7"; Longitude: 92° 40' 41.4"
Outfall 003:	Latitude: 33° 11' 41.9"; Longitude: 92° 40' 38.4"
Outfall 004:	Latitude: 33° 12' 04.4"; Longitude: 92° 40' 41.6"
Outfall 005:	Latitude: 33° 11' 37.7"; Longitude: 92° 40' 34.8"
Outfall 006:	Latitude: 33° 12' 01.4"; Longitude: 92° 40' 44.8"
Outfall 007:	Latitude: 33° 11' 53.3"; Longitude: 92° 40' 42.7"
SMS 008:	Latitude: 33° 11' 19"; Longitude: 92° 40' 46"
Outfall 010:	Latitude: 33° 11' 56"; Longitude: 92° 40' 33"

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. Per Part III.D.10, the permittee must re-apply on or before 180 days prior to the expiration of the permit for permit coverage past the expiration date.

Effective Date:
Expiration Date:

_____ _____

Steven L. Drown
Chief, Water Division
Arkansas Department of Environmental Quality

Issue Date

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PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - process wastewater and stormwater. (The interim requirements in the table below are for the *P. promelas* and the *C. dubia* sub-lethal limits. All other requirements in the following table are final.)

During the period beginning on the effective date and lasting through January 31, 2013, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
Chemical Oxygen Demand	3891	7598	223.2	435.9	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	26	40.7	once/week	6-hr composite
Ammonia Nitrogen (NH3-N)						
(October, April, & May)	43.9	111.9	2.52	6.42	once/week	6-hr composite
(June – September)	34.9	69.7	2	4	once/week	6-hr composite
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality[1] (7-day NOEC)[3, 4] 22414	Daily Average Minimum not < 96%		7-day Minimum not < 96%		once/quarter	24-hr composite

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Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Pimephales promelas (Chronic)[1]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) TGP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[1]	N/A	N/A	7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 10 of Part II (WET Testing Requirements).
2 See Condition No. 3 of Part II (Metals Requirements).
3 The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
4 Whole Effluent Toxicity limit for *P. promelas* and *C. dubia* lethal endpoints.

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the final effluent cooling treatment unit and prior to commingling with any other waters.

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - process wastewater and stormwater. (The interim requirements in the table below are for the *P. promelas* sub-lethal limits. All other requirements in the following table are final.)

During the period beginning on February 1, 2013 and lasting until three years from the effective date of the permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
Chemical Oxygen Demand	3891	7598	223.2	435.9	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	26	40.7	once/week	6-hr composite
Ammonia Nitrogen (NH3-N)						
(October, April, & May)	43.9	111.9	2.52	6.42	once/week	6-hr composite
(June – September)	34.9	69.7	2	4	once/week	6-hr composite
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality[1] (7-day NOEC)[3, 4] 22414	Daily Average Minimum not < 96%		7-day Minimum not < 96%		once/quarter	24-hr composite
Pimephales promelas (Chronic)[1]	N/A		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) TGP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
Whole Effluent Sub-Lethality[1] (7-day NOEC)[3, 5] 22414	Daily Average Minimum not < 80%		7-day Minimum not < 80%		once/quarter	24-hr composite

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Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ceriodaphnia dubia (Chronic)[1]	N/A		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 10 of Part II (WET Testing Requirements).
2 See Condition No. 3 of Part II (Metals Requirements).
3 The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
4 Whole Effluent Toxicity limit for *P. promelas* and *C. dubia* lethal endpoints.
5 Whole Effluent Toxicity limit for *C. dubia* sub-lethal endpoint.

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the final effluent cooling treatment unit and prior to commingling with any other waters.

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PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - process wastewater and stormwater.

During the period beginning on three years from the effective date of the permit and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
Chemical Oxygen Demand	3891	7598	223.2	435.9	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	26	40.7	once/week	6-hr composite
Ammonia Nitrogen (NH3-N)						
(October, April, & May)	43.9	111.9	2.52	6.42	once/week	6-hr composite
(June – September)	34.9	69.7	2	4	once/week	6-hr composite
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality[1] (7-day NOEC)[3, 4] 22414	Daily Average Minimum not < 96%		7-day Minimum not < 96%		once/quarter	24-hr composite
Whole Effluent Sub-Lethality[1] (7-day NOEC)[3, 5] 22414	Daily Average Minimum not < 80%		7-day Minimum not < 80%		once/quarter	24-hr composite
Pimephales promelas (Chronic)[1]	N/A		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) TGP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite

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Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ceriodaphnia dubia (Chronic)[1]	N/A		7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 10 of Part II (WET Testing Requirements).
2 See Condition No. 3 of Part II (Metals Requirements).
3 The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
4 Whole Effluent Toxicity limit for *P. promelas* and *C. dubia* lethal endpoints.
5 Whole Effluent Toxicity limit for *P. promelas* and *C. dubia* sub-lethal endpoint.

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the final effluent cooling treatment unit and prior to commingling with any other waters.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 – contaminated stormwater runoff.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters, on the north side of the property approximately 175 feet east of Tank No. 241.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003 – contaminated stormwater runoff.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 003. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters at the catch basin east of Tank No. 219.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004 – contaminated stormwater runoff.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 004. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters, approximately 70 feet south of Haynesville Hwy. and 400 feet northeast of Outfall 006.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 005 – Emergency Overflow at Spill Prevention Control Countermeasure (SPCC) Pond (stormwater runoff commingled with process wastewater).

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 005. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	398	724	Report	Report	once/day	grab
Chemical Oxygen Demand	2715	5430	Report	Report	once/day	grab
Total Suspended Solids (TSS)	325.8	506.8	Report	Report	once/day	grab
Phenolic Compounds	2.53	5.25	Report	Report	once/day	grab
Total Rec. Chromium	3.26	9.05	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.18	0.36	Report µg/l	Report µg/l	once/day	grab
Oil and Grease (O & G)	121.3	226.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

1 See Condition No. 3 of Part II (Metals Requirements).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters, at the intercept station overflow at the SPCC Pond.

DRAFT

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 006 - Emergency Overflow at Main Holding Pond (stormwater runoff commingled with process wastewater). (The interim requirements are for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor.)

During the period beginning on the effective date and lasting three years, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
BOD5	741.4	1348	Report	Report	once/day	grab
COD	5055	10,110	Report	Report	once/day	grab
TSS	606.6	943.6	Report	Report	once/day	grab
Phenolic Compounds	4.72	9.77	Report µg/l	Report µg/l	once/day	grab
Total Rec. Chromium[1]	6.07	16.9	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium[1]	0.34	0.69	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead[1]	0.11	0.22	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury[1]	Report	Report	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc[1]	3.30	6.62	Report µg/l	Report µg/l	once/month	grab
Heptachlor[1]	Report	Report	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium[1]	Report	Report	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	225.8	421.6	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

1 See Condition No. 3 of Part II (Metals Requirements).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters at the northeast corner of the treatment pond.

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PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 006 - Emergency Overflow at Main Holding Pond (stormwater runoff commingled with process wastewater).

During the period beginning on three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 006. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
BOD5	741.4	1348	Report	Report	once/day	grab
COD	5055	10,110	Report	Report	once/day	grab
TSS	606.6	943.6	Report	Report	once/day	grab
Phenolic Compounds	4.72	9.77	Report µg/l	Report µg/l	once/day	grab
Total Rec. Chromium[1]	6.07	16.9	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium[1]	0.34	0.69	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead[1]	0.11	0.22	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury[1]	0.0004	0.0008	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc[1]	3.30	6.62	Report µg/l	Report µg/l	once/month	grab
Heptachlor[1]	0.0001	0.0002	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium[1]	0.16	0.32	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	225.8	421.6	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

1 See Condition No. 3 of Part II (Metals Requirements).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters at the northeast corner of the treatment pond.

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PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 007 – Controlled Stormwater Release from Main Holding Pond (stormwater runoff commingled with process wastewater). (The interim requirements are for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor.)

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	620.4	1128	Report	Report	once/day	grab
Chemical Oxygen Demand	4230	8460	Report	Report	once/day	grab
Total Suspended Solids (TSS)	507.6	789.6	Report	Report	once/day	grab
Phenolic Compounds	3.95	8.18	Report	Report	once/day	grab
Total Rec. Chromium[1]	5.08	14.1	Report	Report	once/day	grab
Hexavalent Chromium[1]	0.29	0.58	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead[1]	0.09	0.18	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc[1]	2.77	5.57	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury[1]	0.0003	0.0006	Report µg/l	Report µg/l	once/month	grab
Heptachlor[1]	0.0001	0.0002	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium[1]	0.14	0.27	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	177.6	331.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

1 See Condition No. 3 of Part II (Metals Requirements).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters, approximately 860 feet south of Outfall 006.

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PART I
PERMIT REQUIREMENTS

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 007 – Controlled Stormwater Release from Main Holding Pond (stormwater runoff commingled with process wastewater).

During the period beginning on three years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 007. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	620.4	1128	Report	Report	once/day	grab
Chemical Oxygen Demand	4230	8460	Report	Report	once/day	grab
Total Suspended Solids (TSS)	507.6	789.6	Report	Report	once/day	grab
Phenolic Compounds	3.95	8.18	Report	Report	once/day	grab
Total Rec. Chromium[1]	5.08	14.1	Report	Report	once/day	grab
Hexavalent Chromium[1]	0.29	0.58	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead[1]	0.09	0.18	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc[1]	2.77	5.57	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury[1]	0.0003	0.0006	Report µg/l	Report µg/l	once/month	grab
Heptachlor[1]	0.0001	0.0002	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium[1]	0.14	0.27	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	177.6	331.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

1 See Condition No. 3 of Part II (Metals Requirements).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with other waters, approximately 860 feet south of Outfall 006.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: SMS 008 – Loutre Creek stream monitoring station

During the period beginning on the effective date and lasting until the date of expiration, the permittee must monitor Loutre Creek as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Chlorides	N/A	N/A	18.7	28.05	once/month	grab
Sulfates	N/A	N/A	41.3	61.95	once/month	grab
Total Dissolved Soldis	N/A	N/A	138	207	once/month	grab

The required monitoring must take place north of US Hwy. 82 within 20 feet of the following coordinates: Latitude: 33° 11’ 19”; Longitude: 92° 40’ 46”. The permittee may request a change in the monitoring location without a major permit modification. Any alternate monitoring point must be on the permittee’s property and after the wastewaters from all outfalls have been combined. The use of an alternate monitoring location may not take place unless written permission from the Department has been received.

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PART I
PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010 - process wastewater and stormwater.

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 010. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	3 MGD	Report MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	537.9	806.8	N/A	N/A	once/day[3]	24-hr composite
Chemical Oxygen Demand (COD)	4053.08	7810.63	N/A	N/A	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	N/A	N/A	once/day[3]	24-hr composite
Ammonia – Nitrogen (NH3-N)	200.2	300.1	N/A	N/A	once/day[3]	24-hr composite
Oil and Grease (O & G)	250.2	375.3	N/A	N/A	two/week	grab
Dissolved Oxygen (DO)	N/A	N/A	Report, minimum		once/day[3]	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab
Chlorides	N/A	N/A	Report	Report	two/week	grab
Total Recoverable Mercury[2]	N/A	N/A	N/A	< 0.2 µg/l	once/month	24-hr composite
Total Recoverable Cadmium[2]	0.33	0.67	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved[2]	0.56	1.26	N/A	N/A	once/month	24-hr composite
Total Recoverable Copper[2]	1.23	2.48	N/A	N/A	once/month	24-hr composite
Total Recoverable Lead[2]	0.60	1.20	N/A	N/A	once/month	24-hr composite
Total Recoverable Nickel[2]	21.35	42.83	N/A	N/A	once/month	24-hr composite
Total Recoverable Selenium[2]	0.99	1.98	N/A	N/A	once/month	24-hr composite
Total Recoverable Silver[2]	0.12	0.23	N/A	N/A	once/month	24-hr composite
Total Recoverable Zinc[2]	11.03	22.13	N/A	N/A	once/month	24-hr composite
Total Recoverable Cyanide[2]	1.03	2.06	N/A	N/A	once/month	grab
Total Rec. Chromium[2]	6	13.40	N/A	N/A	once/week	24-hr composite
Total Phosphorus	N/A	N/A	Report	Report	once/day[3]	grab
Fecal Coliform Bacteria (FCB)			(colonies/100ml)			
	N/A	N/A	Report	Report	once/day[3]	grab
Sulfide	2	4	N/A	N/A	once/week	24-hr composite
Phenolic Compounds	4	8	N/A	N/A	once/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET Testing[1]	N/A	N/A	Report		once/quarter	24-hr composite

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Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Pimephales promelas (Chronic)[1]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC)TGP6C			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP6C			Report %		once/quarter	24-hr composite
Coefficient of Variation (Growth) TQP6C			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) TPP6C			Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)[1]			7-Day Average			
Pass/Fail Lethality (7-day NOEC) TLP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail production (7-day NOEC)TGP3B			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) TOP3B			Report %		once/quarter	24-hr composite
Coefficient of Variation (Reproduction) TQP3B			Report %		once/quarter	24-hr composite
Reproduction (7-day NOEC) TPP3B			Report %		once/quarter	24-hr composite

1 See Condition No. 9 of Part II (WET Testing Requirements).
2 See Condition No. 3 of Part II (Metals Requirements).
3 See Condition No. 4 of Part II (Monitoring Frequency Reduction).

There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after final treatment at the following monitoring coordinates: Latitude: 33° 11’ 44” Longitude: 92° 40’ 48”.

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SECTION B. PERMIT COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

1. Compliance is required on the effective date of the permit.

2. Outfall 005 - A full Priority Pollutant Scan (PPS) shall be submitted within thirty (30) days of the first discharge (following the effective date of the permit) for Outfall 005. The permit may be reopened at that time to include additional limits, as necessary.

3. Outfalls 010 – The permittee must submit a PPS for Outfall 010 within 90 days of the first discharge to the joint pipeline.

Outfall 001

4. A UAA addressing issues with Total Recoverable Selenium is being conducted by the permittee. The permittee must develop a secondary plan to address Total Recoverable Selenium no later than 180 days from the date of this permit. Implementation of the secondary plan is not required unless the UAA is disapproved by ADEQ, APCEC, or EPA. The permittee must submit semi-annual reports detailing progress on achieving compliance with the Total Recoverable Selenium limits. It is important to note that this requirement does not grant the permittee any time to come into compliance with the Total Recoverable Selenium limit which was first included in a previous permit.

5. The permittee shall continue to conduct the Sub-Lethal Response (SLR) Study to address *C. dubia* sub-lethal toxicity observed in the effluent from Outfall 001. The SLR Study Plan was approved by ADEQ on September 2, 2010.

6. The permittee shall submit progress reports to the Branch Manager of the Water Quality Planning Section addressing the progress of the SLR study and the progress towards attaining the final effluent limits for *P. promelas* and *C. dubia* sub-lethal WET testing according to the following schedule:

ACTIVITY	**DUE DATE**
Semiannual Report	The last day of each January and June
Final Report - *C. dubia*	January 31, 2013
Achieve Final Limits - *C. dubia*	February 1, 2013
Final Report and Achieve Final Limits – *P. promelas*	Three years from effective date of permit

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7. The permittee has the option to undertake any additional study deemed necessary to meet the final limitation during the interim period. Any additional treatment must be approved and construction approval granted prior to final installation.

Outfalls 006 and 007

8. The permittee is currently conducting corrective actions to reduce the levels of Total Recoverable Lead in the effluent from Outfalls 006 and 007. Specifically, the permittee is removing the sludge from the pond associated with these two outfalls and treating it before disposing of it in an on-site landfill constructed for that purpose as specified in their RCRA permit. The permittee must develop a secondary plan within 180 days of the date of this permit addressing Total Recoverable Lead. The permittee must submit semi-annual reports to the Permits Branch of the Water Division detailing the progress being made towards achieving compliance with the final limits. The Department will require implementation of the secondary plan if the removal of the sludge does not reduce the levels of Total Recoverable Lead in the effluent. It is important to note that this requirement does not grant the permittee any time to come into compliance with the Total Recoverable Lead limits which were first included in a previous permit.

9. Compliance with the Final Effluent Limitations for Total Recoverable Selenium, Total Recoverable Mercury, and Heptachlor at Outfalls 006 and 007 is required three years after the effective date of the permit. The permittee shall submit progress reports addressing the progress towards attaining the Final Effluent Limitations for Total Recoverable Selenium, Total Recoverable Mercury, and Heptachlor at Outfalls 006 and 007 according to the following schedule:

ACTIVITY	**DUE DATE**
Progress Report[1, 2]	One (1) year from effective date
Progress Report[1, 3]	Two (2) years from effective date
Final Report[1, 4]	Three (3) years from effective date

[1] If the permittee is already in compliance with the final permit limit, only documentation demonstrating compliance with the final limit will be required for the progress report.

[2] If the permittee is not in compliance with the Final Limitations following one (1) year of sampling, the initial Progress Report must detail how the permittee plans to come into compliance with the Total Recoverable Selenium, Total Recoverable Mercury, and Heptachlor at Outfalls 006 and 007 limits within the remaining 2 years of the Interim period. Options must be provided that were considered along with which option* was selected. Any Best Management Practices (BMPs) that have been instituted to reduce the Total Recoverable

Selenium, Total Recoverable Mercury, and Heptachlor at Outfalls 006 and 007 levels in the influent must also be discussed. If a study will be performed, a milestone schedule for the study must be provided.

* The permittee has the option to undertake any study deemed necessary to meet the final limitations during the interim period. Any additional treatment (including chemical addition) must be approved and construction approval granted prior to final installation.

[3] The second Progress Report must contain an update on the status of the chosen option from the initial Progress Report. If the facility is not meeting any of the milestones provided in the initial Progress Report, the facility must update the milestone schedule to show how the final limits will be met by the deadline.

[4] The final Progress Report must be submitted following the final compliance date and include a certification that the final effluent limits were met on the effective date and that the limits are still being met.

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PART II
OTHER CONDITIONS

1. All pollutants listed in Part IA (i.e., Outfall 010) of this permit must be sampled concurrently with the sampling requirements for Outfall 010 at El Dorado Chemical Company (AR0000752), Outfalls 010 North and South at the City of El Dorado (AR0049743), Outfall 010 at Great Lakes Chemical Corporation – Central Plant (AR0001171), and Outfall 010R for the joint pipeline (AR0050296). For the purposes of this permit, concurrently shall mean that the samples are taken within a two-hour period or under the terms of a sampling plan submitted to and approved by the Department. Any sampling plan submitted to the Department must demonstrate that the samples will be representative of each permittee's discharge to the joint pipeline.

2. The permittee must notify the Department a minimum of 48 hours ***prior*** to the first discharge to the joint pipeline. The permittee shall notify the Department within 24 hours of any emergency or maintenance event that results in diverting wastewater from Outfall 010 to another permitted outfall. For non-emergency and non-maintenance events that may result in diverting wastewater from Outfall 010 to another permitted outfall, the permittee must provide notice and an explanation of the anticipated diversion to the Department at least two weeks in advance of any such event. The Department may, at its discretion, condition the diversion of the waste water to another permitted outfall as may be reasonably necessary to protect human health and the environment.

3. If any individual analytical test results is less than the minimum quantification level (MQL) listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring report (DMR) calculations and reporting requirements.

Pollutant	MQL (µg/l)
Total Recoverable Mercury	0.005
Total Recoverable Cadmium	0.5
Total Recoverable Chromium	10
Hexavalent Chromium, Dissolved	10
Total Recoverable Copper	0.5
Total Recoverable Lead	0.5
Total Recoverable Nickel	0.5
Total Recoverable Selenium	5
Total Recoverable Silver	0.5
Total Recoverable Zinc	20
Total Recoverable Cyanide	10

Pollutant	MQL (µg/l)
Heptachlor	0.01

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

MQL = 3.3 X MDL

Upon written approval by the NPDES Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

Metals testing must take place on the same day that the chronic WET testing is performed.

4. After 365 consecutive data points have been collected at Outfall 010, the permittee may request (in writing) reductions in monitoring frequencies for those pollutants which have monitoring requirements in excess of three times per week except for pH and flow. The internal outfall monitoring frequency will be reduced to three times per week provided that the permittees submit certification that following conditions have been met:

   A. Condition #1 above of Part II; and
   B. No demonstrated violations of the permit limits during this time period.

5. The permittee is required to submit a monthly DMR for each outfall contained in this permit even if that outfall is not in use because the effluent is being routed to the joint pipeline.

6. The operator of this wastewater treatment facility shall have an Advanced Industrial license from the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and Regulation No. 3, as amended.

7. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body, or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

8. Other Specified Monitoring Requirements

The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

- The monitoring and analytical instruments are consistent with accepted scientific practices;
- The requests shall be submitted in writing to the Permits Section of the ADEQ Water Division for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved by the Director; and
- All associated devices are installed, calibrated and maintained to insure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. ADEQ must be notified in writing and the permittee must receive written approval from ADEQ if the permittee decides to return to the original permit monitoring requirements.

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9. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S):	010
REPORTED ON DMR AS FINAL OUTFALL:	010
CRITICAL DILUTION (%):	2.4%
EFFLUENT DILUTION SERIES (%):	1.1%, 1.4%, 1.8%, 2.4%, & 3.2%
TESTING FREQUENCY	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If a frequency reduction, as specified in Item 6, has been granted and any subsequent valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED: If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.

iii. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant toxic effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test.

vi. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid.

A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

vii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

viii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;

ix. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.

ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples, on use, are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

iii. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.

iv. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

v. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

vi. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

vii. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead minnow)

(A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C

(B) Report the NOEC value for survival, Parameter No. TOP6C

(C) Report the NOEC value for growth, Parameter No. TPP6C

(D) If the NOEC for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

(E) Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

ii. Ceriodaphnia dubia

(A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP3B

(B) Report the NOEC value for survival, Parameter No. TOP3B

(C) Report the NOEC value for reproduction, Parameter No. TPP3B

(D) If the NOEC for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B

(E) Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of 75% or lower.

a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:

i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity'_ (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and

confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).

b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.

A copy of the TRE Activities Report shall also be submitted to the state agency.

d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities shall also be submitted to the state agency.

e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

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10. WHOLE EFFLUENT TOXICITY LIMITS (7-DAY CHRONIC NOEC FRESHWATER)

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 001

REPORTED ON DMR AS FINAL OUTFALL: 001

CRITICAL DILUTION (%): 96%

EFFLUENT DILUTION SERIES (%): 30%, 41%, 54%, 80%, & 96%

LETHAL LIMIT: 96% (*P. promelas* and *C. dubia*)

SUB-LETHAL LIMIT: 80% (*P. promelas* and *C. dubia*)

SCHEDULE OF COMPLIANCE: SUB-LETHAL: YES (*P. promelas* – 3 years from effective date of permit and *C. dubia* – Feb. 1, 2013)

TESTING FREQUENCY: once/quarter

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic

sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails the lethal or sub-lethal endpoint at or below the required limit specified in Item 1a, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

d. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods.

iv. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

v. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test, the growth and survival of the Fathead minnow test.

vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints in the Fathead minnow test.

vii. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

viii. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

ix. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;

x. A PMSD range of 12 - 30 for Fathead minnow growth.

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or the most recent update thereof.

ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013, or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 2.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3.a below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.

ii. The permittee must collect all three flow-weighted composite samples within the monitoring period. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.

iii. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have

initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section

v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item 1.a above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

vi. The permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA-821-R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. The permittee shall report the Whole Effluent Toxicity values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART III.D.4 of this permit.

If more than one valid test for a species was performed during the reporting period, the test NOECs will be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period (in accordance with item 1.a.), the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Toxicity.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.

c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

   i. Pimephales promelas (Fathead minnow)

      A. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C

      B. Report the NOEC value for survival, Parameter No. TOP6C

      C. Report the NOEC value for growth, Parameter No. TPP6C

      D. If the NOEC for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C

      E. Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

   ii. Ceriodaphnia dubia

      A. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B

      B. Report the NOEC value for survival, Parameter No. TOP3B

C. Report the NOEC value for reproduction, Parameter No. TPP3B

D. If the NOEC for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B

E. Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

11. Stormwater runoff commingling with other process wastewater discharged from Outfall 001 shall be managed in accordance with Best Management Practices (BMPs) to control the quality of stormwater discharges associated with industrial activity that are authorized by this permit. Use of BMPs in lieu of numeric effluent limitations in NPDES permits is authorized under 40 CFR 122.44(k) when the Permitting Authority finds numeric effluent limitations to be infeasible to carry out the purposes of the Clean Water Act. All spilled products and other spilled wastes must be immediately cleaned up and properly disposed. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.

12. pH Continuous Monitoring

    Compliance with the pH limit for Outfall 001 for which a continuous monitor is utilized shall be based on an average of all samples taken each hour.

13. Outfall 005: A full Priority Pollutant Scan (PPS) shall be submitted within thirty (30) days of the first discharge (following the effective date of the permit) for Outfall 005. The permit may be reopened at that time to include additional limits, as necessary.

14. In accordance with 40 CFR 419.11(g), the term *contaminated runoff* shall mean runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property.

15. If the permittee can demonstrate through more sensitive analyses that the discharge does not have the potential to exceed state water quality standards-based effluent limits, the more stringent state water quality numerical standard-based effluent limit(s), monitoring requirements, and the schedule of compliance will be deleted in the final permit. Such new information must be submitted during the public comment period. This condition applies only to the following parameters at the designated outfalls.

Parameter	Outfalls
Heptachlor	006, 007
Total Recoverable Mercury	006, 007
Total Recoverable Selenium	006, 007

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PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; and/or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report (DMR) which are in excess of an effluent limitation specified in Part I shall constitute evidence of violation of such effluent limitation and of this permit.**

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:

A. Violation of any terms or conditions of this permit; or
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
E. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.11 herein.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. Toxic Pollutants

Notwithstanding Part III.A.3, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

The permittee shall comply with effluent standards, narrative criteria, or prohibitions established under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Civil and Criminal Liability

Except as provided in permit conditions for "Bypass of Treatment Facilities" (Part III.B.4), and "Upset" (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

8. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal such as endangered species, state or local statute, ordinance or regulation.

11. Permit Fees

The permittee shall comply with all applicable permit fee requirements for wastewater discharge permits as described in APCEC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR Parts 122.64 and 124.5(d), as adopted in APCEC Regulation No. 6 and the provisions of APCEC Regulation No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment or the water receiving the discharge.

4. Bypass of Treatment Facilities

A. Bypass not exceeding limitation

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.b and 4.c.

B. Notice

1. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part III.D.6 (24-hour notice).

C. Prohibition of bypass

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance; and
(c) The permittee submitted notices as required by Part III.B.4.b.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.c.(1).

5. Upset Conditions

A. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.b of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the specific cause(s) of the upset;
2. The permitted facility was at the time being properly operated.
3. The permittee submitted notice of the upset as required by Part III.D.6; and
4. The permittee complied with any remedial measures required by Part III.B.3.

C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Written approval must be obtained from the ADEQ prior to removal of substances. Additionally, the permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable). Produced sludge shall be disposed of by land application only when meeting the following criteria:

A. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and
B. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.

7. Power Failure

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharge shall be monitored.

2. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.3), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to insure accuracy of measurements and shall insure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

4. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars ($10,000) or by both such fine and imprisonment.

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th (after NETDMR is approved), following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Director at the following address:

Enforcement Branch
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

If permittee uses outside laboratory facilities for sampling and/or analysis, the name and address of the contract laboratory shall be included on the DMR.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

7. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

8. Record Contents

Records and monitoring information shall include:

A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
B. The individuals(s) who performed the sampling or measurements;
C. The date(s) and time analyses were performed;
D. The individual(s) who performed the analyses;
E. The analytical techniques or methods used; and
F. The measurements and results of such analyses.

9. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

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SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice within 180 days and provide plans and specification (if applicable) to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility. In no case are any new connections, increased flows, removal of substances, or significant changes in influent quality permitted that cause violation of the effluent limitations specified herein.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Part III.C.5. **Discharge Monitoring Reports must be submitted even when no discharge occurs during the reporting period.**

5. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. Twenty-four Hour Report

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause;
2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit;
2. Any upset which exceeds any effluent limitation in the permit and
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Section of the Water Division of the ADEQ.

7. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Parts III.D.4, 5, and 6, at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.6.

8. Changes in Discharge of Toxic Substances for Industrial Dischargers

The permittee shall notify the Director as soon as he/she knows or has reason to believe:

A. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1); or

B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(2).

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

10. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated in APCEC Regulation No. 6.

11. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified as follows:

A. All **permit applications** shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

   (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
   (b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or

3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

   (a) The chief executive officer of the agency, or
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above.
2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
3. The written authorization is submitted to the Director.

C. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. <u>Availability of Reports</u>

Except for data determined to be confidential under 40 CFR Part 2 and APCEC Regulation No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2. and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

14. Applicable Federal, State or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state, or local statute, ordinance, policy, or regulation.

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PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
3. **"APCEC"** means the Arkansas Pollution Control and Ecology Commission.
4. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **"Best Management Practices (BMPs)"** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
7. **"Bypass"** as defined at 122.41(m).
8. **Composite sample**
   a. **"24-hour composite sample"** consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.
   b. **"12-hour composite sample"** consists of 12 effluent portions, collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.
   c. **"6-hour composite sample"** consists of six effluent portions collected no closer together than one hour(with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
   d. **"3-hour composite sample"** consists of three effluent portions collected no closer together than one hour(with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.
9. **Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
   A. **Mass Calculations***:* For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.

B. **Concentration Calculations**: For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

9. **Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month. The 7-day average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the values of all effluent samples collected during the calendar week in colonies per 100 ml.
10. **"Department"** means the Arkansas Department of Environmental Quality (**ADEQ**).
11. **"Director"** means the Director of the Arkansas Department of Environmental Quality.
12. **"Dissolved oxygen limit"**, shall be defined as follows:
    A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month;
    B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
13. **"E-Coli"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the monthly average as a 30-day geometric mean in colonies per 100 ml.
14. **"Fecal Coliform Bacteria (FCB)"**a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
15. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
16. **"Industrial User**" means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
17. **"Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
18. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
19. **"Monthly average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the monthly average.
20. **"National Pollutant Discharge Elimination System"** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
21. **"POTW"** means a Publicly Owned Treatment Works.
22. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.

23. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
24. **"7-day average"** Also known as Average weekly. means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
25. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.
26. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
27. **"Visible sheen"** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
28. **"MGD"** shall mean million gallons per day.
29. **"mg/l "**shall mean milligrams per liter or parts per million (ppm).
30. **"µg/l"** shall mean micrograms per liter or parts per billion (ppb).
31. **"cfs"** shall mean cubic feet per second.
32. **"ppm"** shall mean parts per million.
33. **"s.u."** shall mean standard units.
34. **"Weekday"** means Monday – Friday.
35. **Monitoring and Reporting:**

    When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.

    A. **MONTHLY:**

    is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

B. **BI-MONTHLY:**
is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. **QUARTERLY:**
1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or
2. is defined as a **fixed three month period** (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.

D. **SEMI-ANNUAL:**
is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

E. **ANNUAL or YEARLY:**
is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

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Fact Sheet

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This draft permitting decision is for renewal of the discharge Permit Number AR0000647 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 70-00016 to discharge to Waters of the State.

1. PERMITTING AUTHORITY.

The issuing office is:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT.

The applicant's mailing and facility address is:

Lion Oil Company
El Dorado Refinery
1000 McHenry Avenue
El Dorado, AR 71730

3. PREPARED BY.

The permit was prepared by:

Loretta Reiber, P.E.
Staff Engineer
Permits Branch, Water Division
(501) 682-0612
E-Mail: reiber@adeq.state.ar.us

4. PERMIT ACTIVITY.

Previous Permit Effective Date:	01/31/2004
Previous Permit Modification Date:	07/11/2008
Previous Permit Expiration Date:	02/28/2009

The permittee submitted a permit renewal application on 10/6/2008. It is proposed that the current discharge permit be reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

Lion Oil Company – El Dorado Refinery made the decision to enter into a joint pipeline agreement with two area industries – El Dorado Chemical Company and Chemture Corp. d/b/a Great Lakes Chemical Company – Central Plant as well as El Dorado Water Utilities. This decision necessitated the need to modify NPDES Permit No. AR0000647 to allow for the necessary changes (i.e., the addition of Outfall 010) and to issue a new permit to all of the joint pipeline participants (AR0050296) with limits for the outfall to the Ouachita River.

The modified permit (which added Outfall 010) was originally issued on February 28, 2007, with an effective date of April 1, 2007. The permit was appealed by several parties in a timely manner. An administrative hearing was held in October and November 2007. A recommended decision regarding the permits was issued by the administrative hearing officer (AHO) on May 8, 2008. Two requests for oral arguments before the Arkansas Pollution Control and Ecology Commission (APCEC) were filed in a timely manner (i.e., prior to the close of business on May 28, 2008). A third request for oral arguments before the APCEC was received after the deadline for submittal. Oral arguments were held before the APCEC on June 27, 2008. A modified permit incorporating the changes mandated by the APCEC was issued on July 11, 2008, with an effective date of August 1, 2008.

The decision made by the APCEC was appealed in Circuit Court within the required time frame. On March 31, 2009, the Honorable David Guthrie of the 13th Judicial District issued a Judgment of the Court upholding the APCEC's ruling. That decision was then appealed to the State Supreme Court. Arguments before the State Supreme Court occurred on September 23, 2010. A decision upholding the issuance of the permits as outlined in the Administrative Hearing Officer's recommended decision was issued on October 7, 2010.

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management plan
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act

DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH3-N - ammonia nitrogen
NO_3 + NO_2-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USFWS - United States Fish and Wildlife Service
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

DMR Review:

The Discharge Monitoring Reports (DMR's) from the were reviewed during the permit renewal process. Several violations for various parameters were noted at Outfall 001 and Outfall 006. Violations which occurred up to and including February 2008 were addressed in CAO LIS No. 08-104.

Since the closure of the CAO, at Outfall 001, violations have occurred one time for both Total Rec. Chromium and COD. Also, the permit limit for Total Recoverable Zinc at Outfall 007 was exceeded in August 2010.

The permit limits for Sulfates, Total Dissolved Solids, and Total Recoverable Selenium at Outfall 001 have been exceeded every month since the closure of the CAO. The permit limits for Total Recoverable Lead at Outfall 006 and Outfall 007 have been exceeded during every discharge since the closure of the CAO.

The permit includes requirements for the permittee to develop a Corrective Action Plan to address the Total Recoverable Lead exceedances at Outfalls 006 and 007 as well as the Total Recoverable Selenium exceedances at Outfall 001.

Legal Order and UAA Review:

The facility is not currently under a CAO issued by the Department. At this time, according to a search of the EPA Enforcement Cases in the Enforcement & Compliance History Online database, the EPA does not have a signed order against this facility.

The permittee conducted a UAA for minerals which was rejected by the EPA. The permittee is in contact with the EPA regarding this UAA.

A UAA regarding Total Recoverable Selenium is being conducted by the permittee. The permittee will be required to request a major permit modification if the UAA is completed and approved by the Department and the EPA in order to incorporate the results in the NPDES permit.

5. FINANCIAL ASSURANCE

Financial Assurance it not required for this facility since the wastewater treatment plant serves only Lion Oil Company's El Dorado Refinery.

6. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

1. The outfall coordinates have been corrected based on the use of a GPS device used during the August 4, 2009, site visit.
2. The description of the facility location has been modified.
3. Minerals limits equal to the ecoregion standards have been set at Stream Monitoring Station (SMS) 008. The monitoring is required to take place on the permittee's property downstream of Outfalls 001 through 007. The headwaters of Loutre Creek are located just north of the permittee's northern property line.
4. All references to Total Chromium have been changed to Total Recoverable Chromium based upon an EPA memo dated August 19, 1998, the terms "Total Chromium" and "Total Recoverable Chromium" may be used interchangeably. This memo specifically

states the for effluent guidelines permitting under NPDES the terms "total metal" and "total recoverable metal" may be used interchangeably.

5. The following changes have been made at Outfall 001:
   a. The CBOD5 (year-round) and the NH3-N (June – September) mass limits have decreased based upon a new monthly average flow;
   b. The NH3-N limits for the months of October through May are now based upon the toxicity standards contained in Reg. 2.512;
   c. The concentration limits derived from the technology based mass limits have increased based upon a new monthly average flow;
   d. The daily maximum Total Recoverable Chromium limits are now based on the water quality standards contained in Reg. 2.508;
   e. The Hexavalent Chromium concentration limits are now expressed to the second decimal;
   f. The daily maximum Oil and Grease limits are now based upon the water quality criteria contained in Reg. 2.510;
   g. Sub-lethal WET limits for *C. dubia* along with a schedule of compliance have been added at Outfall 001; and
   h. A three year schedule of compliance for the *P. promelas* sub-lethal WET limit has been included in the permit.
6. The following changes have been made at Outfalls 005, 006, and 007:
   a. The mass limits have decreased due to lower monthly average flows used to calculate the technology based limits;
   b. The Hexavalent Chromium limits are now based on the water quality criteria contained in Reg. 2.508;
   c. The daily maximum Oil and Grease limit is now based on the water quality criteria contained in Reg. 2.510;
   d. The following parameters have been added to the permit at Outfalls 006 and 007 along with a Schedule of Compliance: Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor. The permittee has demonstrated reasonable potential for water quality violations for each of these parameters; and
   e. All limits at these outfalls are now only expressed in terms of mass due to the infrequent nature of the discharges from these outfalls.
7. The following change has been made at Outfall 010:
   a. The Total Recoverable Chromium limit is now based on the technology standards contained in 40 CFR Part 419.
8. The following changes have been made to Part II:
   a. Condition No. 1 has been updated to specify that the facility can submit a sampling plan to ensure that the samples taken for all facilities discharging to the joint pipeline are representative. This change has been made to allow the facilities involved in the joint pipeline to set a sampling schedule which will be agreeable to them as well as to the Department;
   b. Condition No. 2 has been modified to allow the facility to divert flows from Outfall 010 to other permitted outfalls during non-emergency and non-maintenance events

provided notification requirements are met. This change has been made to provide the permittee flexibility in controlling its discharges and was included in the AHO's recommended decision;

c. Several MQLs contained in Condition No. 3 have been updated to more stringent requirements as more sensitive testing is now available;
d. The facility is required to have an operator with an Advanced Industrial license;
e. The SWPPP language has been changed to BMP language because the stormwater discharges from this facility are regulated by 40 CFR Part 419, Subpart B;
f. The definition of contaminated runoff has been added to Part II of the permit; and
g. The WET language has been updated to reflectthe requirements placed in permits for all facilities required to conduct WET testing.

9. Part III has been modified. This section was Part II in the previous permit.
   a. Section A, Condition No. 11 has been added. This condition requires that the permittee pay the permit fees required by Reg. 9 in order to keep the permit. This condition has been added to include the requirements of that regulation.
   b. Section B, Condition No. 6 has been modified to state that the permittee must receive permission from the Department prior to removing any solids, sludges, etc. and to specify that the permittee must notify the Department a minimum of 120 days prior to any planned changes to sludge practices.
   c. Section C, Condition No. 2 includes requirements for calculated flow measurements. The calculated flow measurement language does not affect this facility since they are required to use totalizing meters. However, Part III contains standard language which is placed in all permits and is not modified on a case-by-case basis.
   d. Section D, Condition No. 1 has been modified to reflect the planned changes notification with which an industrial discharger must comply. This condition previously included POTW and Industrial Discharger requirements.
   e. Section D, Condition No. 14 has been added to the permit. This condition requires the facility to comply with the permit.
10. Part IV has been modified. The definitions were placed in alphabetical order. Definitions for "E-coli" and "weekday" were added. Those definitions were added because permits being issued at this time might contain those requirements.

7. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfalls are located at the following coordinates based on the August 4, 2009, site visit using NAD83:

Outfall 001:	Latitude: 33° 11' 50.1"; Longitude: 92° 40' 40.4"
Outfall 002:	Latitude: 33° 12' 04.7"; Longitude: 92° 40' 41.4"
Outfall 003:	Latitude: 33° 11' 41.9"; Longitude: 92° 40' 38.4"
Outfall 004:	Latitude: 33° 12' 04.4"; Longitude: 92° 40' 41.6"
Outfall 005:	Latitude: 33° 11' 37.7"; Longitude: 92° 40' 34.8"
Outfall 006:	Latitude: 33° 12' 01.4"; Longitude: 92° 40' 44.8"

Outfall 007: Latitude: 33° 11' 53.3"; Longitude: 92° 40' 42.7"
SMS 008: Latitude: 33° 11' 19"; Longitude: 92° 40' 46"
Outfall 010: Latitude: 33° 11' 56"; Longitude: 92° 40' 33"

The receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006, and 007 and SMS 008

Loutre Creek, thence to Bayou de Loutre, thence to the Ouachita River in Segment 2D of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 08040202 and reach #008 (of Bayou de Loutre) is a Water of the State classified for secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

Outfall 010

Via the joint pipeline to the Ouachita River, approximately 1.5 miles downstream of the H.K. Thatcher Lock and Dam at Latitude: 33° 17' 31"; Longitude: 92° 28' 14" in Segment 2D of the Ouachita River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 08040201 and reach #002 is a Water of the State classified for primary contact recreation, raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

8. **303(d) LIST, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.**

a. **303(d) List:**

Outfalls 001, 002, 003, 004, 005, 006, and 007

Bayou de Loutre is on the 2008 303(d) list in Category 5a for Total Dissolved Solids (TDS), Sulfates, and Zinc due to reclamation, industrial point sources, and municipal point sources. Category 5a includes those waterbodies which have been designated as truly impaired and will have a TMDL developed for the parameters in question. A review of the assessment data showed that the water quality standards for Sulfates and TDS are exceeded over 50% of the time. Also, the permittee has demonstrated that the discharges from Outfalls 001, 002, and 004 contain Sulfates as well as TDS.

Loutre Creek begins just north of the permittee's northern property boundary and runs across the facility. The Department will require the permittee to monitor the levels of Chlorides, Sulfates, and TDS in Loutre Creek downstream of all outfalls in this permit and before it leaves their property in order to demonstrate that they are not causing an

exceedance of the water quality standards for minerals in Loutre Creek. SMS 008 has been added to the permit to include the monitoring point and the standards that must be met.

A review of the assessment data for Zinc (April 2008 through March 2011) showed that there have been no confirmed exceedances of the water quality standard for that parameter. Although Zinc was detected during the Priority Pollutant Scan, the permittee did not demonstrate reasonable potential for violations of the water quality standard for Zinc. Therefore, no Zinc requirements will be added to Outfalls 002, 003, 004, and 005 as a result of the 303(d) listing. The permit previously contained Zinc limits at Outfalls 001, 006, and 007. Those limits will be remaining in the permit so that the anti-backsliding requirements contained in 40 CFR 122.44(l) are met.

Outfall 010

The receiving stream for Outfall 010 (the Ouachita River) is listed on the 303(d) list for mercury. The permit limit fo Total Recoverable Mercury <0.2 µg/l, i.e., equal to or less than the daily maximum mass limit basis in the joint pipeline permit (AR0050296).

The Department recognizes that other reaches of the Ouachita River are on the 303(d) list. However, these reaches are several miles downstream from the outfall and are located in a different H.U.C. Therefore, no permit action will be taken regarding those listings.

b. **Endangered Species**:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS). The draft permit and Fact Sheet will be sent to the USF&WS for their review.

c. **Anti-Degradation**

The limitations and requirements set forth in this permit for discharge into waters of the State are consistent with the Antidegradation Policy and all other applicable water quality standards found in APC&EC Regulation No. 2.

9. **OUTFALL AND TREATMENT PROCESS DESCRIPTION.**

The following is a description of the facility described in the application:

Highest Monthly Average Flows During the Last Two Years:

Outfall 001: 2.09 MGD (12/2011)
Outfall 002: 0.78 MGD (12/2011)
Outfall 003: 0.72 MGD (4/2011)
Outfall 004: 1.4 MGD (12/2011)
Outfall 005: 1.81 MGD (10/2009, only discharge during last five years)
Outfall 006: 0.05 MGD (12/2011, only discharge during the last two years)
Outfall 007: 2.65 MGD (12/2011)

Flow Limit: Outfall 010 - 3 MGD, monthly average

Type of Treatment:

Outfalls 001, 005, 006, and 007: tertiary activated sludge treatment consisting of primary oil/water/solids separator, equalization, pH adjustment, floculation, dissolved air flotation, cooling, biological treatment, clarification, filtration, oxygenation, final effluent cooling.

Outfalls 002, 003, and 004: None.

Outfall 010: Although there is no treatment specifically associated with this outfall, the permittee is required to treat the effluent to be discharged at this outfall using the treatment in place for those outfalls (Outfalls 001, 006, and 007) which will be routed through Outfall 010.

Discharge Description:

Outfall 001: treated process wastewater and stormwater.
Outfall 002: contaminated stormwater runoff
Outfall 003: contaminated stormwater runoff
Outfall 004: contaminated stormwater runoff
Outfall 005: emergency overflow at Spill Prevention Control Countermeasure (SPCC) Pond (stormwater runoff commingled with process wastewater)
Outfall 006: emergency overflow at Main Holding Pond (stormwater runoff commingled with process wastewater)
Outfall 007: controlled stormwater release from Main Holding Pond (stormwater runoff commingled with process wastewater)

Outfall 010: combination of effluent from Outfall 001, Outfall 006, and Outfall 007

Any cooling water used at this facility is obtained from the Sparta Aquafer or the Union County Water Conservation Board. Therefore, this facility is not subject to the requirements of §316(b) of the Clean Water Act.

SMS 008: Stream Monitoring Station 008 has been established as the monitoring location for minerals for this facility. All effluent discharged from the facility passes this point.

Facility Status: This facility was evaluated using the NPDES Permit Rating Worksheet (MRAT) to determine the correct permitting status. Since the facility's MRAT score of 115 is greater than 80, this facility is classified as a major industrial.

Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Reg. 6.202.

10. **APPLICANT ACTIVITY.**

Under the Standard Industrial Classification (SIC) code of 2911 or North American Industry Classification System (NAICS) code of 32411, the applicant's activities are the operation of a petroleum refinery.

11. **SOLIDS PRACTICES.**

Solids are disposed of at the Union County RDF Landfill (Solid Waste Permit No. 248S1R3).

12. **PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a draft permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N) and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

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a. **Interim Effluent Limitations** (for *C. dubia* and *P. promelas* sub-lethal limits)

Outfall 001 - process wastewater and stormwater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report, MGD	Report, MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
Chemical Oxygen Demand	3891	7598	223.2	435.9	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	26	40.7	once/week	6-hr composite
Ammonia Nitrogen (NH3-N)						
(October, April, & May)	43.9	111.9	2.52	6.42	once/week	6-hr composite
(June – September)	34.9	69.7	2	4	once/week	6-hr composite
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality (7-day NOEC) 22414	Daily Avg Min not < **96**%		7-day Minimum not < **96**%		once/quarter	24-hr composite
Pimephales promelas (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) **TGP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP6C**			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) **TPP6C**			Report %		once/quarter	24-hr composite
Coefficient of variation (growth) **TQP6C**			Report %		once/quarter	24-hr composite

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Ceriodaphnia dubia (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Repaired. (7-day NOEC) **TGP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP3B**			Report %		once/quarter	24-hr composite
Reproduction(7-day NOEC) **TPP3B**			Report %		once/quarter	24-hr composite
Coefficient of variation (reproduction) **TQP3B**			Report %		once/quarter	24-hr composite

ii. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

b. **Interim Effluent Limitations** (for *P. promelas* sub-lethal limits)

Outfall 001 - process wastewater and stormwater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
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(June – September)	34.9	69.7	2	4	once/week	6-hr composite

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Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality[1] (7-day NOEC) 22414	Daily Avg Min not < **96**%		7-day Minimum not < **96**%		once/quarter	24-hr composite
Pimephales promelas (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) **TGP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP6C**			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) **TPP6C**			Report %		once/quarter	24-hr composite
Coefficient of variation (growth) **TQP6C**			Report %		once/quarter	24-hr composite
Whole Effluent Sub-Lethality[2] (7-day NOEC) 22414	Daily Average Minimum not < 80%		7-day Minimum not < 80%		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Repaired. (7-day NOEC) **TGP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP3B**			Report %		once/quarter	24-hr composite
Reproduction(7-day NOEC) **TPP3B**			Report %		once/quarter	24-hr composite
Coefficient of variation (reproduction) **TQP3B**			Report %		once/quarter	24-hr composite

1. *P. promelas* and *C. dubia* endpoints.
2. *C. dubia* endpoint.

ii. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom

deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

c. **Final Effluent Limitations**

Outfall 001 - process wastewater and stormwater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)						
(October – May)	418.3	749.5	24	43	once/week	6-hr composite
(June – September)	174.3	313.8	10	18	once/week	6-hr composite
Chemical Oxygen Demand	3891	7598	223.2	435.9	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	26	40.7	once/week	6-hr composite
Ammonia Nitrogen (NH3-N)						
(October, April, & May)	43.9	111.9	2.52	6.42	once/week	6-hr composite
(June – September)	34.9	69.7	2	4	once/week	6-hr composite
(November – March)	124.6	311.7	7.15	17.88	once/week	6-hr composite
Dissolved Oxygen	N/A	N/A	7.0, Inst. Minimum		once/week	grab
Phenolic Compound (4AAP)	4	8	0.23	0.46	once/week	6-hr composite
Sulfide	2	4	0.11	0.23	once/week	6-hr composite
Temperature	N/A	N/A	86°F, Inst. Maximum		once/week	instantaneous
Total Rec. Chromium	6	13.40	340 µg/l	768.91 µg/l	once/month	6-hr composite
Hexavalent Chromium	0.22	0.43	12.42 µg/l	24.92 µg/l	once/month	6-hr composite
Total Recoverable Selenium	0.10	0.21	5.8 µg/l	11.65 µg/l	once/month	6-hr composite
Total Recoverable Zinc	2.07	4.15	118 µg/l	237 µg/l	once/month	6-hr composite
Oil and Grease (O & G)	166	261.46	9.5	15	once/week	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	continuous	record
Whole Effluent Lethality[1] (7-day NOEC) 22414	Daily Avg Min not < 96%		7-day Minimum not < 96%		once/quarter	24-hr composite
Whole Effluent Sub-Lethality[1] (7-day NOEC) 22414	Daily Average Minimum not < 80%		7-day Minimum not < 80%		once/quarter	24-hr composite

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Pimephales promelas (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Growth (7-day NOEC) **TGP6C**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP6C**			Report %		once/quarter	24-hr composite
Growth (7-day NOEC) **TPP6C**			Report %		once/quarter	24-hr composite
Coefficient of variation (growth) **TQP6C**			Report %		once/quarter	24-hr composite
Ceriodaphnia dubia (Chronic)	N/A		7-day Average			
Pass/Fail Lethality (7-day NOEC) **TLP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Pass/Fail Repaired. (7-day NOEC) **TGP3B**			Report (Pass=0/Fail=1)		once/quarter	24-hr composite
Survival (7-day NOEC) **TOP3B**			Report %		once/quarter	24-hr composite
Reproduction(7-day NOEC) **TPP3B**			Report %		once/quarter	24-hr composite
Coefficient of variation (reproduction) **TQP3B**			Report %		once/quarter	24-hr composite

1. *P. promelas* and *C. dubia* endpoints.

ii. **Solids, Foam, and Free Oil:** There shall be no discharge of distinctly visible solids, scum, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, or sludge banks. There shall be no visible sheen due to the presence of oil (Sheen means an iridescent appearance on the surface of the water).

d. **Final Effluent Limitations**

Outfall 002 – contaminated stormwater runoff

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

e. **Final Effluent Limitations**

Outfall 003 – contaminated stormwater runoff

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

f. **Final Effluent Limitations**

Outfall 004 – contaminated stormwater runoff

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Total Organic Carbon	N/A	N/A	Report	110	once/day	grab
Oil and Grease (O & G)	N/A	N/A	10	15	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

g. **Final Effluent Limitations**

Outfall 005 - emergency overflow at Spill Prevention Control Countermeasure (SPCC) Pond (stormwater runoff commingled with process wastewater)

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	398.2	724	Report	Report	once/day	grab
Chemical Oxygen Demand	2715	5430	Report	Report	once/day	grab
Total Suspended Solids (TSS)	325.8	506.8	Report	Report	once/day	grab
Phenolic Compounds	2.53	5.25	Report	Report	once/day	grab
Total Rec. Chromium	3.26	9.05	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.18	0.36	Report µg/l	Report µg/l	once/day	grab
Oil and Grease (O & G)	121.3	226.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

h. **Interim Effluent Limitations** (Interim requirements for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor)

Outfall 006: emergency overflow at Main Holding Pond (stormwater runoff commingled with process wastewater)

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
BOD5	741.4	1348	Report	Report	once/day	grab
COD	5055	10,110	Report	Report	once/day	grab
TSS	606.6	943.6	Report	Report	once/day	grab
Phenolic Compounds	4.72	9.77	Report µg/l	Report µg/l	once/day	grab
Total Rec. Chromium	6.07	16.9	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.34	0.69	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead	0.11	0.22	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury	Report	Report	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc	3.30	6.62	Report µg/l	Report µg/l	once/month	grab
Heptachlor	Report	Report	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium	Report	Report	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	225.8	421.6	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

i. **Final Effluent Limitations**

Outfall 006: emergency overflow at Main Holding Pond (stormwater runoff commingled with process wastewater)

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
BOD5	741.4	1348	Report	Report	once/day	grab
COD	5055	10,110	Report	Report	once/day	grab
TSS	606.6	943.6	Report	Report	once/day	grab
Phenolic Compounds	4.72	9.77	Report µg/l	Report µg/l	once/day	grab
Total Rec. Chromium	6.07	16.9	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.34	0.69	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead	0.11	0.22	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury	0.0004	0.0008	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc	3.30	6.62	Report µg/l	Report µg/l	once/month	grab
Heptachlor	0.0001	0.0002	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium	0.16	0.32	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	225.8	421.6	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

j. **Interim Effluent Limitations** (Interim requirements for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor)

Outfall 007: Controlled Stormwater Release from Main Holding Pond

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	620.4	1128	Report	Report	once/day	grab
Chemical Oxygen Demand	4230	8460	Report	Report	once/day	grab
Total Suspended Solids (TSS)	507.6	789.6	Report	Report	once/day	grab
Phenolic Compounds	3.95	8.18	Report	Report	once/day	grab
Total Rec. Chromium	5.08	14.1	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.29	0.58	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead	0.09	0.18	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc	2.77	5.57	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury	Report	Report	Report µg/l	Report µg/l	once/month	grab
Heptachlor	Report	Report	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium	Report	Report	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	177.6	331.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

k. **Final Effluent Limitations**

Outfall 007: Controlled Stormwater Release from Main Holding Pond

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	Report MGD	Report MGD	once/day	estimate
Biochemical Oxygen Demand (BOD5)	620.4	1128	Report	Report	once/day	grab
Chemical Oxygen Demand	4230	8460	Report	Report	once/day	grab
Total Suspended Solids (TSS)	507.6	789.6	Report	Report	once/day	grab
Phenolic Compounds	3.95	8.18	Report	Report	once/day	grab
Total Rec. Chromium	5.08	14.1	Report µg/l	Report µg/l	once/day	grab
Hexavalent Chromium	0.29	0.58	Report µg/l	Report µg/l	once/day	grab
Total Recoverable Lead	0.09	0.18	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Zinc	2.77	5.57	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Mercury	0.0003	0.0006	Report µg/l	Report µg/l	once/month	grab
Heptachlor	0.0001	0.0002	Report µg/l	Report µg/l	once/month	grab
Total Recoverable Selenium	0.14	0.27	Report µg/l	Report µg/l	once/month	grab
Oil and Grease (O & G)	177.6	331.5	Report	Report	once/day	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

l. **Final Effluent Limitations**

SMS 008: Stream Monitoring Station located on Loutre Creek

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Chlorides	N/A	N/A	18.7	28.05	once/month	grab
Sulfates	N/A	N/A	41.3	61.95	once/month	grab
Total Dissolved Solids	N/A	N/A	138	207	once/month	grab

ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

m. **Final Effluent Limitations**

OUTFALL 010 – combined outfall of 001, 006, and 007

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Flow	N/A	N/A	3 MGD	Report MGD	once/day	totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	537.9	806.8	N/A	N/A	once/day	24-hr composite
Chemical Oxygen Demand (COD)	4053.08	7810.63	N/A	N/A	once/week	6-hr composite
Total Suspended Solids (TSS)	453	709	N/A	N/A	once/day	24-hr composite
Ammonia – Nitrogen (NH3-N)	200.2	300.1	N/A	N/A	once/day	24-hr composite
Oil and Grease (O & G)	250.2	375.3	N/A	N/A	two/week	grab
Dissolved Oxygen (DO)	N/A	N/A	Report, minimum		once/day	grab
Total Dissolved Solids (TDS)	N/A	N/A	Report	Report	two/week	grab
Sulfates	N/A	N/A	Report	Report	two/week	grab

Effluent Characteristics	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max	Monthly Avg.	Daily Max		
Chlorides	N/A	N/A	Report	Report	two/week	grab
Total Recoverable Mercury	N/A	N/A	N/A	<0.2 µg/l	once/month	24-hr composite
Total Recoverable Cadmium	0.33	0.67	N/A	N/A	once/month	24-hr composite
Hexavalent Chromium, Dissolved	0.56	1.26	N/A	N/A	once/month	24-hr composite
Total Recoverable Copper	1.23	2.48	N/A	N/A	once/month	24-hr composite
Total Recoverable Lead	0.60	1.20	N/A	N/A	once/month	24-hr composite
Total Recoverable Nickel	21.35	42.83	N/A	N/A	once/month	24-hr composite
Total Recoverable Selenium	0.99	1.98	N/A	N/A	once/month	24-hr composite
Total Recoverable Silver	0.12	0.23	N/A	N/A	once/month	24-hr composite
Total Recoverable Zinc	11.03	22.13	N/A	N/A	once/month	24-hr composite
Total Recoverable Chromium	6	14	N/A	N/A	once/week	24-hr composite
Total Recoverable Cyanide	1.03	2.06	N/A	N/A	once/month	grab
Total Phosphorus	N/A	N/A	Report	Report	once/day	grab
Fecal Coliform Bacteria			colonies/100 ml			
	N/A	N/A	Report	Report	once/day	grab
Sulfide	2	4	N/A	N/A	once/week	24-hr composite
Phenolic Compounds	4	8	N/A	N/A	once/week	24-hr composite
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/day	grab
Chronic WET	N/A	N/A	See Item #14 below.		once/quarter	24-hr composite

13. **BASIS FOR PERMIT CONDITIONS**.

The following is an explanation of the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7 (48 FR 1413, April 1, 1983).

Technology-Based Versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44 (1) (2) (ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows:

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Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Outfall 001								
CBOD5								
(June – September)	10 mg/l 174.3 lb/day	18 mg/l 313.8 lb/day	32.2 mg/l 562 lb/day	58.2 mg/l 1015 lb/day	10 mg/l 223 lb/day	18 mg/l 400 lb/day	10 mg/l 174.3 lb/day	18 mg/l 313.8 lb/day
(October – May)	24 mg/l 418.3 lb/day	43 mg/l 749.5 lb/day	32.2 mg/l 562 lb/day	58.2 mg/l 1015 lb/day	24 mg/l 534 lb/day	43 mg/l 958 lb/day	24 mg/l 418.3 lb/day	43 mg/l 749.5 lb/day
TSS	N/A	N/A	453 lb/day	709 lb/day	453 lb/day	709 lb/day	453 lb/day	709 lb/day
COD	N/A	N/A	3891 lb/day	7598 lb/day	3891 lb/day	7598 lb/day	3891 lb/day	7598 lb/day
NH3-N								
(October, April, & May)	2.52 mg/l	6.42 mg/l	11.4 mg/l 198 lb/day	25.1 mg/l 437 lb/day	9 mg/l	18 mg/l	2.52 mg/l	6.42 mg/l
(June – September)	2 mg/l	4 mg/l	11.4 mg/l 198 lb/day	25.1 mg/l 437 lb/day	2 mg/l	4 mg/l	2 mg/l	4 mg/l
(November – March)	7.15 mg/l	17.88 mg/l	11.4 mg/l 198 lb/day	25.1 mg/l 437 lb/day	9 mg/l	18 mg/l	7.15 mg/l	17.88 mg/l
DO	7.0, Inst. Minimum		N/A		7.0, Inst. Minimum		7.0, Inst. Minimum	
Phenolic Compound (4AAP)	N/A	N/A	4 lb/day	8 lb/day	4 lb/day	8 lb/day	4 lb/day	8 lb/day
Sulfide	N/A	N/A	2 lb/day	4 lb/day	2 lb/day	4 lb/day	2 lb/day	4 lb/day
Temperature	86° F, Inst. Max.		N/A		86° F, Inst. Max.		86° F, Inst. Max.	

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Total Rec. Chromium	383.21 µg/l 6.68 lb/day	768.91 µg/l 13.40 lb/day	340 µg/l 6 lb/day	800 µg/l 14 lb/day	6 lb/day	14 lb/day	340 µg/l 6 lb/day	768.91 µg/l 13.40 lb/day
Hexavalent Chromium	12.42 µg/l 0.22 lb/day	24.92 µg/l 0.43 lb/day	32 µg/l 0.56 lb/day	72 µg/l 1.26 lb/day	12 µg/l*	24 µg/l*	12.42 µg/l 0.22 lb/day	24.92 µg/l 0.43 lb/day
Total Recoverable Selenium	5.8 µg/l	11.65 µg/l	N/A	N/A	5.8 µg/l	11.65 µg/l	5.8 µg/l	11.65 µg/l
Total Recoverable Zinc	118 µg/l	237 µg/l	N/A	N/A	118 µg/l	237 µg/l	118 µg/l	237 µg/l
O & G	10 mg/l 174.31 lb/day	15 mg/l 261.46 lb/day	9.5 mg/l 166 lb/day	18.1 mg/l 316 lb/day	7 mg/l 166 lb/day	14 mg/l 316 lb/day	9.5 mg/l 166 lb/day	15 mg/l 261.46 lb/day
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 002								
TOC	N/A	N/A	N/A	110 mg/l	Report	110 mg/l	Report	110 mg/l
O&G	10 mg/l	15 mg/l	N/A	15	10 mg/l	15 mg/l	10 mg/l	15 mg/l
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 003								
TOC	N/A	N/A	N/A	110 mg/l	Report	110 mg/l	Report	110 mg/l
O&G	10 mg/l	15 mg/l	N/A	15	10 mg/l	15 mg/l	10 mg/l	15 mg/l
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 004								
TOC	N/A	N/A	N/A	110 mg/l	Report	110 mg/l	Report	110 mg/l
O&G	10 mg/l	15 mg/l	N/A	15	10 mg/l	15 mg/l	10 mg/l	15 mg/l
pH	6.0 – 9.0 s.u.		N/A		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 005								
BOD5	N/A	N/A	398.2 lb/day	724 lb/day	1555 lb/day	2827 lb/day	398.2 lb/day	724 lb/day

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Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
COD	N/A	N/A	2715 lb/day	5430 lb/day	10602 lb/day	21205 lb/day	2715 lb/day	5430 lb/day
TSS	N/A	N/A	325.8 lb/day	506.8 lb/day	1272 lb/day	1979 lb/day	325.8 lb/day	506.8 lb/day
Phenolic Compounds	N/A	N/A	2.53 lb/day	5.25 lb/day	9.9 lb/day	20.5 lb/day	2.53 lb/day	5.25 lb/day
Total Rec. Chromium	5.83 lb/day	11.70 lb/day	3.26 lb/day	9.05 lb/day	12.7 lb/day	35.3 lb/day	3.26 lb/day	9.05 lb/day
Hexavalent Chromium	0.18 lb/day	0.36 lb/day	0.42 lb/day	0.94 lb/day	1.6 lb/day	3.7 lb/day	0.18 lb/day	0.36 lb/day
O & G	151.0 lb/day	226.5 lb/day	121.3 lb/day	235.3 lb/day	474 lb/day	919 lb/day	121.3 lb/day	226.5 lb/day
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 006								
BOD5	N/A	N/A	741.4 lb/day	1348 lb/day	3295 lb/day	5991 lb/day	741.4 lb/day	1348 lb/day
COD	N/A	N/A	5055 lb/day	10,110 lb/day	22,466 lb/day	44,932 lb/day	5055 lb/day	10,110 lb/day
TSS	N/A	N/A	606.6 lb/day	943.6 lb/day	2696 lb/day	4194 lb/day	606.6 lb/day	943.6 lb/day
Phenolic Compounds	N/A	N/A	4.72 lb/day	9.77 lb/day	21.0 lb/day	43.4 lb/day	4.72 lb/day	9.77 lb/day
Total Rec. Chromium	10.6 lb/day	21.2 lb/day	6.07 lb/day	16.9 lb/day	27.0 lb/day	74.9 lb/day	6.07 lb/day	16.9 lb/day
Hexavalent Chromium	0.34 lb/day	0.69 lb/day	0.78 lb/day	1.75 lb/day	3.4 lb/day	7.8 lb/day	0.34 lb/day	0.69 lb/day
O & G	281.1 lb/day	421.6 lb/day	225.8 lb/day	438.1 lb/day	1003 lb/day	1947 lb/day	225.8 lb/day	421.6 lb/day
Total Recoverable Lead	0.11 lb/day	0.22 lb/day	N/A	N/A	3.9 µg/l	7.8 µg/l	0.11 lb/day	0.22 lb/day
Total Recoverable Mercury	0.0004 lb/day	0.0008 lb/day	N/A	N/A	N/A	N/A	0.0004 lb/day	0.0008 lb/day
Total Recoverable Zinc	3.30 lb/day	6.62 lb/day	N/A	N/A	117 µg/l	235 µg/l	3.30 lb/day	6.62 lb/day
Total Recoverable Selenium	0.16 lb/day	0.32 lb/day	N/A	N/A	N/A	N/A	0.16 lb/day	0.32 lb/day

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Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Heptachlor	0.0001 lb/day	0.0002 lb/day	N/A	N/A	N/A	N/A	0.0001 lb/day	0.0002 lb/day
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
Outfall 007								
BOD5	N/A	N/A	620.4 lb/day	1128 lb/day	3295 lb/day	5991 lb/day	620.4 lb/day	1128 lb/day
COD	N/A	N/A	4230 lb/day	8460 lb/day	22,466 lb/day	44,932 lb/day	4230 lb/day	8460 lb/day
TSS	N/A	N/A	507.6 lb/day	789.6 lb/day	2696 lb/day	4194 lb/day	507.6 lb/day	789.6 lb/day
Phenolic Compounds	N/A	N/A	3.95 lb/day	8.18 lb/day	21.0 lb/day	43.4 lb/day	3.95 lb/day	8.18 lb/day
Total Rec. Chromium	8.84 lb/day	17.7 lb/day	5.08 lb/day	14.1 lb/day	27.0 lb/day	74.9 lb/day	5.08 lb/day	14.1 lb/day
Hexavalent Chromium	0.29 lb/day	0.58 lb/day	0.65 lb/day	1.47 lb/day	3.4 lb/day	7.8 lb/day	0.29 lb/day	0.58 lb/day
Total Recoverable Lead	0.09 lb/day	0.18 lb/day	N/A	N/A	3.9 µg/l	7.8 µg/l	0.09 lb/day	0.18 lb/day
Total Recoverable Zinc	2.77 lb/day	5.57 lb/day	N/A	N/A	117 µg/l	235 µg/l	2.77 lb/day	5.57 lb/day
Heptachlor	0.0001 lb/day	0.0002 lb/day	N/A	N/A	N/A	N/A	0.0001 lb/day	0.0002 lb/day
Total Recoverable Mercury	0.0003 lb/day	0.0006 lb/day	N/A	N/A	N/A	N/A	0.0003 lb/day	0.0006 lb/day
Total Recoverable Selenium	0.14 lb/day	0.27 lb/day	N/A	N/A	N/A	N/A	0.14 lb/day	0.27 lb/day
O & G	221 lb/day	331.5 lb/day	177.6 lb/day	344.5 lb/day	1003 lb/day	1947 lb/day	177.6 lb/day	331.5 lb/day
pH	6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.		6.0 – 9.0 s.u.	
SMS 008								
Chlorides	18.7 mg/l	28.05 mg/l	N/A	N/A	N/A	N/A	18.7 mg/l	28.05 mg/l
Sulfates	41.3 mg/l	61.95 mg/l	N/A	N/A	N/A	N/A	41.3 mg/l	61.95 mg/l
TDS	138 mg/l	207 mg/l	N/A	N/A	N/A	N/A	138 mg/l	207 mg/l

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Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Outfall 010								
Flow	3 MGD	N/A	N/A	N/A	3 MGD	N/A	3 MGD	N/A
CBOD5	537.9 lb/day	806.8 lb/day	N/A	N/A	537.9 lb/day	806.8 lb/day	537.9 lb/day	806.8 lb/day
COD	N/A	N/A	4053.08 lb/day	7810.63 lb/day	3891 lb/day	7598 lb/day	4053.08 lb/day	7810.63 lb/day
TSS	N/A	N/A	453 lb/day	709 lb/day	453 lb/day	709 lb/day	453 lb/day	709 lb/day
NH3-N	200.2 lb/day	300.1 lb/day	N/A	N/A	200.2 lb/day	300.1 lb/day	200.2 lb/day	300.1 lb/day
O & G	250.2 lb/day	375.3 lb/day	N/A	N/A	250.2 lb/day	375.3 lb/day	250.2 lb/day	375.3 lb/day
D.O.	N/A	N/A	Report, min.		Report, min.		Report, min.	
TDS	N/A	N/A	Report	Report	Report	Report	Report	Report
Sulfates	N/A	N/A	Report	Report	Report	Report	Report	Report
Chlorides	N/A	N/A	Report	Report	Report	Report	Report	Report
Total Recoverable Mercury	N/A	<0.2 µg/l	N/A	N/A	N/A	<0.2 µg/l	N/A	<0.2 µg/l
Total Recoverable Cadmium	0.33 lb/day	0.67 lb/day	N/A	N/A	0.33 lb/day	0.67 lb/day	0.33 lb/day	0.67 lb/day
Hexavalent Chromium, Dissolved	1.44 lb/day	2.90 lb/day	0.56 lb/day	1.26 lb/day	0.56 lb/day	1.26 lb/day	0.56 lb/day	1.26 lb/day
Total Recoverable Copper	1.23 lb/day	2.48 lb/day	N/A	N/A	1.23 lb/day	2.48 lb/day	1.23 lb/day	2.48 lb/day
Total Recoverable Lead	0.60 lb/day	1.20 lb/day	N/A	N/A	0.60 lb/day	1.20 lb/day	0.60 lb/day	1.20 lb/day
Total Recoverable Nickel	21.35 lb/day	42.83 lb/day	N/A	N/A	21.35 lb/day	42.83 lb/day	21.35 lb/day	42.83 lb/day
Total Recoverable Selenium	0.99 lb/day	1.98 lb/day	N/A	N/A	0.99 lb/day	1.98 lb/day	0.99 lb/day	1.98 lb/day
Total Recoverable Silver	0.12 lb/day	0.23 lb/day	N/A	N/A	0.12 lb/day	0.23 lb/day	0.12 lb/day	0.23 lb/day
Total Recoverable Zinc	11.03 lb/day	22.13 lb/day	N/A	N/A	11.03 lb/day	22.13 lb/day	11.03 lb/day	22.13 lb/day

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Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.
Total Recoverable Chromium (III)	59.27 lb/day	118.93 lb/day	6 lb/day	14 lb/day	59.27 lb/day	118.93 lb/day	6 lb/day	14 lb/day
Total Recoverable Cyanide	1.03 lb/day	2.06 lb/day	N/A	N/A	1.03 lb/day	2.06 lb/day	1.03 lb/day	2.06 lb/day
Total Phosphorus	N/A	N/A	Report mg/l	Report mg/l	Report mg/l	Report mg/l	Report mg/l	Report mg/l
FCB, colonies/100 ml	N/A	N/A	Report	Report	Report	Report	Report	Report
Sulfide	N/A	N/A	2 lb/day	4 lb/day	2 lb/day	4 lb/day	2 lb/day	4 lb/day
Phenolic Compounds	N/A	N/A	4 lb/day	8 lb/day	4 lb/day	8 lb/day	4 lb/day	8 lb/day
pH	6.0 s.u. – 9.0 s.u.		N/A		6.0 s.u. – 9.0 s.u.		6.0 s.u. – 9.0 s.u.	

*Values were rounded down in previous permit.

Parameter	Water Quality or Technology	Justification
Outfall 001		
CBOD5	Water Quality	1985 Waste Load Evaluation
COD	Technology	40 CFR419.22(a)
TSS	Technology	40 CFR419.22(a)
NH3-N	Water Quality	1985 Waste Load Evaluation and Reg. 2.512
DO	Water Quality	1985 Waste Load Evaluation
Phenolic Compounds	Technology	40 CFR419.22(a)
Sulfide	Technology	40 CFR419.22(a)
Temperature	Water Quality	Reg. 2.502
Total Rec. Chromium	Water Quality	Reg. 2.508
Hexavalent Chromium	Technology	Mass limits – 40 CFR 419.22(a)
	Water Quality	Concentration limits– Reg. 2.508
Total Recoverable Selenium	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
O & G	Technology	Monthly avg. – 40 CFR 419.22(a)
	Water Quality	Daily max. – Reg. 2.510
pH	Water Quality	Reg. 2.504
Outfalls 002, 003, and 004		
TOC	Technology	40 CFR 419.22(e)(1)
O&G	Water Quality	Reg. 2.510
pH	Water Quality	Reg. 2.504

Parameter	Water Quality or Technology	Justification
Outfall 005		
BOD5	Technology	40 CFR 419.22(e)(2)
COD	Technology	40 CFR 419.22(e)(2)
TSS	Technology	40 CFR 419.22(e)(2)
Phenolic Compounds	Technology	40 CFR 419.22(e)(2)
Total Rec. Chromium	Technology	40 CFR 419.22(e)(2)
Hexavalent Chromium	Water Quality	Reg. 2.508
O & G	Technology	Average Monthly Limit – 40 CFR 419.22(e)(2)
	Water Quality	Daily Maximum Limit – Reg. 2.510
pH	Water Quality	Reg. 2.504
Outfall 006		
BOD5	Technology	40 CFR 419.22(e)(2)
COD	Technology	40 CFR 419.22(e)(2)
TSS	Technology	40 CFR 419.22(e)(2)
Phenolic Compounds	Technology	40 CFR 419.22(e)(2)
Total Rec. Chromium	Technology	40 CFR 419.22(e)(2)
Hexavalent Chromium	Water Quality	Reg. 2.508
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Recoverable Mercury	Water Quality	Reg. 2.508
Total Recoverable Selenium	Water Quality	Reg. 2.508
Heptachlor	Water Quality	Reg. 2.508
O & G	Technology	Average Monthly Limit – 40 CFR 419.22(e)(2)
	Water Quality	Daily Maximum Limit – Reg. 2.510
pH	Water Quality	Reg. 2.504
Outfall 007		
BOD5	Technology	40 CFR 419.22(e)(2)
COD	Technology	40 CFR 419.22(e)(2)
TSS	Technology	40 CFR 419.22(e)(2)
Phenolic Compounds	Technology	40 CFR 419.22(e)(2)
Total Rec. Chromium	Technology	40 CFR 419.22(e)(2)
Hexavalent Chromium	Water Quality	Reg. 2.508
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Recoverable Mercury	Water Quality	Reg. 2.508
Total Recoverable Selenium	Water Quality	Reg. 2.508
Heptachlor	Water Quality	Reg. 2.508
O & G	Technology	Average Monthly Limit – 40 CFR 419.22(e)(2)
	Water Quality	Daily Maximum Limit – Reg. 2.510

Parameter	Water Quality or Technology	Justification
pH	Water Quality	Reg. 2.504
SMS 008		
Chlorides	Water Quality	Reg. 2.511
Sulfates	Water Quality	Reg. 2.511
Total Dissolved Solids	Water Quality	Reg. 2.511
Outfall 010		
Flow	Water Quality	Model performed by permittee and approved by ADEQ and EPA
CBOD5	Water Quality	Model performed by permittee and approved by ADEQ and EPA
COD	Technology	40 CFR 419.22(a)
TSS	Technology	Judgment of Water Division staff and 40 CFR419.22(a).
NH3-N	Water Quality	Model performed by permittee and approved by ADEQ and EPA
O & G	Water Quality	Reg. 2.510
D.O.	Technology	Judgment of permit writer.
TDS	Technology	Judgment of permit writer.
Sulfates	Technology	Judgment of permit writer.
Chlorides	Technology	Judgment of permit writer.
Total Recoverable Mercury	Water Quality	Reg. 2.508
Total Recoverable Cadmium	Water Quality	Reg. 2.508
Hexavalent Chromium, Dissolved	Technology	40 CFR 419.22(a)
Total Recoverable Copper	Water Quality	Reg. 2.508
Total Recoverable Lead	Water Quality	Reg. 2.508
Total Recoverable Nickel	Water Quality	Reg. 2.508
Total Recoverable Selenium	Water Quality	Reg. 2.508
Total Recoverable Silver	Water Quality	Reg. 2.508
Total Recoverable Zinc	Water Quality	Reg. 2.508
Total Recoverable Chromium (III)	Technology	40 CFR 419.22(a)
Total Recoverable Cyanide	Water Quality	Reg. 2.508
Total Phosphorus	Technology	Judgment of permit writer.
FCB, colonies/100 ml	Technology	Judgment of permit writer.
Sulfide	Technology	40 CFR 419.22(a)
Phenolic Compounds	Technology	40 CFR 419.22(a)
pH	Water Quality	Reg. 2.504

Outfall 001

The concentration limits derived from the technology based mass limits have changed based upon new flow data. See Item #13.b.iii of this Fact Sheet for a complete explanation of the technology based limit calculations.

See Item #13.e of this Fact Sheet for a complete explanation of the limits for Total Recoverable Selenium and Total Recoverable Zinc.

The NH3-N limits for the months of October through May are now based upon the toxicity standards contained in Reg. 2.512. These limits are more stringent than those based upon the Waste Load Evaluation. The NH3-N limits for the months of June through September are not changing with this permit renewal.

The permittee is already in compliance with the more stringent limits for NH3-N during the months of November through May. During the month of October, the permittee has had 1 exceedance of the new monthly average limit and 2 of the daily maximum limit. These values were significantly higher than values reported in the surrounding months. The permittee already has the capability to meet the more stringent limits for the month of October as evidenced by all other submitted data. Therefore, a schedule of compliance for the more stringent NH3-N limits will not be included in the permit.

The daily maximum Total Recoverable Chromium limit at Outfall 001 has been decreased from 14 lbs/day to 13.4 lbs/day. The permittee is already in compliance with the more stringent limit. Therefore, a schedule of compliance for this parameter will not be included in the permit.

Outfalls 002, 003, and 004

The daily maximum TOC and O & G limits are based on the requirements of 40 CFR 419.22(e)(1). 40 CFR 419, Subpart B does not specify a monthly average limit for either parameter. There are no water quality standards for TOC in the State of Arkansas. Therefore, the permittee will only be required to report the monthly average levels of TOC in the effluent. Reg. 2.510 contains monthly average and daily maximum water quality standards for O & G. The daily maximum water quality based limit is the same as the technology based limit. The Department will continue to include a monthly average O & G limit of 10 mg/l in the permit.

The technology based and the water quality based pH limits are identical.

Outfalls 005, 006, and 007

With the exception of pH, only mass limits have been included in the permit for Outfalls 005, 006, and 007. Discharges from these outfalls occurs on an infrequent basis and are in response to heavy rainfalls. Because discharges from these outfalls occur mainly in response to a heavy rainfall, the background flow in the receiving stream is normally higher than the 7Q10. Appropriate concentration limits cannot be calculated since the background flow is highly variable.

Water quality based limits for Hexavalent Chromium have been placed in the permit instead of the technology based limits as the water quality based limits are more stringent. Previously, the permittee was only required to report the concentration levels. However, because there are technology based limits for this parameter included in the permit, the Department is required to ensure that the levels of the parameter in the effluent will not exceed water quality standards.

Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor have been added to the permit at Outfalls 006 and 007 since the permittee has demonstrated reasonable potential for water quality violations due to the levels of those parameters in the effluent. A schedule of compliance for these parameters has been included in the permit because it is unlikely that the permittee could comply with the final limits for Total Recoverable Selenium on the effective date of the permit. Also, insufficient information exists to be able to determine if the permittee can comply with the final limits for Total Recoverable Mercury and Heptachlor on the effective date of the permit.

SMS 008

See Item #13.b.iv of this Fact Sheet for information concerning the stream monitoring station.

Outfall 010

All water quality based limits are remaining unchanged. The technology based limits are based on the limits calculated in accordance with 40 CFR Part 419, Subpart B for Outfall 001.

a. **Anti-backsliding**

The draft permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in 40 CFR 122.44 (l)(2)(i).

The draft permit maintains the requirements of the previous permit with the following exception:

The Oil and Grease concentration limits at Outfall 001 have increased because a lower monthly average flow was used to calculate those limits from the technology based mass limits. The new limits are in compliance with the water quality standards contained in Reg. 2.510. This does not violate the anti-backsliding standards since the change is based on new information. See 40 CFR 122.44(l)(2)(i)(B)(*1*).

b. **Limits Calculations**

i. Mass limits:

The calculation of the loadings (lbs per day) is based on the following equation:

lbs/day = Concentration (mg/l) X Flow (MGD) X 8.34

The flows used in the above formula are as follows:

Outfall 001: 2.09 MGD
Outfall 005: 1.81 MGD
Outfall 006: 0.05 MGD
Outfall 007: 2.65 MGD
Outfall 010: 3 MGD

ii. Daily Maximum Limits:

Outfall 001

The COD, TSS, Total Rec. Chromium, Phenolic Compounds, and Sulfides daily maximum limits are based on 40 CFR 419.22(a). The CBOD5 (year-round) and NH3-N limits (June - September) are based on a 1985 Waste Load Evaluation and 5.4.2 of the Technical Support Document, i.e., the daily maximum limits are 1.5 times the monthly average limit. The NH3-N daily maximum limits for October – May are based on Reg. 2.512. The daily maximum limits for Hexavalent Chromium, Total Recoverable Selenium, and Total Recoverable Zinc are based on Reg. 2.508 and the procedures outlined in Appendix D of the CPP. The O & G daily maximum limits are based on Reg. 2.510.

Outfalls 002, 003, and 004

The daily maximum limits for TOC are based on 40 CFR 419.22(e)(1). The daily maximum Total Recoverable Zinc limits are based on Reg. 2.508 and the procedures outlined in the CPP. The daily maximum O & G limits are based on Reg. 2.510.

Outfall 005

The daily maximum limits for BOD5, COD, TSS, Phenolic Compounds, and Total Rec. Chromium are based on 40 CFR 419.22(e)(2). The daily maximum Total Recoverable Zinc and Hexavalent Chromium limits are based on Reg. 2.508 and the procedures outlined in the CPP. The daily maximum O & G limits are based on Reg. 2.510.

Outfall 006 and Outfall 007

The daily maximum limits for BOD5, COD, TSS, Phenolic Compounds, and Total Rec. Chromium are based on 40 CFR 419.22(e)(2). The daily maximum Total Recoverable Lead, Total Recoverable Mercury, Heptachlor, Total Recoverable Zinc, and Hexavalent Chromium limits are based on Reg. 2.508 and the procedures outlined in the CPP. The daily maximum O & G limits are based on Reg. 2.510.

Outfall 010

The daily maximum limits for TSS, COD, Hexavalent Chromium, Total Rec. Chromium, Sulfide, and Phenolic Compounds are based on 40 CFR 419.22(a). The limits for Total Recoverable Mercury, Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Nickel, Total Recoverable Selenium, Total Recoverable Zinc, and Total Recoverable Cyanide are based on Reg. 2.508 and the procedures outlined in Appendix D of the CPP. The O & G limit is based on Reg. 2.510.

The daily maximum limits for CBOD5 and TSS are based on 5.4.2 of the Technical Support Document. The daily maximum limits are 1.5 times the monthly average limit.

iii. Process wastewater – Outfall 001

CBOD5 will replace BOD5 in the technology-based limits due to nitrification. In accordance with an EPA memo dated August 19, 1998, the terms “Total Chromium” and “Total Recoverable Chromium” may be used interchangeably. The current production data is only 5% above the production data used in the previous permit. The permittee has been in compliance with the limits in the previous permit.

Therefore, the technology-based loading limits will be continued from the previous permit. The concentration limits derived from the technology-based loading limits will be calculated using the formula in Item #13.b.i.

Parameter	Limits, lb/day		Limits, mg/l	
	AML[1]	DML[2]	AML[1]	DML[2]
CBOD5	562	1015	32.2	58.2
TSS	453	709	26.0	40.7
COD	3891	7598	223.2	435.9
Oil and Grease	166	316	9.5	18.1
Phenolic Compounds	4	8	0.23	0.46
Ammonia as N	198	437	11.4	25.1
Sulfide	2	4	0.11	0.23
Total Rec. Chromium	6	14	0.34	0.80
Hexavalent Chromium	0.56	1.26	0.032	0.072
pH	Minimum – 6.0 s.u.		Maximum – 9.0 s.u.	

1. AML = Average Monthly Limit
2. DML = Daily Maximum Limit

Water Quality Based Limits for Outfall 001

Water quality based limits exist for CBOD5, NH3-N, pH, and Hexavalent Chromium.

CBOD5, NH3-N, and DO limits were determined in a Waste Load Evaluation (WLE) dated July 2, 1985. There are no technology based DO levels applicable to this type of discharger. Therefore, the minimum required DO level of 7 mg/l set in the WLE will continue unchanged.

The CBOD5 water quality based limit of 10 mg/l set in the WLE is more stringent than the technology based limit of 33.3 mg/l. The water quality based concentration limit will be included in the permit.

NH3-N toxicity based limits were not calculated for comparison to the other NH3-N limits because a numerical WET limit has been included in the permit at Outfall 001.

Limit Type	Monthly Average Limit, mg/l	Daily Maximum Limit, mg/l
Technology Based	16.16	35.54
Waste Load Evaluation		
June – September	2	4
October - May	9	18
Toxicity Based		
April – October	2.52	6.42
November – March	7.15	17.88

In order for the permit to contain the most stringent limits, the WLE limits will be included in the permit. The mass limits will be based upon the permitted concentration limits and the highest average monthly flow of 2.09 MGD.

Water quality based concentration limits for Hexavalent Chromium are calculated in the PPS section of this Fact Sheet. The water quality based concentration limits are more stringent than the technology based limits. The mass limits will be based upon the permitted concentration limits and the highest average monthly flow of 2.09 MGD.

Water quality based Oil and Grease limits of 10 mg/l on a monthly average and 15 mg/l on a daily maximum are contained in Reg. 2.510. The technology based monthly average limit and the water quality based daily maximum limit are the most stringent and will be placed in the permit. The mass limits will be based upon the permitted concentration limits and the highest average monthly flow of 2.35 MGD.

The water quality and technology based pH limits are identical.

The instantaneous maximum temperature of 86°F, based on Reg. 2.502, will be continued unchanged from the previous permit.

iv. Minerals (SMS 008)

The ecoregion minerals standards contained in Reg. 2.511(B) are in-stream standards, i.e., the discharges may not cause the levels in the stream to exceed those levels and the standards are not meant to be permit limits on an individual outfall.

The headwaters of Loutre Creek are located approximately 1,000 feet north of the permittee's northern property line. All wastewater discharges from Outfalls 001 through 007 are made into Loutre Creek before it leaves the permittee's property. Since the permittee is responsible for the majority of water in Loutre Creek when it leaves their property, the Department has included SMS 008 in the permit with minerals limits set equal to the ecoregion standards. This will allow the permittee the opportunity to demonstrate that they are not causing exceedances of the ecoregion standards. Minerals limits at the individual outfalls have not been included in the permit.

A background flow of 4 cfs has not been used in determining the limits because Bayou de Loutre is on the 303(d) list as impaired due to minerals. Also, the limits are equal to the stream standard because the monitoring point is in a Water of the State, not at one of the permittee's outfalls.

c. **Stormwater runoff**

Effluent limitations guidelines have been promulgated for discharges of this sort.

Outfalls 002, 003, and 004 – Contaminated Stormwater Runoff

40 CFR 419, Subpart B allows for the discharge of wastewater consisting solely of contaminated runoff which is not commingled or treated with process wastewater if it meets the following limits based upon an analysis of any single grab or composite sample.

In accordance with 40 CFR 419.11(g), the term *contaminated runoff* shall mean runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property.

Reg. Citation	O & G	TOC
40 CFR 419.22(e)(1), BPT	15 mg/l	110 mg/l
40 CFR 419.23(f)(1), BAT	N/A	110 mg/l
40 CFR 419.24(e)(1), BPT	15 mg/l	N/A

The TOC limit of 110 mg/l will be included at Outfalls 002, 003, and 004 as a daily maximum limit. The permittee will be required to report the monthly average TOC concentration in the effluent. A monthly average limit has not been included in the permit as there is no water quality standard or applicable technology based limit.

The O & G limit of 15 mg/l will be included at Outfalls 002, 003, and 004 as a daily maximum limit. A monthly average limit of 10 mg/l will also be included in the permit. The monthly average limit is based on Reg. 2.510.

Outfalls 005, 006, and 007

Outfalls 005, 006, and 007 are permitted to discharge contaminated runoff which has been commingled or treated with process wastewater. The following ELGs contained in 40 CFR 419, Subpart B are applicable to these outfalls. With the exception of pH, all ELGs are in units of pounds per 1,000 gallons of flow.

Parameter	ELGs		Source
	AML*	DML**	
BOD5	0.22	0.40	40 CFR 419.22(e)(2)
TSS	0.18	0.28	40 CFR 419.22(e)(2)
O & G	0.067	0.13	40 CFR 419.22(e)(2)
Phenolic Compounds	0.0014	0.0029	40 CFR 419.22(e)(2)
Total Rec. Chromium	0.0018	0.0050	40 CFR 419.23(f)(2)

Parameter	ELGs		Source
	AML*	DML**	
Hexavalent Chromium	0.00023	0.00052	40 CFR 419.22(e)(2)
COD	1.5	3.0	40 CFR 419.22(e)(2)
pH	6.0 – 9.0 s.u.		40 CFR 419.22(e)(2)

*AML = Average Monthly Limit
**DML = Daily Maximum Limit

The mass limits for Outfalls 005, 006, and 007 are calculated using the following formula:

Mass, lb/day = Qe * ELG

Where:

Qe = effluent flow rate in gallons per day (based on the highest monthly average flow from the past two years.
ELG = effluent limitation guideline in lbs/1,000 gallons of flow

Outfall 005

The only flow from the term of the previous permit is 1.81 MGD. This flow rate has been used to calculate the limits for this outfall.

Parameter	Limits, lb/day	
	AML*	DML**
BOD5	398.2	724.0
TSS	325.8	506.8
O & G	121.3	235.3
Phenolic Compounds	2.53	5.25
Total Rec. Chromium	3.26	9.05
Hexavalent Chromium	0.42	0.94
COD	2715.0	5430.0
pH	6.0 – 9.0 s.u.	

*AML = Average Monthly Limit
**DML = Daily Maximum Limit

Outfall 006

The effluent flows from this outfall have ranged from 0.05 MGD to 5.38 MGD during the past three years (January 2009 through December 2011). A flow of 0.05 MGD was reported to have occurred in December 2011. That is the only flow which occurred from this outfall during the past two years. The data from the previous year, 2009,

demonstrates that this is not a typical flow for this outfall. The Department will therefore use the highest monthly average flow from 2009, 3.37 MGD (December 2009) to calculate the limits for this outfall.

Parameter	Limits, lb/day	
	AML*	DML**
BOD5	741.4	1348
TSS	606.6	943.6
O & G	225.8	438.1
Phenolic Compounds	4.72	9.77
Total Rec. Chromium	6.07	16.9
Hexavalent Chromium	0.78	1.75
COD	5055	10,110
pH	6.0 – 9.0 s.u.	

*AML = Average Monthly Limit
**DML = Daily Maximum Limit

Outfall 007

The highest monthly average flow from the past two years is 2.82 MGD and occurred in April 2011. This flow rate has been used to calculate the limits for this outfall.

Parameter	Limits, lb/day	
	AML*	DML**
BOD5	620.4	1128
TSS	507.6	789.6
O & G	188.9	366.6
Phenolic Compounds	3.95	8.18
Total Rec. Chromium	5.08	14.1
Hexavalent Chromium	0.649	1.47
COD	4230	8460
pH	6.0 – 9.0 s.u.	

*AML = Average Monthly Limit
**DML = Daily Maximum Limit

Outfalls 005, 006, and 007

The Department has calculated water-quality based mass limits for O & G using the standards contained in Reg. 2.510 and for Total Recoverable Chromium and Hexavalent Chromium using the standards contained in Reg. 2.508, the highest monthly average flows from these outfalls during the past two years, and the following formula. The comparison of the water-quality based limits to the technology based limits is contained in the first table in Item #13 of this Fact Sheet.

lbs/day = Concentration (mg/l) X Flow (MGD) X 8.34

Outfall	Flow, MGD	AML, lb/day	DML, lb/day
Oil and Grease			
005	1.81	151.0	226.5
006	3.37	281.1	421.6
007	2.82	235.2	352.8
Total Recoverable Chromium			
005	1.81	5.83	11.7
006	3.37	10.6	21.2
007	2.82	8.84	17.7
Hexavalent Chromium			
005	1.81	0.18	0.36
006	3.37	0.34	0.69
007	2.82	0.29	0.58

Only mass limits have been included in the permit at Outfalls 005, 006, and 007 due to the infrequent nature of the discharges from these outfalls. It is not appropriate to calculate water quality limits for oxygen demanding parameters (CBOD5, COD, etc.) at these outfalls due to the infrequent nature of the discharges. When effluent is discharged through one or more of these outfalls, it is normally in response to a heavy rainfall which increases the background flow in the receiving stream.

d. **208 Plan (Water Quality Management Plan)**

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The 208 Plan has been revised to change the NH3-N limits at Outfall 001 for the months of April, May, and October to 2.2 mg/l and for the months of November – March to 6.17 mg/l.

e. **Toxics Pollutants**

ADEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Regulation No. 2 (Reg. 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)".

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Outfall 001 Flow = Q	2.09 MGD = 3.23 cfs	12/2011 DMR
Outfall 005 Flow = Q	1.81 MGD = 2.80 cfs	10/2009 DMR
Outfall 006 Flow = Q	3.37 MGD = 0.08 cfs	12/2009 DMR
Outfall 007 Flow = Q	2.82 MGD = 4.09 cfs	04/2011 DMR
7Q10	0.25 cfs	U.S.G.S.
TSS	5 mg/l	CPP
Hardness as CaCo3	31 mg/l	CPP
pH	6.56 s.u.	OUA005

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Outfall 001		
Total Recoverable Arsenic	3.884	0.5
Total Recoverable Copper	2.19	0.5
Total Recoverable Nickel	3.48	0.5
Total Recoverable Selenium	15.9	5
Total Recoverable Zinc	365*	20
Bis (2-ethylhexyl)phthalate	11	10
Outfalls 006 and 007		
Total Recoverable Arsenic	5.14	0.5
Total Recoverable Copper	4.35	0.5
Total Recoverable Lead	5.32	0.5
Total Recoverable Mercury	0.0416	0.005
Total Recoverable Nickel	5.03	0.5

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Total Recoverable Selenium	6.7	5
Total Recoverable Zinc	74.7	20
Total Phenols	0.706	5
Total Recoverable Cyanide	0.00485	10
Aldrin	0.0595	0.01
Gamma-BHC	0.385	0.05
Delta-BHC	0.0831	0.05
Heptachlor	0.113	0.01

*Highest reported value of over 20 samples.

ADEQ has determined from the information submitted by the permittee that water quality standards or Gold Book criteria are exceeded for Total Recoverable Selenium and Total Recoverable Zinc at Outfall 001. Water quality standards or Gold Book criteria are exceeded for Heptachlor, Total Recoverable Lead, Total Recoverable Mercury, Total Recoverable Selenium, and Total Recoverable Zinc at Outfalls 006 and 007.

The permittee has not demonstrated reasonable potential for Hexavalent Chromium or Total Recoverable Chromium at any of its outfalls. However, technology-based limits for Hexavalent Chromium and Total Recoverable Chromium are contained in 40 CFR Part 419, Subpart B for the types of wastewater which are discharged through Outfalls 001, 005, 006, and 007. Therefore, water quality based limits have been calculated for comparison with the technology based limits at the specified outfalls. The more stringent of the two limits will be placed in the permit at Outfalls 001, 005, 006, and 007.

(a) **Aquatic Toxicity**

Chronic Aquatic Toxicity Results				
Pollutant	C_e, µg/l	C_e X 2.13	IWC, µg/l	AWQS, µg/l
Outfall 001				
Total Recoverable Selenium	15.9	33.87	32.20	5.0
Total Recoverable Zinc	365	365*	347	119.50
Outfall 006				

Chronic Aquatic Toxicity Results				
Pollutant	C_e, µg/l	C_e X 2.13	IWC, µg/l	AWQS, µg/l
Heptachlor	0.113	0.24	0.08	0.0038
Total Recoverable Lead	5.32	11.33	3.58	3.40
Total Recoverable Mercury	0.0416	0.089	0.03	0.012
Total Recoverable Selenium	6.7	14.27	13.83	5
Total Recoverable Zinc	74.7	159.1	154.15	119.50
Outfall 007				
Heptachlor	0.113	0.24	0.23	0.0038
Total Recoverable Lead	5.32	11.33	11.12	3.40
Total Recoverable Mercury	0.0416	0.09	0.09	0.012
Total Recoverable Selenium	6.7	14.27	13.74	5.0
Total Recoverable Zinc	74.7	159.1	153.22	119.50

*Highest reported value of over 20 samples so, in accordance with the CPP, this value is not multiplied by 2.13.

Acute Aquatic Toxicity Results				
Pollutant	C_e, µg/l	C_e X 2.13	IWC, µg/l	AWQS, µg/l
Outfall 001				
Total Recoverable Selenium	15.9	33.87	33.02	20
Total Recoverable Zinc	365	365*	355.91	130.87
Outfall 006				
Total Recoverable Selenium	6.7	14.27	14.05	20
Total Recoverable Zinc	74.7	159.1	156.63	130.87
Outfall 007				
Total Recoverable Selenium	6.7	14.27	14.01	20
Total Recoverable Zinc	74.7	159.1	156.15	130.87

*Highest reported value of over 20 samples so, in accordance with the CPP, this value is not multiplied by 2.13.

Total Recoverable Chromium and Hexavalent Chromium limits for Outfalls 001, 005, 006, and 007 have been calculated for comparison with the technology based standards for those outfalls. Zinc limits have also been calculated for Outfalls 006 and 007 since the previous permit contained Zinc limits at those outfalls.

The concentrations listed below for Outfalls 005, 006, and 007 have been converted to mass only limits for those outfalls. These outfalls do not discharge on a regular basis and normally only in response to heavy rain events.

Arkansas Numerical Aquatic Toxicity Limits		
Parameter	AML, µg/l	DML, µg/l
OUTFALL 001		
Total Recoverable Chromium	383.22	768.91
Hexavalent Chromium, Dissolved	12.42	24.92
Total Recoverable Selenium	5.8	11.65
Total Recoverable Zinc	118	237
OUTFALL 005		
Total Recoverable Chromium	386.14	774.77
Hexavalent Chromium, Dissolved	12.52	25.11
OUTFALL 006		
Total Recoverable Chromium	376.04	754.50
Hexavalent Chromium, Dissolved	12.19	24.46
Heptachlor	0.0044	0.0088
Total Recoverable Lead	3.92	7.86
Total Recoverable Mercury	0.014	0.028
Total Recoverable Selenium	5.76	11.56
Total Recoverable Zinc	117.45	235.67
OUTFALL 007		
Total Recoverable Chromium	378.33	759.09
Hexavalent Chromium, Dissolved	12.26	24.61
Heptachlor	0.0044	0.0088

Arkansas Numerical Aquatic Toxicity Limits		
Parameter	AML, µg/l	DML, µg/l
Total Recoverable Lead	3.94	7.91
Total Recoverable Mercury	0.014	0.025
Total Recoverable Selenium	5.79	11.63
Total Recoverable Zinc	117.95	236.66

f. **Toxic Pollutants at Outfall 010**

The permittee will be required to submit a PPS for Outfall 010 within 90 days of the first discharge to the joint pipeline.

Mercury limitations have been included in the permit because the receiving stream (the Ouachita River) is on the 303(d) list for mercury. The final mercury limit has been set at <0.2 µg/l because the joint pipeline's limits are below that level.

In lieu of monthly WET testing at Outfall 010, the permittee has agreed to inclusion of the metals limits and quarterly WET testing.

The following information details how the metals limits were determined.

The metals limits were determined by multiplying the mass limits for the joint pipeline by the percentage of permitted flow (15%) allowed to be contributed by the permittee.

(1) **Permit Limit Determination**

The instream waste load allocation (WLA), which is the level of effluent concentration that would comply with the water quality standard (WQS) of the receiving stream, is calculated for both chronic and acute WLA using the following equations:

$WLA_c = (WQS \text{ X } (Q_d + Q_b) - Q_b \text{ X } C_b))/Q_d$

Where:

WLA_c = chronic waste load allocation (Φg/l)
Q_d = discharge flow (cfs)
Q_b = 0.25 X 7Q10 (cfs) (7Q10 of the receiving stream is 750 cfs.)
C_b = background concentration (Φg/l)

WQS = chronic aquatic toxicity standards (Φg/l)

and;

$WLA_a = (WQS \text{ X } (Q_d + Q_b) - Q_b \text{ X } C_b))/Q_d$

Where:

WLA_a = acute waste load allocation (Φg/l)
Q_d = discharge flow (cfs)
Q_b = 0.13 X 7Q10 (cfs)
C_b = background concentration (Φg/l)
WQS = acute aquatic toxicity standards (Φg/l)

The long term average (LTA) effluent concentration is then calculated based on the chronic and acute WLA as follows:

$LTA_c = 0.72 \text{ X } WLA_c$
$LTA_a = 0.57 \text{ X } WLA_a$

The lowest of these two (2) values is selected as being the limiting LTA. The limiting LTA is then used to calculate the monthly average (AML) and daily maximum (DML) for the final limits. AML and DML are calculated as follows:

AML = 1.55 X Limiting LTA
DML = 3.11 X Limiting LTA

The mass limits were then calculated using the following formulas:

mg/l = (µg/l) / 1000

Joint Pipeline Mass (lb/day) = 20 MGD * Concentration (mg/l) * 8.34

Qe as % of Total Pipeline Flow (TPF) = Permitted Flow / 20 MGD

Individual Mass (lb/day) = Qe as % of TPF * Joint Pipeline Mass

The water quality based mass limits are as follows. Please note that the water quality based limits for hexavalent chromium are less stringent than the technology based limits. Therefore, the technology based limits for hexavalent chromium will be included in the permit at Outfall 010.

Arkansas Numerical Aquatic Toxicity Limits		
Parameter	**AML, lb/day**	**DML, lb/day**
Cadmium, Total Recoverable	0.33	0.67
Hexavalent Chromium, Dissolved	1.44	2.90
Copper, Total Recoverable	1.23	2.48
Lead, Total Recoverable	0.60	1.20
Nickel, Total Recoverable	21.35	42.83
Selenium, Total Recoverable	0.99	1.98
Silver, Total Recoverable	0.12	0.23
Zinc, Total Recoverable	11.03	22.13
Chromium (III), Total Recoverable	59.27	118.93
Cyanide, Total Recoverable	1.03	2.06

14. **WHOLE EFFLUENT TOXICITY.**

Outfall 001

A. Post Third Round Policy and Strategy

Section 101(a)(3) of the Clean Water Act states that "......it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited....." To ensure that the CWA's prohibitions for toxics are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants (49 FR 9016-9019, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992. In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act.

The Regional policy and strategy are designed to ensure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State Water Quality Standard (WQS) resulting in non-conformance with the provisions of 40 CFR Part 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

Whole effluent toxicity (WET) testing has been establishing for assessing and protecting against impacts upon water quality and designated used caused by the aggregate toxic effect of the discharge of pollutants. The stipulated test species, which are appropriate to measure whole effluent toxicity, are consistent with the requirements of the State Water Quality Standards. The WET testing frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

B. Implementation

Arkansas has established a narrative water quality standard under the authority of Section 303 of the CWA which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity testing conducted by the permittee has shown potential ambient toxicity to be the result of the permittee's discharge to receiving stream or water body, at the appropriate instream critical dilution. Pursuant to 40 CFR 122.44(d)(1)(v), ADEQ has determined from the permittee's self reporting that the discharge from this facility does have the reasonable potential to cause, or contribute to an instream excursion above the narrative standard within the applicable State Water Quality Standards, in violation of Section 101(a)(3) of the Clean Water Act. Therefore, the draft permit must establish both monthly average and 7-day minimum effluent limitations for lethality following Regulations promulgated by 40 CFR 122.44(d)(1)(v). These effluent limitations for lethality (7-day NOEC) are applied at Outfall 001 on the effective date of the permit. The daily average lethality (7-day NOEC) and 7-day minimum lethality (7-day NOEC) value shall not be less than 96% (Critical Dilution) effluent for outfall 001.

WET testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The WET testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Chronic WET Limits	Once/quarter

Since 7Q10 is less than 100 cfs (ft^3/sec) and dilution ratio is less than 100:1, chronic WET testing requirements will be included in the permit.

The calculations for dilution used for chronic WET testing are as follows:

Critical dilution (CD) = (Qd/(Qd + Qb)) X 100

Qd = Average flow = 2.35 MGD = 3.63 cfs
7Q10 = 0.25 cfs
Qb = Background flow = 0.67 X 7Q10 = 0.17 cfs
CD = (3.63) / (3.63 + 0.17) X 100 = 96%

A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 30%, 41%, 54%, 80%, and 96% (see the CPP). The low-flow effluent concentration (critical dilution) is defined as 96% effluent based on a 0.25 cfs 7Q10 flow of the receiving stream.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA/600/4-89/001 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

C. Administrative Records

DRAFT

Permit Number:	AR0000647	AFIN:	70-00016	Outfall Number:	001
Date of Review:	2/16/2012	Reviewer:	M. Barnett		
Facility Name:	Lion Oil Company - El Dorado Refinery				
Previous Dilution series:	30, 41, 54, 72, 96	Proposed Dilution Series:	30, 41, 54, 80, 96		
Previous Critical Dilution:	96	Proposed Critical Dilution:	96		
Previous TRE activities:	No TRE activities. Sub-lethal study plan approved September 2, 2010. Final report due January 31, 2013.				

Frequency recommendation by species

Pimephales promelas (Fathead minnow):	once per quarter
Ceriodaphnia dubia (water flea):	once per quarter

TEST DATA SUMMARY

	Vertebrate		Invertebrate	
TEST DATE	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC
Mar-07	96	96	**0**	**0**
Apr-07			**72**	**30**
May-07			96	96
Jun-07	96	96	96	96
Aug-07	96	96	96	96
Sep-07	96	96	96	96
Dec-07	96	96	96	96
Mar-08	96	96	96	96
Jun-08	96	96	96	**72**
Sep-08	96	96	96	96
Dec-08	96	96	96	**72**
Mar-09	96	96	96	**30**
Jun-09	96	96	96	96
Sep-09	96	96	96	**72**
Dec-09	96	96	96	96
Mar-10	96	96	96	**0**
Apr-10	96	96	96	**41**
May-10			96	**41**
Jun-10	96	96	96	**72**
Jul-10	96	96	96	**72**
Aug-10	96	96	96	**72**
Sep-10			96	96
Oct-10	96	96	96	96
Nov-10			96	**76**
Dec-10			96	96
Jan-11	96	**41**	96	96
Feb-11			96	96
Mar-11			96	**0**
Apr-11	96	**41**	96	**0**
May-11			96	**41**
Jun-11			96	96
Jul-11	96	96	96	**0**
Aug-11			96	**0**
Sep-11			96	**54**
Oct-11	96	**72**	96	**54**
Nov-11			96	**76**
Dec-11			96	**76**

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	Vertebrate Sub-Lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	96	41	29	29
TU at Min Observed	1.04	2.44	3.45	3.45
Count	23	23	37	37
Failure Count	0	3	2	22
Mean	1.042	1.178	1.116	1.791
Std. Dev.	0.000	0.404	0.398	0.951
CV	0	0.3	0.4	0.5
RPMF	#N/A	1.2	1.2	1.3
Reasonable Potential	#N/A	2.810	3.972	4.303
100/Critical dillution	1.042	1.042	1.042	1.042
Does Reasonable Potential Exist	No	Yes	Yes	Yes

PERMIT ACTION

P. promelas lethal - Limit (96%)
P. promelas sub-lethal - (80%) - 3 yr compliance schedule
C. dubia lethal - Limit (96%)
C. dubia sub-lethal - Limit - (80%) - Compliance date January 31, 2013.

Additional requirements (including WET Limits) rationale/comments concerning permitting:

Lethal WET limits are being maintained due to NH3-N toxicity, not due to WET test failures.

Sub-lethal limits will be added to the permit due to a finding of Reasonable Potential for toxicity, in addition to the number and frequency of sub-lethal WET test failures. An abbreviated compliance schedule will be included in the permit for *C. dubia* sub-lethality. The facility has undertaken, and will soon complete, a 3 year sub-lethal study plan to investigate the source and solutions to the *C. dubia* sub-lethal toxicity. When the sub-lethal study plan was designed and initiated, *P. promelas* sub-lethality was not occurring, and was therefore outside the scope of the sub-lethal study plan. A 3-year compliance schedule will be included in the permit for *P. promelas* sub-lethality.

The SLR Study Plan was approved by ADEQ on September 2, 1010.

The permittee shall submit progress reports to the Branch Manager of the Water Quality Planning Section addressing the progress of the SLR and the progress towards attaining the final effluent limits for *P. promelas* and *C. dubia* sub-lethal WET testing according to the following schedule:

ACTIVITY	**DUE DATE**
Semiannual Report	The last day of each January and June
C. dubia Study Plan Final Report	January 31, 2013
Achieve Final *C. dubia* sub-lethal Limit	February 1, 2013
Achieve Final *P. promelas* sub-lethal Limit	Three (3) years from effective date

The permittee has the option to undertake any additional study deemed necessary to meet the final limitations during the interim period. Any additional treatment must be approved and construction approval granted prior to final installation.

According to EPA Region 6 WET Permitting Strategy (May, 2005) due to the potential difficulty of resolving toxicity and/or identifying toxicants responsible for sub-lethal effects in effluent concentrations greater than 75% effluent, sub-lethal limits will be implemented at the 80% effluent level at this time.

D. Outfall 010

Section 101(a)(3) of the Clean Water Act states that ".....it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to

include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992, and EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies, revised March 13, 2000. Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	**FREQUENCY**
Chronic WET Testing	Once/quarter

Requirements for measurement frequency are based on Section 6.4 of the CPP.

At Outfall 010, although the 7Q10 is greater than 100 cfs (ft^3/sec), the dilution ratio is less than 100:1, chronic WET testing requirements will be included in the permit.

The calculations for dilution used for chronic WET testing are as follows:

Critical dilution (CD) = (Qd/(Qd + Qb)) X 100

OUTFALL 010

Qd = Permitted flow = 3 MGD = 4.635 cfs
7Q10 = 750 cfs
Qb = Background flow = (0.25) X 7Q10 = 187.5 cfs
CD = (4.635) / (4.635 + 187.5) X 100 = 2.4%

Toxicity tests shall be performed in accordance with protocols described in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are Outfall 010 – 1.1%, 1.4%, 1.8%, 2.4%, and

3.2% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 2.4% effluent. The requirement for chronic WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA/600/4-91/002, July 1994 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Department shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

No administrative records exist for this outfall since there have not been any discharges.

15. **SAMPLE TYPE AND FREQUENCY.**

Requirements for sample type and sampling frequency have been based on the current discharge permit for those parameters already contained in the permit. For new parameters, the sample type and sampling frequency have been based on similar parameters in the permit, i.e., the requirements for new toxics are the same as the requirements for toxics already in the permit.

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
OUTFALL 001				
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD5				

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
(June – September)	once/week	6-hr composite	once/week	6-hr composite
(October – May)	once/week	6-hr composite	once/week	6-hr composite
COD	once/week	6-hr composite	once/week	6-hr composite
TSS	once/week	6-hr composite	once/week	6-hr composite
NH3-N				
(April, May, and October)	once/week	6-hr composite	once/week	6-hr composite
(June – September)	once/week	6-hr composite	once/week	6-hr composite
(November – March)	once/week	6-hr composite	once/week	6-hr composite
DO	once/week	grab	once/week	grab
Phenolic Compound (4AAP)	once/week	6-hr composite	once/week	6-hr composite
Sulfide	once/week	6-hr composite	once/week	6-hr composite
Temperature	once/week	instantaneous	once/week	instantaneous
Total Rec. Chromium	once/month	6-hr composite	once/month	6-hr composite
Hexavalent Chromium	once/month	6-hr composite	once/month	6-hr composite
Total Recoverable Selenium	once/month	6-hr composite	once/month	6-hr composite
Total Recoverable Zinc	once/month	6-hr composite	once/month	6-hr composite
O & G	once/week	grab	once/week	grab
pH	continuous	record	continuous	record
Whole Effluent Lethality (7-day NOEC)	once/quarter	24-hr composite	once/quarter	24-hr composite
Whole Effluent Sub-Lethality (7-day NOEC)	N/A	N/A	once/quarter	24-hr composite
OUTFALL 002				
Flow	once/day	estimate	once/day	estimate
TOC	once/day	grab	once/day	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab

DRAFT

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
OUTFALL 003				
Flow	once/day	estimate	once/day	estimate
TOC	once/day	grab	once/day	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab
OUTFALL 004				
Flow	once/day	estimate	once/day	estimate
TOC	once/day	grab	once/day	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab
OUTFALL 005				
Flow	once/day	estimate	once/day	estimate
BOD5	once/day	grab	once/day	grab
COD	once/day	grab	once/day	grab
TSS	once/day	grab	once/day	grab
Phenolic Compounds	once/day	grab	once/day	grab
Total Rec. Chromium	once/day	grab	once/day	grab
Hexavalent Chromium	once/day	grab	once/day	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab
OUTFALL 006				
Flow	once/day	estimate	once/day	estimate
BOD5	once/day	grab	once/day	grab
COD	once/day	grab	once/day	grab
TSS	once/day	grab	once/day	grab

DRAFT

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Phenolic Compounds	once/day	grab	once/day	grab
Total Rec. Chromium	once/day	grab	once/day	grab
Hexavalent Chromium	once/day	grab	once/day	grab
Total Recoverable Lead	once/month	grab	once/month	grab
Total Recoverable Zinc	once/month	grab	once/month	grab
Total Recoverable Mercury	N/A	N/A	once/month	grab
Heptachlor	N/A	N/A	once/month	grab
Total Recoverable Selenium	N/A	N/A	once/month	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab
OUTFALL 007				
Flow	once/day	estimate	once/day	estimate
BOD5	once/day	grab	once/day	grab
COD	once/day	grab	once/day	grab
TSS	once/day	grab	once/day	grab
Phenolic Compounds	once/day	grab	once/day	grab
Total Rec. Chromium	once/day	grab	once/day	grab
Hexavalent Chromium	once/day	grab	once/day	grab
Total Recoverable Lead	once/month	grab	once/month	grab
Total Recoverable Zinc	once/month	grab	once/month	grab
Total Recoverable Mercury	N/A	N/A	once/month	grab
Heptachlor	N/A	N/A	once/month	grab
Total Recoverable Selenium	N/A	N/A	once/month	grab
O & G	once/day	grab	once/day	grab
pH	once/day	grab	once/day	grab

DRAFT

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
SMS 008				
Chlorides	N/A	N/A	once/month	grab
Sulfates	N/A	N/A	once/month	grab
TDS	N/A	N/A	once/month	grab
OUTFALL 010				
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD5	once/day	24-hr composite	once/day	24-hr composite
COD	once/week	6-hr composite	once/week	6-hr composite
TSS	once/day	24-hr composite	once/day	24-hr composite
NH3-N	once/day	24-hr composite	once/day	24-hr composite
O & G	two/week	grab	two/week	grab
D.O.	once/day	grab	once/day	grab
TDS	two/week	grab	two/week	grab
Sulfates	two/week	grab	two/week	grab
Chlorides	two/week	grab	two/week	grab
Total Recoverable Mercury	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Cadmium	once/month	24-hr composite	once/month	24-hr composite
Hexavalent Chromium, Dissolved	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Copper	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Lead	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Nickel	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Selenium	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Silver	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Zinc	once/month	24-hr composite	once/month	24-hr composite
Total Recoverable Chromium	once/month	24-hr composite	once/week	24-hr composite

Parameter	Previous Permit		Draft Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Cyanide, Total Recoverable	once/month	grab	once/month	grab
Total Phosphorus	once/day	grab	once/day	grab
FCB, colonies/100 ml	once/day	grab	once/day	grab
Sulfide	once/week	6-hr composite	once/week	composite
Phenolic Compounds	once/week	6-hr composite	once/week	composite
pH	once/day	grab	once/day	grab
Chronic WET Testing	once/quarter	24-hr composite	once/quarter	composite

16. **PERMIT COMPLIANCE.**

a. The permittee must submit a PPS for Outfall 005 within 30 days of the next discharge. The permittee has not discharged from this outfall since October 12, 2009. The PPS which was conducted to fulfill the requirement of the previous permit consisted of a grab sample taken from the pond 18 days after the one-day discharge occurred and was therefore not of the actual wastewater discharged through this outfall. This requirement is being continued from the previous permit so that a PPS can be conducted on an actual discharge.
b. The permittee is required to submitt a PPS for Outfall 010 within 90 days of the first discharge to the joint pipeline. This requirement has been included in the permit since a discharge from this outfall has not yet occurred.
c. The permittee is required to submit a secondary plan to address issues with Total Recoverable Selenium within 180 days of the effective date of the permit. The permittee is conducting a UAA to address Total Recoverable Selenium. However, a secondary plan is being required to be formulated in the event that the UAA is not approved or does not change the water quality standard. This requirement does not grant the permittee any additional time to come into compliance with the Total Recoverable Selenium limit since it was included in a previous permit.
d. The permittee has until January 31, 2013 to comply with the sub-lethal WET limits for *C. dubia*. This date is based upon the start of a study to address those issues. The permittee has three years from the effective date of the permit to comply with the sub-lethal WET limits for *P. promelas*. The compliance date is based upon the fact that there has not been a sub-lethal WET limit in prior permits. Also, the results of the *C. dubia* study will likely not be applicable to the cause of the sub-lethal *P. promelas* toxicity.
e. The permittee is currently conducting corrective actions to reduce the levels of Total Recoverable Lead in the effluent from Outfalls 006 and 007. The permittee must develop a secondary plan within 180 days of the date of this permit addressing Total Recoverable

Lead. This secondary plan is required since additional actions may be necessary to comply with the limit. This requirement does not grant the permittee any time to come into compliance with the Total Recoverable Lead limits since this parameters was included in a previous permit.

f. A schedule of compliance for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor has been added to the permit. Requirements for these parameters at Outfalls 006 and 007 have not been included in previous permits and it has not been confirmed that the permittee could meet the final limits on the effective day of the permit. Therefore, the permittee is allowed three years to come into compliance with the final limits for Total Recoverable Mercury, Total Recoverable Selenium, and Heptachlor in accordance with Reg. 2.104.

17. **MONITORING AND REPORTING.**

The applicant is at all times required to monitor the discharge on a regular basis; and report the results monthly. The monitoring results will be available to the public.

18. **SOURCES.**

The following sources were used to draft the permit:

a. Application No. AR0000647 received 10/8/2008.
b. Arkansas Water Quality Management Plan (WQMP).
c. APCEC Regulation No. 2.
d. APCEC Regulation No. 3.
e. APCEC Regulation No. 6.
f. 40 CFR Parts 122, 125, and 419.
g. Discharge permit file AR0000647.
h. Discharge Monitoring Reports (DMRs).
i. "Arkansas Water Quality Inventory Report 2008 (305(b))", ADEQ.
j. "Identification and Classification of Perennial Streams of Arkansas", Arkansas Geological Commission.
k. Continuing Planning Process (CPP).
l. Technical Support Document For Water Quality-based Toxic Control.
m. Region 6 Implementation Guidance for Arkansas Water Quality Standards promulgated at 40 CFR Part 131.36.
n. Inspection Report dated 05/14/2009.
o. CAO LIS No. 08-104.
p. Site visit on 08/04/2009.
q. E-mail from Russell McLaren of GBMc & Associates to Loretta Reiber, P.E. dated 08/21/2009.
r. Judgment of the Court upholding the APCEC's ruling issued on 03/31/2009 issued by the Honorable David Guthrie of the 13th Judicial District.
s. State Supreme Court decision issued 10/07/2010.

t. EPA Region memo dated 8/19/1998 regarding Total Chromium versus Total Recoverable Chromium.

19. **PUBLIC NOTICE.**

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permitting decision. A request for a public hearing shall be in writing and shall state the nature of the issue(s) proposed to be raised in the hearing.

A copy of the permit and public notice will be sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Arkansas Heritage, the EPA, and the Arkansas Department of Health prior to the publication of that notice.

20. **POINT OF CONTACT.**

For additional information, contact:

Loretta Reiber, P.E.
Permits Branch, Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0612

ADEQ
ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (91 7199 9991 7030 4904 5833)

Steven M. Cousins
Lion Oil Company – El Dorado Refinery
1000 McHenry Avenue
El Dorado, AR 71730

RE: Discharge Permit Number AR0000647, AFIN 70-00016

Dear Mr. Cousins:

Enclosed are the public notice, a copy of the draft permit and Fact Sheet which the Arkansas Department of Environmental Quality (ADEQ) has prepared and mailed to you on the above date under the authority of the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the Department has made a final permitting decision.

In accordance with Reg. 8.207, the enclosed public notice will be or has been published by ADEQ in a newspaper of general circulation of your facility for one (1) day only. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and proof of payment to the address at the bottom of this letter as soon as possible but no later than 30 days from the date of publication. Until this Department receives proof of publication of the public notice and payment of all permit fees, no further action will be taken on the issuance of your discharge permit.

The following is a list of the major changes to the previously issued permit:

1. Several limits at Outfall 001 have changed. Please see Item #6.5 of the Fact Sheet for further information.
2. SMS 008 has been added to the permit and contains the minerals limits for this facility.
3. Mercury, Selenium, and Heptachlor have been added to the permit at Outfalls 006 and 007.
4. The facility is required to have an operator with an Advanced Industrial license.
5. Sub-lethal WET limits for both species have been added at Outfall 001.
6. The SWPPP language has been changed to BMP language.

For a list of changes, please see Section 6 of the enclosed Fact Sheet.

Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

Should you have any questions concerning any part of the permit, please contact Loretta Reiber, P.E. at (501) 682-0612.

Sincerely,

Steven L. Drown
Chief, Water Division

SD:lr

Enclosure

PUBLIC NOTICE OF DRAFT DISCHARGE PERMIT
AND 208 PLAN
PERMIT NUMBER AR0000647, AFIN 70-00016

This is to give notice that the Permits Branch of the Water Division of the Arkansas Department of Environmental Quality (ADEQ), 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0622, proposes a draft renewal of the permit for which an application was received on 10/6/2008 for the following applicant under the National Pollutant Discharge Elimination System (NPDES) and the Arkansas Water and Air Pollution Control Act.

Applicant: Lion Oil Company - El Dorado Refinery, 1000 McHenry, El Dorado, AR 71730. Location: between Highway 15 and Highway 82 bypass; Latitude: 33° 12' 4.12"; Longitude: 92° 40' 24.76" in Union County, Arkansas. The discharge is into Loutre Creek, thence to Bayou de Loutre, thence to the Ouachita River in Segment 2D of the Ouachita River Basin.

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The 208 Plan has been revised to change the NH3-N limits at Outfall 001 for the months of April, May, and October to 2.2 mg/l and for the months of November – March to 6.17 mg/l.

ADEQ's contact person for submitting written comments, requesting information regarding the draft permit, or obtaining a copy of the permit and the Fact Sheet is Loretta Reiber, P.E., at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. For those with Internet access, a copy of the proposed draft permit as well as the publication date may be found on the ADEQ's website at: http://www.adeq.state.ar.us/water/branch_permits/individual_permits/pn_permits/pnpermits.asp.

The last day of the comment period is 30 days after the publication date. If the last day of the comment period is a Saturday, Sunday or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Loretta Reiber, P.E. at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. Public notice, comments, and hearings will be conducted in accordance with Regulation 6.104(A)(5) [40 CFR Parts 124.10 through 124.12 by reference] and Regulation 8.209 and 8.210 (Administrative Procedures). All persons, including the permittee, who wish to comment on ADEQ's draft permitting decision must submit written comments to ADEQ, along with their name and mailing address. A Public Hearing will be held when ADEQ finds a significant degree of public interest. After the public comment period, ADEQ will issue a final permitting decision. ADEQ will notify the applicant and each person who has submitted written comments or request notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the APCEC Regulation No. 8.603.

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

RESPONSIVENESS SUMMARY

concerning

Proposed Amendments

to the

ARKANSAS WATER QUALITY STANDARDS

I. Public Participation Activities Conducted

On September 14, 1987, a public meeting was held to discuss potential changes in the Arkansas Water Quality Standards. Legal notice was published October 23, 1987, for the Public Hearing on the Standards held December 8, 1987. Copies of the proposed changes were mailed to the information depositories throughout the state on November 6, 1987.

II. Individuals Commenting at the Hearing (or during the comment period immediately following)

A list of commenters is included as "Attachment 1" to this summary.

III. Summary of Proposed Changes, Comments Received and Changes Resulting from Public Comments

General Comments

Comment: The great majority of the commenters supported the ecoregion concept of establishing water quality standards.

Arkansas Natural and Scenic Rivers Commission supports and encourages adoption of the proposed regulation.

Arkansas Chapter of Sierra Club urges adoption of the proposed water quality standards for surface waters of the state.

Arkansas Game and Fish Commission supports the expansion of the antidegradation section to include ecologically significant, extraordinary resource and natural and scenic waterways; they also support the protection of these waters through maintenance of natural flow regimes, protection of instream habitat and the pursuit of land use practices that protect the watershed. They support the proposed fisheries use designations and the

establishment of water quality standards based on the state's ecoregions.

The Arkansas Wildlife Federation supports the ecoregion concept for developing water quality standards and supports adoption of the proposed standards with some specific recommendations. They further emphasize that water quality can be substantially improved in certain areas through better land management practices.

The Arkansas Natural Heritage Commission endorses the proposed revisions to the water quality standards, supports the ecoregion concept and supports the provisions of the Antidegradation Policy which provides specific protection for high quality waters. They have strong interest in and support for the "ecologically significant waterbody" designation and emphasize strong provisions for regulation of water quality, maintenance of adequate stream flows, protection against loss of habitat and control over land use practices associated with ecologically significant waterbodies. They also support the revision of Appendix A of the regulation to include maps of the waters with designated uses and specific standards by ecoregions.

Response: None required.

Comment: The Forest Service commented that they disagreed with the boundary between the Ouachita Mountain Ecoregion and the Arkansas River Valley Ecoregion. They proposed that the Fourche la Fave River above Lake Nimrod and the South Fourche la Fave River should be included within the Arkansas River Valley Ecoregion. Justifications for this proposal were stated as geological differences and turbidity conditions within each of the noted streams.

Response: Without question, this is one of the more difficult areas of the State in which to draw the "line." In fact, we conclude this to be a transition area with the proposed line cutting the Fourche la Fave River roughly in half. Geology alone cannot be used to designate the line since three additional maps are used to formulate the ecoregion boundaries. On the basis of all existing data and extensive field knowledge, the agency feels that at this time the ecoregions are as close to correct as possible. If, in the future, new information is made available on these specific streams in question, the "line" might at that time be modified to reflect the data.

Comment: One commenter suggested changing the wording of "ecologically significant waterbody" to "ecologically sensitive waterbody" in order to be more descriptive.

Response: We agree and propose the suggested change.

Comment: One commenter suggested establishment of a methodology to address areas where waters of a lower designation (and possibly lower standards) enter waters of higher designation.

Response: As per guidance in EPA regulations (40 CFR Part 131.10(b)), all designated uses and water quality standards must be met in downstream waters notwithstanding designated uses and standards of upstream waters.

Comment: Suggestions were made to include other ecologically significant waterbodies associated with different species.

Response: The species used to designate ecologically significant waterbodies were derived from the Arkansas Natural Heritage Commission, based on their most restrictive designations of threatened, endangered or endemic species.

Comment: An additional list of waters to be classified as extraordinary resource waters was submitted by the Arkansas Game and Fish Commission.

Response: Since the additional list has not been subject to the public review and comment process of the most recent water quality standards review or the Natural and Scenic Rivers Commission review process, it would be inappropriate to accept the streams at this time. They will be considered in the next triennial review process.

Comment: The Department was encouraged to develop parallel water quality standards for nutrients.

Response: We agree that additional efforts in this area are needed. While it may require extensive time and effort to develop specific nutrient standards for ecoregions, the proposed specific use designation in the new standards will aid in controlling excessive nutrient discharges which impact the designated uses. Additionally, the current permit procedures for oxygen-demanding waste discharges indirectly address certain nutrients by limiting carbonaceous and nitrogenous concentrations. Also, a few discharges have phosphorus limits.

Comment: The Federation of Water and Air Users suggests that ecoregion standards should not be applied to streams "not typical" of the ecoregion reference streams, and that where information shows that the proposed ecoregion standards are not achieved, the proposed revisions should be held in abeyance. Over the next three years the Department should conduct field surveys to develop appropriate standards for these waters.

Response: If historical water quality data shows that the proposed ecoregion standards are exceeded, this does not confirm that these waters are "not typical" ecoregion streams nor does it confirm that these standards are not achievable or inappropriate. Causes of substantial variations in water quality may be the result of natural variation within the region, correctable conditions or irretrievable man-induced activities; therefore, investigations will be required to make such determinations. The proposed standards establish a procedure within the Antidegradation Policy which provides guidelines for developing

the appropriate data. It also provides for modification of the established water quality standards and removal of certain designated uses when necessary to accommodate important economic and social development, after appropriate public participation.

Section 3. Antidegradation Policy

Comment: One commenter questioned whether protection of water rights should be the concern of water quality regulations.

Response: The Department has no power, to regulate water rights in the state but sees it's responsibility specifically related to stream uses. Act 472 requires the Department to protect uses of all streams of the state. The Department will carry out it's responsibility to protect specific stream uses when a question of water quantity appears to threaten such a use.

Subsection 3(B)

Comment: The Ouachita National Forest Supervisor has requested that Section 3(B) be revised to include language which would declare that insignificant changes in water quality resulting from non-point sources from areas utilizing best management practices not be considered degradation, providing that the waters still support the designated use.

Response: The Antidegradation Policy (Section 3(B)) is virtually a copy of the suggested Federal wording for such state policies. It is clear, from the many national interpretations of this policy, that the intent of the policy is to tightly restrict the lowering of water quality by any man-induced activity. If the actual degradation in a specific case was truly insignificant then it would be probable that the activity in question would not be regulated under Section 3(B).

Subsection 3(C)

Comment: Several commenters objected to the Department's proposal in Section 3(C) to provide special protection for extraordinary, ecologically sensitive and scenic rivers because of possible negative economic impact to the state in the future.

Response: Act 472, as amended, empowers the Commission to protect stream uses from any pollution. Pollution is defined in the Act as "such contamination, or other alteration of the physical, chemical or biological properties of any waters of the State...fish or other aquatic life." As the aesthetic and economic value of the state's extraordinary free flowing streams has risen, it has become clear that the public desires and expects these streams to have special protection. Although economic factors were not specifically considered in selecting streams to be protected by Section 3(C), the Commission does have

the authority, as stated in Section 4(G), to remove a designated use if it can be demonstrated that a widespread social and economic impact would occur if the designated use was not modified. With this mechanism in place, a public forum would be required to evaluate economic impacts of protecting a designated extraordinary resource stream if and when the necessity arose to remove such a use.

Comment: The State Department of Health, the Soil and Water Conservation Commission and other commenters have objected to language in Section 3(C) that would protect extraordinary resource, ecologically sensitive and scenic rivers by providing for the maintenance of the natural flow regime. The commenters feel that the highest level of use for these streams is as a public water supply and that no effort should be made to prohibit their damming or diversion for such use.

Response: Act 472, as amended, requires the Commission to establish standards to protect streams for the uses to which they are or may be put. As the social and economic value of the state's free-flowing, extraordinary streams has risen, so has the public's demand for their protection. Ecologically sensitive streams have been carefully selected by the Natural Heritage Commission using an inventory system that recognizes the many years of biological research conducted throughout the state. Existing state legislation requires these streams to be identified. As for scenic rivers, a separate legislative act is specifically passed designating each stream as scenic and of special value to the state. Such legislative recognition implies, and possibly requires, that each stream so designated is given special protection. Physical alterations of a scenic river could be of such a magnitude that little of what originally caused the stream to be named as scenic would remain after the alteration. This Department sees it's responsibility under Act 472 to protect each stream for the use to which it is or may be put, i.e., it's attainable use. When streams are designated or recognized by other statutory powers in the state as having unique uses, our responsibility is to protect each for such uses. In no case is the designation of the streams as extraordinary, ecologically sensitive, or scenic considered permanent. If circumstances arise that would require the removal of such a designated use, appropriate mechanisms exist in the legislature and before the Commission to legally remove such a use.

Comment: The Soil and Water Conservation Commission has requested that language in Section 3(C) requiring the maintenance of a natural flow regime to protect specifically designated waters be deleted and in it's place insert "Water Allocation Procedures as authorized by Act 81 of 1957 and Act 1051 of 1985."

Response: The Department has no power to preempt or supersede existing state legislation specific to water allocation procedures. Instead, the Department is carrying out it's responsibility to protect those streams in the state for their attainable or designated use. Numerous legislative acts have

been passed recognizing or specifying that some streams have unique qualities and therefore should be protected for such. In our view, the regulation we propose is similar in intent to the legislation cited by the Soil and Water Conservation Commission. The Department feels it would be inappropriate to adopt water quality regulations incorporating procedures within the jurisdiction of another agency.

Section 4. Waterbody Uses

Comment: The Soil and Water Conservation Commission requested that any designation of an Extraordinary Resource Water automatically expire after six years, unless it was specifically renewed.

Response: Federal regulations (40 CFR Part 131) require the state to open the entire Water Quality Standards regulation for comment and possible revision every three years, which would include any designation of a stream as an Extraordinary Resource.

Subsection 4(C) - Designated Uses

Comment: Aeroquip Corporation suggested that an additional use category be established as "Exceptional Use" to be used for streams with a Q7-10 of less than 1 cfs and effluent-dominated streams. The determination of stream uses would be based on natural conditions and an evaluation of existing stream uses. They further suggest deletion of the statement that streams with greater than 1 cfs effluent discharge should support a perennial fishery and that specific numerical limits for minerals be deleted from the standards.

Response: The statewide stream reclassification project of the Department evaluated the attainable uses in numerous reference streams with Q7-10 flows of less than 1 cfs. A large number of these streams were found to support a perennial fishery and almost all were found to support a seasonal fishery. Federal regulation requires that all such streams be designated for the fishable/swimmable use unless a use attainability analysis shows that natural conditions or irretrievable man-induced conditions prevent such uses. Federal regulation also requires that where waste discharges create sufficient flows to support a fishery, such fishery must be protected and that no waters shall be designated for the primary purpose of waste transport.

The proposed mineral standards of the draft regulation have been changed to conform to past standards but with slight modifications to require waters to meet drinking water limitations.

Subsection 4(C)(3) - Designated Uses for Streams

Comment: One commenter suggested that the term "indicator species" would be more appropriate for the species listed as "key species" and that "indicator species" should be changed to "associated species."

Response: The definition of "indicator species" in the glossary of the Draft Regulation may be different from some scientific uses; however, the glossary definition clearly defines the intended use of the term in the regulation. Indicator species serve merely to indicate by their presence, from which ecoregion a particular fish sample may have been collected. It is not intended to be used as a definitive parameter in evaluating the desirability of a particular fish community.

Subsection 4(E) - Physical Alteration of Habitat

Comment: Both the Arkansas Department of Health and the Soil and Water Conservation Commission suggested Subsection 4(E) be amended to exclude the "development of waterbodies for public water supplies" from the physical alterations which are prohibited on extraordinary resource, ecologically significant and natural and scenic waterways.

Response: The proposed regulation does not prohibit the use of the waters designated as above from use as domestic water supplies unless some significant physical alteration of the habitat results in elimination of a designated use and the procedures in Subsection 4(G) and 4(E) have not been followed.

Subsection 4(F) - Short Term Activity Authorization

Comment: Several commenters have objected to the inclusion of the use of tracer dyes as an activity requiring a short term activity authorization. Most objected because it was felt the Department was intent on disallowing it's use in all circumstances and two objected because, in their opinion, the dyes were not a toxic substance and therefore needed no regulation.

Response: Fluorescent dyes used in hydrological studies are all toxic to mammals and other forms of life at some concentration. Fluorescein, the most commonly used dye, is toxic to mammals at approximately the same concentration as 2,4-D and malathion, more toxic than Velpar, and only slightly less toxic than DDT. It is also classified by the National Institute of Occupation Safety and Health as a tumorigen, mutagen and teratogen and is being studied for possible carcinogenicity. Clearly, it is a substance that could pose a threat to human health when injected into wells, streams, springs, sinkholes and other waterways and ultimately contaminating human water supplies. Careful use and application of these dyes will in most cases reduce the concentration to acceptable levels and, in those cases, the Department will approve their use.

Comment: One commenter has objected to the ambiguous nature of Section 4(F) and asked that the language be revised to clarify who in the Department is responsible for approving a Short Term Activity and what procedures will be followed.

Response: The Department agrees that the section needs clarification and wording specifying the Director as the approving authority will be added. The Department will require enough information in each request to describe the proposed activity. An appeal from the Director's decision would follow normal procedures described in Regulation #8.

Comment: One commenter has requested that the wording specifying "Tracer Dyes" be revised to "Tracers" used in hydrological studies because some studies use radioactive tracers or other chemicals.

Response: The Department agrees that radioactive tracers do warrant regulation and will revise the language to include all hydrological tracers.

Subsection 4(G) - Antidegradation Implementation Procedure

Comment: It was felt that the addition of Section 4(G) would result in limiting the Commission's power to establish less stringent water quality criteria resulting from sound scientific rationale.

Response: The Department's Antidegradation Policy (Section 3(B)) is taken almost verbatim from 40 CFR Part 131 which governs all state water quality standards. It clearly states that social and economic factors can be taken into account when less restrictive standards are given consideration. Section 4(G) was written to clarify when and how the Commission could utilize the Antidegradation Policy. It does not limit the Commission's power to establish less restrictive standards but rather expands and clarifies the Commission's existing power to establish standards based on social and economic factors. In some instances scientific rationale is not sufficient to explain and justify a modification of water quality. Widespread social and economic effects from maintaining an existing standard could become an overriding concern. Whatever the circumstances, Section 4(G) provides a clear-cut mechanism for the public and the Commission to make a sound judgement of all facts that could relate to a modification of water quality in a structured way.

Section 5. General Standards

Subsection 5(A) - Applicability

Comment: Several commenters suggested reinstatement of a sentence in this section which recognizes the occasional natural occurrences of water quality parameter values above the established standards.

Response: This statement was reinstated in a clarified context.

Section 6. Specific Standards

Subsection 6(A) - Stream Flows

Comment: Some confusion was expressed concerning the applicability of Q7-10 flows to the specific standards and the use of seasonal flow requirements in developing seasonal standards.

Response: The intent, as stated in Subsection 6(A), is that the specific standards listed in Section 6 do not apply when stream flows are below the Q7-10 values. In contrast, different standards (e.g., dissolved oxygen) apply at different times of the year and different historical flow values are used in establishing effluent discharge limits. These historical seasonal flow values will never be below the Q7-10 values.

Subsection 6(B) - Temperature

Comment: Several commenters requested reinstatement of a paragraph from the current standards which exempts off-stream, privately-owned reservoirs constructed primarily for industrial cooling purposes from the temperature standards.

Response: The requested wording was reinstated.

Comment: A commenter requested that a statement be added to this subsection which acknowledges that occasional excursions of temperature values higher than the standard will occur as a result of natural conditions.

Response: The applicability segment of Section 6 has been rewritten to acknowledge the existence of such natural conditions and their relationship to all of the specific standards including the temperature standard.

Comment: The Federation of Water and Air Users request that the 90°F (32°C) temperature standard for warmwater streams be retained in streams where data is available to demonstrate that the proposed ecoregion temperature standards are not achieved.

Response: This is similar to the request made by the Federation for all ecoregion specific standards and responded to under the "General Comments" section. Waters where the proposed ecoregion temperature standards are not achieved or are unachievable are limited, site-specific areas. Most of these areas are unknown and no documentation exists as to the cause for exceeding the standard. For this reason, procedures are provided in the proposed standards to allow submission of appropriate data by individuals concerned to modify the standards and/or certain uses where such actions are justified.

Comment: The Federation also requested that the current temperature standard limiting the increase from waste heat discharges to 5°F (2.8°C) over natural background levels based on a 30-day average be retained instead of the proposed standard which requires the increase be calculated from a 5-day average.

Response: The current standard (30-day average) is being retained.

Comment: One commenter suggested that water temperature values for lakes and reservoirs be determined as the average value of equal, incremental measurements from surface to bottom.

Response: The standard is established to measure the impact of waste heat discharges. Since most heated water discharges are into the surface waters and since the warmest waters will seek the surface, the area for measuring such impacts must be near the surface. The upper water levels are also the areas where the majority of the biological activity occurs and is, therefore, an area in need of maximum protection.

Subsection 6(C) - Turbidity

Comment: The Ouachita National Forest Supervisor suggests that specific turbidity limits are not applicable in determining water quality and that fish and benthic organism communities should be used as indicators of turbidity impacts on waterbodies.

Response: The turbidity standards are designed to control discharges or instream activities which cause frequent, continuous or long-term violations, and are not intended to be applicable to periodic short-term exceedance of the standard, such as that caused by storm events. It is the intent of the specific fishery designations in the proposed standards that they be used as indicators of water quality degradation.

Subsection 6(D) - pH

Comment: One commenter requested a modification of wording to clarify that the part of the standard concerning the maximum, 24-hour fluctuation of pH value allowed must be a result of waste discharges rather than natural conditions.

Response: The suggested change was adopted.

Subsection 6(E) - Dissolved Oxygen

Comment: One commenter recommended adding language for clarity. Section 6(E) was suggested to read:

(1) The primary season dissolved oxygen standard is to be met at a water temperature of 22°C (71.5°F) (or lower) and at the (appropriate) minimum stream flow for that season.

Response: It is stated for this section of the dissolved oxygen standard that "For purposes of determining effluent discharge limits, the following conditions shall apply...". The implications are that a modeling run is completed at a water temperature of 22°C (not lower) to assure that the primary season dissolved oxygen standard is met. The other suggested language, "appropriate," implies that there is an appropriate minimum stream flow for that season and an inappropriate stream flow for that season. This is not the case and could be confusing. The Agency feels that the suggested additions would not help clarify the intent of this section and, therefore, will retain the proposed language.

Comment: One commenter proposed that the second sentence in 6(E)(1) be modified so that it does not apply to the Delta ecoregion. The reason for this modification was stated that, "ADPC&E spring studies of the Delta region show that both the proposed 6.5 mg/l dissolved oxygen requirement and the percent dissolved oxygen saturation required by the proposed standard (58 percent at 10°C) were never achieved during any of the study periods at the two larger watershed streams."

Response: The Agency agrees that Section 6(E)(1) is not convincingly supported by the ecoregion study data. However, data from the ambient monitoring program has been utilized in proposing this standard. To maintain the primary standard of 5 mg/l at 22°C requires that the water maintain 57 percent D.O. saturation. Three of the four sites surveyed during the ecoregion study maintained a 57 percent saturation level or greater within the temperature range of 15°-22°C. No measurements were made at the 10°C temperature reading, but a review of ambient monitoring data from three representative Delta sites, Lower Bayou DeView, Lower Cache River and Big Creek, reveals that the majority of measurements plotted were well above the 57 percent saturation level at the 10°C temperature reading. Therefore, the same percent saturation required for the primary standard, i.e., 57 percent saturation at 22°C, would result in a dissolved oxygen value of 6.44 mg/l at 10°C. For purposes of modeling effluents, this standard has been set at 6.5 mg/l at 10°C statewide. In theory, this would not allow a discharger to take advantage of the increased assimilation capacity available due to a temperature reduction during the cool season of the year, therefore providing environmental conditions favorable for

an unimpaired fishery production level.

Comment: One commenter stated that the entire dissolved oxygen Section (6(E)) is not compatible with the findings of the ecoregion study. The example used was the 3 mg/l dissolved oxygen standard proposed for the Gulf Coastal Ecoregion.

Response: One thing the commenter failed to acknowledge is the allowance of a 1 mg/l fluctuation during the critical period. With this fact taken into account, the data points from the ecoregion study more accurately reflect the proposed standard. Five of nine stations studied within the region recorded minimum data points below the proposed standard and three of those five sites maintained averages below the standard proposed. However, these values were measured at mid-depth in non-flowing pools. Later investigations showed that D.O. varied noticably from surface to bottom of these pools, and the fish-sustaining oxygen values are found only in the uppermost strata of the pools. The Agency also found that streams within this Gulf Coastal Plains Ecoregion progress annually to an enduring pool situation, whereby the total capacity to assimilate any waste becomes non-existent. Complex and diverse fishery communities exist within these enduring pools during these critical conditions. These natural systems are extremely stressed on an annual basis and during any extended drought period may well be destroyed. Any discharge to these systems become the dominant factor during the critical period and must be controlled to support the attainable use demonstrated within these systems. It is unquestionable that these systems become severely stressed when the dissolved oxygen is lowered below 2 mg/l. The Agency does agree that the previous dissolved oxygen standard of 5 mg/l was unrealistic, but current information seems to support the decision to protect the fishery community with a 3 mg/l dissolved oxygen standard which is allowed to fluctuate 1 mg/l on a daily cycle during this critical period.

Comment: One comment suggested that additional narrative be added in Section 6(E)(3) to read: The following dissolved oxygen standards must be met except where lower values occur as a result of natural conditions.

Response: This statement is based on data which was supplied from four streams. The data supplied contains numerous data points over a lengthy period of record and demonstrates only one data point outside the currently proposed standards. The Agency feels strongly that the currently proposed dissolved oxygen standards incorporate as much of the natural conditions and variability as is possible within a regulation. Admittedly, no standard can cover 100 percent of all conditions which will occur. The comment concerning exceedance of specific criteria due to natural conditions has been made by several other commenters in reference to other specific standards. The Agency will provide narrative in Section 6(A) to address this specific concern.

Comment: The Environmental Protection Agency stated that lake and reservoirs must have dissolved oxygen standards.

Response: The proposed regulations have been changed to reflect the previously existing dissolved oxygen standard for lakes and reservoirs which was 5 mg/l.

Subsection 6(H) - Toxic Substances

Comment: One commenter questioned the Department's authority under Section 6(H) to regulate toxics in surface waters to protect forms of life whether or not they are present in a stream, and also questioned our justification for listing specific numerical criteria for seven additional materials.

Response: On the first point, the Department does believe that Act 472, as amended, clearly gives the Department the authority to regulate the quality of the states waters to protect the aquatic community, public health, livestock and other uses to which a stream may be put. It seems clear that some life forms requiring protection from toxic waters may not reside directly in a stream. On the second point, the Department has listed seven new toxic criteria in this standards package in direct response to the Water Quality Act of 1987. The Act requires states to list criteria for those §307(a) toxicants when published criteria are available. E.P.A. has recommended that the Department list several other toxic substances that also have published criteria but do not have an approved standard method outlining laboratory procedures for detection. The Department has declined to publish these additional specific numerical limits until approved laboratory methods are available.

Comment: The Arkansas Eastman Corporation has objected to the proposed numerical criteria for silver. They assert that EPA is currently working on a new, less restrictive criteria for silver and that if a silver standard is promulgated it should be for "free ionic" silver, not for "total recoverable" silver as proposed.

Response: The Water Quality Act of 1987 requires the states during their next triennial revision of their Water Quality Standards to adopt numerical criteria for those pollutants listed in §307(a)(1) of the Act that have published criteria under the requirements of §304(a). The Department has negotiated for the last several months with EPA to establish the specific list of toxics and the numerical criteria that would be required to satisfy the Act. It is well beyond the capabilities of any state to conduct the complicated research required to establish a toxic criteria limit for any substance. As a result, the states must rely on the criteria limits established by the EPA Research Laboratories that are published in the documents described as the "Gold Books" (previously the Blue, Red and White Books). Once the Department has decided to specifically list a numerical criteria, the EPA developed limit is the only choice, except for some minor adjustments that can be made according to the

indigenous species that exist in a specific state, and the end result will not substantially change the final limit. If, and when, EPA publishes a new criteria limit for silver, the Department will undoubtedly adopt the new limit in the next triennial revision.

Subsection 6(K) - Mineral Quality

Comment: One commenter suggested that imposing mineral quality standards more restrictive than necessary to protect the beneficial uses limits growth in the state without providing any meaningful protection of the environment.

Response: The Agency understands that specific standards are designed to protect the designated uses. In trying to determine protective criteria for specific uses, it is known that mineral quality can run a vast range of concentrations to protect the various specific uses. The basic philosophy of the Agency has been to establish ambient conditions as standards and allow for future modification of those standards on a site-specific basis. This site-specific modification process would require adequate documentation concerning maintenance of existing uses, technological treatability issues, social and economic impacts, etc., before the Commission could make a decision modifying mineral quality on a specific segment. Although this appears to be a slow and arduous way to proceed, the Agency feels that any broad scale approach could not adequately protect the current designated uses of all the waters of the state.

Comment: It was recommended that where existing information shows that the proposed revised standards are not currently being achieved, these proposed revisions should be held in abeyance and, over the next three years, the Department could conduct field surveys to develop appropriate standards.

Response: The philosophical question of whether to change the standard and do the survey or do the survey and change the standard is a basic one. EPA's insistence that the standard be made compatible with the use has tipped the scale toward revising the standard during this review process. Admittedly, this will require numerous dischargers within the state to work with the Department to develop documentation to modify the designated uses and/or standards in specific segments.

Comment: Several commenters suggested deleting the table at the end of the mineral quality section, which referred to all unlisted streams. The general consensus was that the numbers were too restrictive.

Response: The Agency has agreed to retract the table based on ecoregion data from reference streams. This will mean that the previous language will be reinstated which allows an increase of 1/3 over naturally-occurring levels to be the mineral standard for unlisted waters.

Comment: One comment was addressed to a specific site on the Little Missouri River below Lake Greeson. A current data retrieval from the water quality station located near Boughton (OUA 35) reveals that various sulfate and total dissolved solid concentrations exceed the current standard in a significant percentage of the samples. The commenter concludes that the standards for this segment of the Little Missouri River should be changed to align with the maximum observed concentrations for the entire period of record.

Response: The stream segment being monitored by OUA 35 contains at least one major discharger of sulfates and total dissolved solids. At the current time it would be difficult to distinguish between natural variability and discharger impact using the data being considered. The Agency acknowledges the fact that there are anomalies within each of the ecoregions and that these situations must be addressed on a site-specific basis. Gypsum deposits located within the Gulf Coastal Plains Ecoregion are a good example of this situation; however, additional documentation will be required before a standard change could be proposed.

Comment: Numerous dischargers within the State commented that the State had incorrectly designated a drinking water supply designation at numerous sites within the state resulting in unrealistic mineral standards. Specifically:

Great Lakes Chemical Corporation - Bayou De Loutre
Lion Oil Company - Hurricane and Lost Creek
Reynolds Metal Company - Hurricane and Lost Creek
Alcoa - Holly and Lost Creek

Response: With the passage of PL 92-500 in 1972 the EPA strongly encouraged each state to designate specific uses to the waters of their respective states with regard to their potential uses. With very little guidance, Arkansas was forced to utilize a blanket approach for designating waterbodies for public drinking water supply. Since no specific state water policy or state water plan exists to address this potential use, it seemed most prudent to protect all surface waters for the public drinking water supply use, in the event that it will actually be needed in the future. Throughout the 1970's the standards for Cl, SO4 and TDS in the water quality standards were adjusted to match the historical background for specific streams and stream segments. These numbers were generally developed for those areas where poor or "economical" management practices were utilized while developing another resource, i.e., oil, bauxite, barite, coal, etc. During the initial stages of the current WQS review process, EPA pointed out the discrepancy between designated uses and the protective criteria which existed within the mineral quality section of the current regulation. At EPA's insistence, the minimum criteria were aligned to protect the currently designated use. A Use Attainability Analysis will be required to

develop current information resulting in a change of the use designation and the resulting criteria protective of that use. The state will utilize available resources to assist and/or coordinate other resources in order to complete the necessary use attainability analyses. One of the major issues which this brings to the immediate forefront is the question of whether Arkansas is currently ready to address water policy decisions.

Appendix A

Comment: Commenters suggested that streams listed in Appendix A should go through a public comment period before listing as extraordinary resource, natural and scenic river or ecologically significant and require an economic and cultural assessment of impact on adjacent landowners, the region and the state. Further, it was suggested that the extraordinary resource waters designation expire after six years unless specifically reassessed.

Response: Since the proposed listings are part of the revisions of Regulation No. 2 process, they were subject to public review and comment within the current process as were all sections of the proposed regulation. The public review process does not limit the consideration of economic and cultural impacts of any assessment. Further, most of the waters designated as extraordinary resource were so listed in the current and previous water quality standards and thus were subjected to public review in past triennial revisions. Also, waters listed as natural and scenic rivers received public review as well as legislative approval through the Arkansas Natural and Scenic Rivers Commission and/or the National Park Service review process. All designations are subject to public review and reassessment every three years during the required triennial revision.

Comment: A question was raised concerning the designated uses of waters not listed in Appendix A.

Response: Contrary to Appendix A in the current water quality standards, the proposed revisions to Appendix A establish uses for all waters within the ecoregion boundaries. These uses are listed in the designated use section for each ecoregion. Tributary streams do not necessarily assume the uses of the stream to which they are tributary, but are specifically assigned uses, often based on watershed size, which may or may not be the same as the parent stream.

Comment: A suggestion was made to add the wording: "The above standards do not apply in the mixing zone" to the bottom of each page of specific standards for each ecoregion.

Response: Since the ecoregion-specific standards in Appendix A are only a summarization of the standards and are not intended to cover all situations, the applicability segment of Section 6. Specific Standards, has been expanded to clarify when the

specific standards apply. This includes the applicability of the mixing zone.

Comment: It was suggested that a more specific location be given for Mayberry Creek which is listed as an ecologically significant waterbody and shown on Plate OM-2.

Response: Listing of waterbodies as ecologically significant were developed from recent, confirmed sightings of organisms determined to be threatened, endangered or endemic to a specific area by the Arkansas Natural Heritage Commission records. Designation of the areas of concern in the water quality standards is intended to be very general and to serve only as an indicator of a sensitive area. Exact locations are available from the records of Arkansas Natural Heritage Commission.

Comment: One commenter suggested adding the Little Buffalo River to the list of ecologically significant waters.

Response: While the Little Buffalo may be a candidate for listing as ecologically significant or perhaps more appropriately as an extraordinary resource water, all such listings should go through the public review process. Such a process occurs every three years when the state's water quality standards are reviewed.

Appendix C

Comment: Two commenters suggested deletion of Appendix C, Effluent Policy - Reservoirs in favor of case-by-case determination of effluent limits for reservoirs.

Response: The effluent policy for reservoirs is a guideline for determining discharge limits of oxygen-demanding substances, such as those present in municipal sewage discharges. Because of the limited number and the small volume of such discharges into reservoirs in Arkansas and because the proposed level of treatment is technologically and economically feasible, such guidelines are easily applicable to these discharges. Modeling procedures for developing alternative effluent limits for discharges into reservoirs have questionable reliability and require extensive, lake-specific data collection due to the substantial hydrological variations among reservoirs and within reservoirs. However, such an option is available to the discharger.

LIST OF COMMENTS ON PROPOSED REVISIONS TO REGULATION NO. 2, DECEMBER, 1987

Comments at 12/8/87 public hearing

David Quisenberry
Arkansas Eastman Co.
P.O. Box 511
Kingsport, TN 37662

Thomas Aley (two submissions)
Ozark Underground Laboratory
Route 1, Box 62
Protem, MO 65733

John Powell
Powell Consultants, Inc.
307 Elmhurst
Hot Springs, AR 71913

Jeff Davis Jr.
41 Scenic Road
Little Rock, AR 72207

Alice B. Andrews (by Donna Etchieson)
Ark. Natural & Scenic Rivers Comm.
225 E. Markham, Suite 200
Little Rock, AR 72201

Sharon Tilley
Ark. Power & Light Co.
P.O. Box 551
Little Rock, AR 72203

Ada Hollingsworth
Weyerhaeuser Co.
810 Whittington Ave.
Hot Springs, AR 71902

Charles Martin (two submissions)
Ark. Federation of Water & Air Users
700 E. 9th, Suite 1-A
Little Rock, AR 72202

Johnny Carter
Georgia-Pacific Corp.
1306 Cypress
Crossett, AR 71635

Ed Hass (by Charles J. Cremeen)
Ark. Wildlife Federation
7509 Cantrell, Suite 226
Little Rock, AR 72207

Chris Ashworth (two submissions)
Star Route 27
Parthenon, AR 72666

Randy Young (by Hugh M. Jeffus)
Ark. Soil & Water Conservation Comm.
One Capitol Mall, Suite 2-D
Little Rock, AR 72201

Jarvis Harper
Aluminum Co. of America
P.O. Box 300
Bauxite, AR 72011

Barbara Vasluski (oral comment only)
Rivers Bend
Parthenon, AR 72666

Written comments received during comment period ending 12/18/87

Ken Smith
Ark. Natural Heritage Comm.
225 E. Markham, Suite 200
Little Rock, AR 72201

Scott Henderson
Ark. Game & Fish Comm.
No. 2 Natural Resources Drive
Little Rock, AR 72205

Steve Work
Citizens Against Polluting Streams
Route 1, Box 494
Green Forest, AR 72638

James C. Warnock
El Dorado Chemical Co.
P.O. Box 231
El Dorado, AR 71731

Jerry Hill
Ark. Dept. of Health
4815 W. Markham
Little Rock, AR 72205

James W. Stanley Jr. (two submissions)
Arkansas Sierra Club
600 W. 4th St.
North Little Rock, AR 72214

J.C. Edwards
Arkansas Eastman Co.
P.O. Box 511
Kingsport, TN 37662

Peter J. Foley
Great Lakes Chemical Corp.
P.O. Box 1878
El Dorado, AR 71730

Lawrence C. Tropea Jr.
Reynolds Aluminum
P.O. Box 27003
Richmond, VA 23261

Dave Harrington
Ark. Industrial Development Comm.
One Capitol Mall
Little Rock, AR 72201

John Curran
U.S. Dept of Agriculture
Ouachita National Forest
P.O. Box 1270
Hot Springs, AR 71902

Bob Lamb
Ark. State Chamber of Commerce
Associated Industries of Ark.
P.O. Box 3645
Little Rock, AR 72203-3645

John E. Alcock
U.S. Dept. of Agriculture
Forest Service Regional Office
1720 Peachtree Rd. NW
Atlanta, GA 30367

Alec Gould
U.S. Dept. of the Interior
National Park Service
Buffalo National River
P.O. Box 1173
Harrison, AR 72602-1173

Paul Holder
Pindall, AR 72669

John Zoller
Aeroquip Corp.
1715 Indian Wood Circle
Maumee, OH 43537-0631

R.W. Flint
Great Lakes Chemical Corp.
P.O. Box 1878
El Dorado, AR 71730

R.D. Jackson
Lion Oil Co.
1000 McHenry
El Dorado, AR 71730

James P. Odendahl
Weyerhaeuser Co.
P.O. Box 1060
Hot Springs, AR 71902

Kenneth F. Steele
Dept. of Geology
University of Arkansas
118 Ozark Hall
Fayetteville, AR 72701

Lynn C. Neff
U.S. Dept. of Agriculture
Ozark-St. Francis National Forests
P.O. Box 1008
Russellville, AR 72801

James F. Quinlan
U.S. Dept. of the Interior
National Park Service
Mammoth Cave National Park
P.O. Box 7
Mammoth Cave, KY 52259

Jeff Henthorne
P.O. Box 206
Pindall, AR 72669

Jerry Williams
915 Windamere
Hot Springs, AR 71913

Susan K.

NOTICE OF PUBLIC HEARING

The Arkansas Commission of Pollution Control and Ecology will hold a public hearing at Little Rock December 8, 1987, to receive comments on proposed revisions to the Arkansas Water Quality Standards (Commission Regulation No. 2, as amended). The hearing will begin at 2:00 p.m. at the Arkansas Department of Pollution Control and Ecology, 8001 National Drive.

The Commission is required to conduct a comprehensive review of the Water Quality Standards at least once every three years in order to comply with state and federal regulations. The last such review took place during 1984.

Proposed major revisions to the Water Quality Standards include:

-The Antidegradation Policy has been expanded to include the specific uses of extraordinary resource waters, ecologically significant waterbodies and natural and scenic waterways as an outstanding state or national resource.

-The designated uses for waters of the state have been expanded to include extraordinary resource waters, ecologically significant waterbodies and natural and scenic waterways; the fishery uses have been substantially revised to eliminate the warmwater and coolwater subcategories and establish subcategories for lakes/reservoirs and streams; the stream fisheries are further subdivided by ecoregions; primary contact recreation uses are generally designated for all waters except streams with watersheds of less than 10 square miles.

-Procedures addressing changes in designated uses as a result of physical alterations of habitat are added.

-The use of tracer dyes in hydrologic studies has been added to the list of activities eligible for short term activity authorization.

-Antidegradation Policy implementation procedures are added.

-Specific standards for temperature, turbidity and dissolved oxygen are substantially modified and established for each fishery use category by ecoregion.

-The toxics section is modified to be consistent with general permitting procedures for toxics discharges and seven additional compounds are listed with specific numerical standards.

-Mineral standards in specifically listed waters are modified where necessary, so that those values do not exceed the domestic water supply requirements of 250/250/500 mg/l of

chlorides, sulfates and total dissolved solids, respectively. Additionally, standards for waters which are not listed are established by ecoregion.

-Appendix A is substantially revised into ecoregions, including maps, designated uses and specific standards for waters of the state within each ecoregion.

-Appendix B sets forth procedures for the modification of designated uses to accommodate physical alterations of habitat.

-Appendix C is added to describe the effluent policy for discharges into lakes and reservoirs.

-Other less significant changes are proposed, such as additions and deletions in the glossary, language clarifications and organization of the document.

-In addition, documentation is submitted by use attainability analyses to provide for removal of the fishable/swimmable uses from Coffee Creek in Ashley County and to allow water temperatures up to 102°F in Swepco Lake, Benton County.

Copies of the proposed new Water Quality Standards will be available for public inspection after November 6, 1987, at the Department of Pollution Control and Ecology, 8001 National Drive, Little Rock, or at Department information depositories located in public libraries at Arkadelphia, Batesville, Blytheville, Camden, Clinton, Crossett, El Dorado, Fayetteville, Forrest City, Fort Smith, Harrison, Helena, Hope, Hot Springs, Jonesboro, Little Rock, Magnolia, Mena, Monticello, Mountain Home, Pocahontas, Russellville, Searcy, Stuttgart, Texarkana and West Memphis; in campus libraries at the University of Central Arkansas at Conway and the University of Arkansas at Pine Bluff; and in the Arkansas State Library on the State Capitol grounds.

Oral and written comments will be accepted at the hearing, but in the interests of accuracy, written statements are preferred. In addition, written statements will be considered if received no later than 5:00 p.m. December 18, 1987. Written comments should be addressed to Doug Szenher, Communications Coordinator, Arkansas Department of Pollution Control and Ecology. P.O. Box 9583, 8001 National Drive, Little Rock, AR 72219.

Dated this 23rd day of October, 1987,

Paul Means, Director

Department of Pollution Control and Ecology