



Office of Inspector General

Audit Report

WATER

MISSISSIPPI-S WATER QUALITY STANDARDS, MONITORING AND REPORTING

Report No. 1999-P00219

September 29, 1999

**Inspector General Division
Conducting the Audit:**

Southern Audit Division

Region Covered:

Region 4

Program Office Involved:

Water Management Division



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September 29, 1999

MEMORANDUM

SUBJECT: Mississippi's Water Quality Standards, Monitoring, and Reporting
Final Audit Report 1999-P00219

FROM: Mary M. Boyer /s/
Divisional Inspector General

TO: John H. Hankinson, Jr.
Regional Administrator
Region 4

Attached is a final audit report prepared by the Environmental Protection Agency's (EPA) Office of Inspector General (OIG). This report contains the results of our review of Mississippi's water quality program and Region 4's oversight of the State's water quality standards, monitoring, and reporting.

Generally, Mississippi's current water quality standards and monitoring provide basic protection for most of the State's waters. We further concluded that Mississippi had established an adequate process for developing and adopting water quality standards. However, standards and related procedures adopted by the State did not always provide protection of the State's waters as stipulated in EPA guidance. The State's water quality monitoring was very limited prior to 1997. Since 1997, the monitoring program has seen dramatic improvements due to increased resources. However, at the time of our review, a few additional improvements would have made the State's water quality monitoring more effective. Improvement were also needed in the State's timely completion and submission of water quality reports. Late reports do not serve as an effective tool for managing the State's water quality program. Finally, Region 4 needs to provide more aggressive oversight and technical assistance to resolve problems with the State's standards and water quality reporting. Some of these problems have existed for 10 years or more.

This report contains findings that describe problems the OIG has identified and corrective actions the OIG recommends. Final determinations on matters in this report will be made by EPA managers in accordance with established EPA audit resolution procedures. Accordingly, the findings described in this audit report do not necessarily represent the final EPA position.

ACTION REQUIRED

We issued a draft report to you and the State of Mississippi on August 4, 1999, and received your response on September 8, 1999. Mississippi did not provide a written response but did provide editorial comments on September 7, 1999. Your response indicated general agreement with the findings and recommendations presented in the draft report. Your response also included actions completed on the recommendations, as well as milestone dates for completion of planned actions. Therefore, the response is considered adequate to resolve all of the final report's recommendations in accordance with EPA Order 2750. No further response is required from your office. The audit will be closed in the OIG's audit tracking system upon issuance of the final report.

Your response also provided concerns related to specific statements in the draft report. Changes were made in the final report, as deemed appropriate, to address any concerns or disagreements expressed in your response and the State's comments on the draft report. Certain responses and comments by Region 4 and the State were incorporated into applicable sections of the report. Your response has been included in its entirety as Appendix I.

We have no objections to the further release of this report to the public. Should you or your staff have any questions, please contact me or John Price at (404) 562-9830.

Attachment

EXECUTIVE SUMMARY

INTRODUCTION

Clean and safe water, capable of sustaining human health and aquatic life, is one of EPA's ten strategic goals. Under requirements of the Clean Water Act, EPA and states have developed water quality programs. The principal goals of the Act and State water quality programs are to: (i) restore and maintain the chemical, physical, and biological integrity of State waters; (ii) achieve water quality that promotes the protection of fish, shellfish, wildlife, and recreation; and (iii) consider the use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial/navigational purposes. State programs include the establishment of water quality standards, identifying the current planned uses of surface waters, and monitoring the quality of state waters in relation to their intended uses. EPA and states use information from these water quality programs to measure the effectiveness of other water programs in controlling and reducing water pollution.

This audit is one in a series of state water quality audits conducted by the OIG to develop a national assessment of state water quality programs.

OBJECTIVES

The overall objective of the audit was to determine whether Mississippi's water quality program met the principal goals of the Clean Water Act. Specific objectives were to determine if:

- P The state had adequate procedures to establish water quality standards that will protect the state's water quality;
- P The state had an adequate process to test and assess the quality of all appropriate waters in the state;
- P State reports on water quality were complete, accurate and useful to program management; and
- P Region 4 had implemented effective procedures to

approve state water quality standards and evaluate the state's water quality standards setting, testing, assessing and reporting.

RESULTS IN BRIEF

Mississippi's current water quality standards and monitoring processes provide basic protection of the State's waters. Establishing protective standards and providing a fundamental monitoring program has taken many years for the State and EPA to complete. Even so, some standards and related procedures adopted by the State still do not provide protection of the State's waters as stipulated in EPA guidance. The State's water quality monitoring program was very limited prior to 1997. Increased State funding has resulted in dramatic improvements in the State's water quality monitoring. However, at the time of our review, a few additional improvements would have made the State's monitoring program more effective. Completion and submission of water quality reports also needs improvement. While Mississippi's water quality reports are generally accurate, Mississippi has been consistently late, up to two years in some cases, in completing water quality reports as required by the Clean Water Act and EPA regulations. These reports serve as a guide for planning and managing the State's water quality program. Late reports reduce the effectiveness of these reports as a management tool. Finally, Region 4 took almost five years to review and approve water quality standards initially adopted by the State in February 1994. Region 4 has not provided the oversight and technical assistance needed to timely resolve problems with the State's standards that have existed for 10 years or more.

RECOMMENDATIONS

We recommend the Regional Administrator:

- P Assist Mississippi in completing the use attainability analysis¹ (UAA) for the Escatawpa River as currently scheduled. Request that Mississippi update its water and

¹ Use attainability analysis is a structured scientific assessment of the factors affecting the attainment of the designated use for a waterbody which may include physical, chemical, biological, and economic factors.

quality standard for pentachlorophenol and adopt adequate antidegradation implementation procedures that fully support the intent of the Clean Water Act.

- P Assist Mississippi in developing a long-term monitoring strategy and management plan to incorporate more advance monitoring techniques and ensure that the State comprehensively monitors the quality of its waters.

- P Request that Mississippi place more priority on timely completion of required water quality reports. Assist State in establishing a process for properly scheduling and preparing water quality reports so that future reports are submitted to EPA on the required dates.

- P Develop procedures that ensure a timely review and approval/disapproval of Mississippi's water quality standards and related policies. Provide more aggressive oversight and technical assistance to ensure that problems with water quality standards and policies are timely resolved.

**AGENCY AND STATE
COMMENTS AND
OIG EVALUATION**

Region 4 generally agreed with the findings and recommendations in the draft report and provided completed and planned actions in response to the recommendations. However, the Region did request changes to certain statements in the report. The State of Mississippi did not provide a formal response but did provide editorial comments related to the draft report findings and recommendations. Changes were made in the final report as deemed appropriate.

Portions of the Region's response were incorporated into appropriate chapters of the report. Region 4's

response is included in its
entirety in Appendix I.

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TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
ABBREVIATIONS	vii
CHAPTERS	
1 INTRODUCTION.....	1
Purpose.....	1
Background	2
Scope and Methodology.....	4
Prior Audit Experience.....	5
2 MISSISSIPPI'S STANDARDS WERE NOT ALWAYS AS PROTECTIVE OF ITS WATERS AS SHOULD BE.....	7
Extended Regional Review Allowed Inadequate Standards to Remain Uncorrected.....	7
Certain Water Quality Criteria Remain Less Stringent Than EPA Requirements ...	8
Mississippi Did Not Perform Triennial Review to Update Standards	10
Mississippi Has Not Developed Acceptable Implementation Procedures for the State's Antidegradation Policy	10
Recommendations	12
Agency and State Comments and OIG Evaluation	12
3 MISSISSIPPI'S MONITORING PROGRAM HAS PROGRESSED SIGNIFICANTLY BUT IMPROVEMENTS ARE STILL POSSIBLE.....	15
Mississippi's Monitoring Program Is Evolving	15
Analysis of the State's Data on Lake Waters Could Be Useful	16
Mississippi Could Utilize More Advanced Monitoring Techniques.....	17
Recommendations	17
Agency and State Comments and OIG Evaluation	18
4 MISSISSIPPI NEEDS TO ADHERE TO REQUIRED TIME FRAMES FOR WATER QUALITY REPORTS	21
Background	21
Mississippi Consistently Late In Completing Water Quality Reports	22
Recommendations	23
Agency and State Comments and OIG Evaluation	24

5	REGION 4 NEEDS TO STRENGTHEN OVERSIGHT AND TECHNICAL ASSISTANCE FOR MISSISSIPPI-S WATER QUALITY STANDARDS	25
	Certain Water Quality Criteria/Policies Have Remained Unapproved by EPA for 10 Years or More.....	25
	Region 4 Did Not Timely Review and Approve/Disapprove Standards	27
	Resolution of Concerns With Water Quality Standards Has Not Been a Regional Priority.....	28
	Recommendations	29
	Agency and State Comments and OIG Evaluation	29

APPENDICES

I	AGENCY RESPONSE AND OIG EVALUATION.....	31
II	DISTRIBUTION.....	47

ABBREVIATIONS

CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
MDEQ	Mississippi Department of Environmental Quality
mg/l	Milligrams per Liter
OIG	Office of Inspector General
TMDL	Total Maximum Daily Load
UAA	Use Attainability Analysis
303(d) List	Impaired Waterbody List
305(b) Report	Water Quality Assessment Report

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CHAPTER 1

INTRODUCTION

PURPOSE

Clean and safe water, capable of sustaining human health and aquatic life, is one of EPA's ten strategic goals. Under requirements of the Clean Water Act, EPA and states have developed water quality programs. The principal goals of the Act and State water quality programs are to: (i) restore and maintain the chemical, physical, and biological integrity of State waters; (ii) achieve water quality that promotes the protection of fish, shellfish, wildlife, and for recreation; and (iii) consider the use and value of State waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial/navigational purposes. State programs include establishing water quality standards, identifying the current planned uses of surface waters, and monitoring the quality of state waters in relation to their intended uses. EPA and states use information from these water quality programs to measure the effectiveness of other water programs in controlling and reducing water pollution.

Our overall objective was to determine if Mississippi's water quality program effectively protected the State's surface waters and met the principal goals of the Clean Water Act. More specifically, the audit objectives were to identify whether:

- P Mississippi implemented procedures to develop water quality standards that will protect its water quality;
- P Mississippi implemented procedures to test and assess the quality of all appropriate waters in the State;
- P State reports on water quality were complete, accurate, and useful for program management; and

Region 4 implemented

The Clean Water Act is the primary legislation addressing

effective procedures to evaluate Mississippi's water quality standards, monitoring and reporting.**BACKGROUND**

water quality programs. The Act's goal is to restore and maintain the Nation's surface waters². The Clean Water Act requires states to adopt water quality standards for all surface waters within their boundaries. These standards are an important basis for state actions to control and remedy water pollution. The standards include a use designation for each water body, criteria necessary to protect the use, and an anti-degradation policy.

States classify their water bodies according to how the water can be used. These designated uses³ include drinking water, protection and propagation of aquatic life, and recreation, i.e., swimming, boating. Once the designated use of a water body is determined, the Act requires the State to develop water quality criteria for that use. Water quality criteria identify the amount of contamination that may be present in the water without impacting the designated use.

EPA published Federal guidance that set numerical criteria for 104 toxic pollutants and 30 other pollutants. These limits are based on the effect the pollutants have on the water's use. States must either adopt this Federal criteria or develop their own scientifically defensible criteria that is at least as stringent.

The Clean Water Act also requires State water quality standards to include an anti-degradation policy. Title 40, Code of Federal Regulations (CFR) Part 131.12, requires States to identify the implementation methods for this policy. The purpose of an antidegradation policy is to conserve, maintain, and protect existing water quality, including water bodies of exceptionally high quality such as those found in National and State Parks.

The Clean Water Act requires states to review their water quality standards at least once every three years and (1) address emerging issues, (2) ensure that water body uses are consistent with the Clean Water Act, and (3) develop criteria based on best available science. EPA is required to

² Surface waters include rivers, streams, lakes, oceans, estuaries, and wetlands. Groundwater is not included in the definition of surface waters.

review and approve/disapprove all standards. If EPA

disapproves a state's water quality standards, it is required to promulgate new standards. This includes promulgation of an antidegradation policy if the policy proposed by the state is not acceptable.

40 CFR 130 requires states to develop a monitoring program to assess whether their waters meet water quality standards. State water quality monitoring programs track environmental progress and generate important information for managing the state's water quality activities.

Under the Clean Water Act, each state must prepare and submit to EPA biennially, a water quality assessment report referred to as the 305(b) report and a list of impaired waters referred to as the 303(d) list. EPA uses the state water quality assessments to measure achievement of its goal of clean and safe water.

If a water body does not meet its water quality standards, the state classifies the water body as impaired. The Clean Water Act requires states to develop total maximum daily loads (TMDLs) for impaired waters that can not meet standards through traditional pollution controls and enforcement. The TMDL identifies the sources of pollutants and the maximum amount of pollutants that may be in a water body without exceeding the water quality standards.

The pollution may come from point³, non-point, or natural sources. If the pollution comes from permitted sources, the state determines whether the appropriate permittees are in compliance with their permit discharge requirements. If so, the state develops a TMDL for the water body. EPA reviews and approves all state-developed TMDLs. EPA must develop TMDLs for impaired waters if a state fails to do so. Since 1986, EPA has been sued by various environmental interest groups or

³ Point source represents a pollutant discharge into U.S. waters from a specific source such as a municipal wastewater treatment plant or an industry of some type. Non-point sources represent pollutants that are discharged into waters from various, unidentifiable sources. Chemical run-off from agricultural activities surrounding a waterbody is an example of a non-point source discharge.

organizations to develop TMDLs for impaired waters in 25 states. Mississippi is one of these states.

For each fiscal year (FY), EPA and the State negotiate commitments and priorities for the State's water programs that will be funded, in part, by EPA grants authorized under section 106 of the Clean Water Act. These commitments and priorities are incorporated into the Section 106 Work Plan.⁶ A portion of this work plan relates to the State's work products and commitments for its water quality program during the coming fiscal year.

Mississippi's Commission on Environmental Quality and the Mississippi Department of Environmental Quality (MDEQ) are responsible for protecting and maintaining Mississippi's water quality. The Commission is the governing authority for MDEQ.

**SCOPE AND
METHODOLOGY**

We performed our audit in accordance with the *Government Auditing Standards* (1994 revision) issued by the Comptroller General of the United States as they apply to program audits. Our review included tests of the program records and other auditing procedures we considered necessary. We primarily conducted our fieldwork from July 1998 through July 1999. This includes both audit fieldwork and engineering assistance. We performed our fieldwork at Region 4, Atlanta, Georgia, and the MDEQ in Jackson, Mississippi.

To accomplish our objectives, we reviewed documents and interviewed Regional and Mississippi officials. We also reviewed correspondence, work plans, and agreements between Region 4 and Mississippi applicable to water quality standards and reports. We limited reviews of internal controls to those controls specifically related to the scope and objectives of this audit. Our review was generally limited to water quality activities for FYs 1996 through 1998; however, older transactions were reviewed as considered necessary to meet the audit objectives.

Due to the technical nature of some water quality issues, we obtained assistance from the OIG Engineering and Science

Branch. This assistance primarily included: (1) a comparison of Mississippi's water quality criteria to EPA's criteria; (2) analysis of monitoring data, and (3) comparison of water quality criteria to discharge permit pollutants and effluent limits.

**PRIOR AUDIT
COVERAGE**

Neither the OIG nor the U. S. General Accounting Office has issued any recent reports directly related to Mississippi's water quality standards, monitoring, and reporting. Since March 1998, the OIG has completed similar audits of water quality programs for the states of Colorado, Maryland, Missouri, New Jersey, Ohio, and Oregon.

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CHAPTER 2

MISSISSIPPI'S STANDARDS WERE NOT ALWAYS AS PROTECTIVE OF ITS WATERS AS SHOULD BE

In February 1994, Mississippi adopted water quality standards that were less protective of State waters than EPA requirements. Regional concerns with the standards were not corrected for almost two years due to extended delays in Region 4's process for reviewing and approving such standards. Some water quality criteria still remain inconsistent with EPA guidance. Water quality criteria for one major river remains less protective of the designated surface water than that required by EPA criteria. This criteria was initially disapproved by EPA in 1990. However, the State maintained this less protective criteria in the new standards adopted in February 1994. Also, the human health criteria for pentachlorophenol (PCP) was not changed in the 1994 standards to the more stringent parameters for this toxin included in EPA's 1992 National Toxics Rule (NTR). In addition, the State has been unable to fully develop implementation procedures for the State antidegradation policy that would ensure that the quality of the State's surface waters is maintained. Finally, the State did not perform the required triennial review in 1998 to update the State's water quality standards. The State indicated that resource constraints and other priorities have hampered their ability to develop and properly support the State's standards and policies.

**EXTENDED REGIONAL
REVIEW ALLOWED
INADEQUATE
STANDARDS TO
REMAIN
UNCORRECTED**

Region 4 took almost five years to review and approve the State's water quality standards. State standards, initially adopted by the State on February 24, 1994, were not approved by Region 4 until December 28, 1998. Inconsistencies between the standards and EPA guidance remained unresolved for almost two years during this extended review process. According to EPA correspondence with the State, dated December 22, 1994, the Region's primary concerns related to toxic criteria, biocriteria, designation of ephemeral streams, and dissolved

oxygen criteria for the Escatawpa River. Most of these problems were resolved when Mississippi adopted revised standards in November 1995.

Region 4 indicated that the review process was delayed due to a requirement under the Endangered Species Act for EPA consultation with the Fish and Wildlife Service (FWS) on proposed state water quality standards. A lawsuit had been filed regarding FWS consultation on standards submitted by Alabama and problems had been encountered in the Region's subsequent FWS consultation on these standards. During the Alabama consultation, Region 4 received Mississippi's February 1994 standards and encountered similar problems when they initiated informal consultations with FWS. The Region decided not to formally submit Mississippi's standards to FWS until the Alabama consultation was resolved. However, Regional records indicated that the lawsuit and related Alabama consultation only delayed Region 4's formal submission of Mississippi's standards to FWS by about 10 months. After submission, the Region did not expeditiously respond to FWS concerns and this delayed standards approval another four years.

**CERTAIN WATER
QUALITY CRITERIA
REMAIN LESS
STRINGENT THAN EPA
REQUIREMENTS**

Mississippi's dissolved oxygen criteria for the Escatawpa River and human health criteria for PCP are inconsistent with EPA criteria. The State claimed that the EPA dissolved oxygen criteria for certain segments of the Escatawpa River was unattainable and, therefore, established a less stringent standard. The State's dissolved oxygen criteria of 3.0 milligrams per liter (mg/l) for the Escatawpa River has been less stringent than EPA requirements of 5.0 mg/l for over 20 years. Mississippi initially adopted a site-specific criteria of 3.0 mg/l for the Escatawpa in 1977. EPA approved this criteria based on an analysis provided by the State which Region 4 believed met the regulatory requirements in effect at that time. However, in 1990 Region 4 disapproved the State's site specific criteria based on a 1983 regulation change that required that UAAs be updated. Region 4 did not believe that the State had properly justified the lower dissolved oxygen criteria. As a result, Region 4 disapproved the less stringent criteria

citing the need for the State to elevate the criteria to 5.0 mg/l or perform an appropriate UAA to justify the lower criteria as required in 40 CFR 131.10(j). The State has not performed this UAA. The State has agreed to complete a UAA in numerous prior years= Section 106 Work Plans, but the UAA has not been achieved. The FY 1999 work plan targets completion of the UAA by September 1999.

State officials indicated that they did not have the resources or the expertise to perform the required UAA. State personnel stated that they had requested assistance from the Region in performing the required UAA and had received some assistance over time. In contrast, Region 4 indicated that it had provided support to the State in obtaining additional water quality monitoring staff, monitoring data, and modeling development. The assistance provided by Region 4 enabled the State to obtain the basic resources or information needed to initiate a UAA. However, the State was referring to assistance requested from the Region in actually performing the UAA. Region 4 subsequently informed us in July 1999 that Regional personnel had initiated field studies necessary for completing a UAA in the Summer of 1998 and expected the studies to be completed before the end of the Summer of 1999. The Region also sent a letter to the State indicating that the dissolved oxygen criteria had to be resolved by April 1, 2000, or EPA would promulgate criteria that met EPA requirements.

Mississippi did not update its 1994 water quality standards to reflect more stringent human health criteria for PCP included in EPA's 1992 National Toxic's Rule. The State has adopted the federal criteria guidance for aquatic life. In discussions with the State and Region 4, it was determined that, in almost all cases, aquatic life criteria requires more stringent permit limitations than the federal human health criteria. Therefore, the adopted aquatic life criteria are generally more protective of both aquatic life and drinking water uses. Because of the low probability of environmental impact, the Region decided to wait until the next triennial standards update to request that Mississippi change the human health criteria for PCP, rather than seek promulgation of acceptable criteria by the EPA Administrator. However, the State did not conduct the required triennial review of its standards and related criteria

during 1998.

**MISSISSIPPI DID NOT
PERFORM TRIENNIAL
REVIEW TO UPDATE
STANDARDS**

The Clean Water Act requires states to review their water quality standards at least once every three years and (1) address emerging issues, (2) ensure that water body uses are consistent with the Clean Water Act, and (3) develop criteria based on best available science. Mississippi's last triennial review and adoption of water quality standards occurred in 1995. Therefore, the next review was due in 1998. The State did not perform this review. State officials indicated that a triennial review of State standards was not conducted because most of its resources were dedicated to completing the 1998 305(b) and 303(d) reports and resolving the TMDL lawsuit. However, Region 4 disagreed that this was the primary reason that a triennial review was not performed in 1998. Region 4 indicated that the State was confused as to when the review was required. According to Region 4, the State thought the review was due three years after standards were approved rather than three years after State adoption of standards. Region 4 indicated that it had recently informed the State that the triennial review due in 1998 should be conducted by the end of 1999. In response to the draft report, Region 4 stated that the State had subsequently committed to performing a triennial review in FY 2000.

**MISSISSIPPI HAS NOT
DEVELOPED
ACCEPTABLE
IMPLEMENTATION
PROCEDURES FOR THE
STATE'S
ANTIDEGRADATION
POLICY**

Since at least November 1983, EPA regulations have required that states develop and adopt an antidegradation policy and identify methods for implementing such policy. As of April 1999, Mississippi had still not developed and submitted to Region 4 acceptable procedures for implementing their antidegradation policy as required by the Clean Water Act. These procedures are required to be a part of the State's water quality standards. However, Mississippi did not submit its first draft antidegradation implementation procedures to Region 4 until November 1997. The State indicated that they did not know how to develop implementation procedures and had been waiting on guidance from Region 4. Without adequate implementation procedures, the effectiveness of a state's antidegradation policy in protecting high quality waters is questionable.

Region 4 did not approve the November 1997 draft procedures. In January 1998, the Region informed the State that it did not consider the procedures to be adequate to ensure protection of all of the State's high quality waters.

Requirements in 40 CFR 131.12(a) state that "Each State must develop, adopt, and retain a state wide antidegradation policy and develop a method for implementing such policy."

These requirements further specify five components to be included in the policy's implementation procedures. Region 4 expressed concern with 4 of the 5 components in Mississippi's draft antidegradation implementation procedures as follows:

- \$ Applicability of Antidegradation Policy Review Procedure;
- \$ Alternatives Analysis;
- \$ Socio-Economics versus Water Quality Issues; and
- \$ Final Action

In the applicability section, Region 4 was concerned that Tier I streams were not identified and protected. Tier I streams are highest quality waters that substantially exceed minimum required standards. Even where greater pollutant discharges occur, these waters would still meet minimum standards. According to 40 CFR 131.12, State antidegradation policies must maintain the quality of those waters that exceed the standards except under special circumstances. Region 4, under the alternative analysis section, questioned the final decision policy for discharges where no feasible alternatives exist. EPA also questioned, under the socio-economic section, how the final determination to allow a discharge would be made. And finally, under the final action section, the policy is not clear on who specifically will have the authority to make decisions based on the proposed policy.

No further action has been taken nor have revisions been made by the State because the State has devoted most of its resources to preparing the 1998 303(d) list. In addition, Region 4 has chosen not to initiate any action to promulgate an antidegradation policy that includes appropriate

implementation procedures for the State. As a result, the existing uses for the State's Tier I waters and the level of water quality necessary to protect those uses may not be maintained and protected.

RECOMMENDATIONS

We recommend the Regional Administrator:

- 2-1 Assist the State, where possible, in completing the UAA for the Escatawpa River. Require the State to submit a list of all activities that need to be conducted to complete a UAA for this stream segment. Provide close oversight to ensure that the State properly addresses the disapproved dissolved oxygen criteria by the current September 1999 deadline.
- 2-2 Request the State to perform the required triennial review of its standards and update human health criteria for PCP to reflect current requirements in EPA guidance.
- 2-3 Assist Mississippi in adopting appropriate implementation procedures for the State's antidegradation policy that supports the intent of the Clean Water Act.
- 2-4 Request that Mississippi identify and protect their Tier I high quality waters in any revised antidegradation implementation procedures.

AGENCY AND STATE COMMENTS AND OIG EVALUATION

Region 4 generally concurred with the findings and recommendations presented in Chapter 2. Mississippi provided no formal response but the State did provide editorial comments. The Region also provided comments related to certain statements in Chapter 2. Changes were made to the final report as deemed appropriate. Our evaluation of these comments have been incorporated into the Region's response in Appendix I.

Region 4 included completed and planned actions with completion milestones for each recommendation. The

Region indicated that the current Section 106 Work Plan milestone (September 1999) for completion of the Escatawpa UAA was not going to be met. They included a revised milestone of April 1, 2000. The Region also received a commitment from the State to complete a triennial review in FY 2000. The triennial review will include a revised PCP criterion. The Region further stated that Mississippi is actively reviewing its antidegradation implementation procedures and the Region expects the procedures to be finalized by December 1999. Finally, Region 4 indicated that Mississippi had completed a long range monitoring strategy which was documented in the 1998 final 305(b) report submitted in August 1999.

We concluded that the Region's response to the recommendations was adequate for resolution of all recommendations presented in Chapter 2 in accordance with EPA Order 2750.

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CHAPTER 3

MISSISSIPPI'S MONITORING PROGRAM HAS PROGRESSED SIGNIFICANTLY BUT IMPROVEMENTS WERE STILL POSSIBLE

Mississippi's water quality monitoring program has made tremendous progress in the last two years. Prior to 1997, Mississippi's monitoring program was very limited despite the fact that a 1997 State study⁴ showed only about 15 percent of the State's river miles fully supported the fishable/swimmable goals of the Clean Water Act. In 1997, MDEQ obtained additional resources from the State legislature which it used to improve water monitoring activities. However, as of August 1998, the State's monitoring could still benefit from increased monitoring, trend analysis on lake waters, and the use of more advanced monitoring techniques that would provide a better basis for determining the quality of the State's waters and the effectiveness of its water management programs.

MISSISSIPPI'S MONITORING PROGRAM IS EVOLVING

MDEQ's February 1997 *Comparative Environmental Risks In Mississippi* concluded that Mississippi's water quality had greatly improved but it must be improved even more. According to the State's 1996 305(b) report, MDEQ had only assessed 47 percent of the State's rivers and streams. Of the 47 percent of rivers and streams assessed, 93 percent were shown in the 1996 305(b) report as evaluated based on presumed site conditions or old test data and only seven percent had been monitored. Overall, the State had accumulated monitoring data on only three percent of all waters within the State and a significant portion of this data had been obtained from sources external to MDEQ, such as the Corps of Engineers. This low level of monitoring existed despite the fact that MDEQ's 1997 risk analysis indicated that fewer than 10 percent of the State's river miles met the fishable goal of the Clean Water Act and fewer than 65 percent met the swimmable goal.

⁴ *Comparative Environmental Risks In Mississippi*, published by MDEQ in February 1997.

MDEQ officials stated that prior to 1997, the State's water quality monitoring program needed significant improvement. The program had only three to five full-time employees to monitor all of the State's waters. In 1996, the MDEQ, with EPA assistance, was able to convince the State legislature to appropriate additional funding for water quality monitoring. In 1997, MDEQ hired a monitoring coordinator and increased monitoring staff from a maximum of five to a maximum of nine employees. Overall, MDEQ received funds for 29 new positions to address both permitting and monitoring requirements. According to State comments, MDEQ received additional funds in 1998 to further expand its monitoring, TMDL, and basin management staff by an additional 14 full-time positions. As a result, the State greatly expanded its ambient monitoring program and restructured its monitoring program using a rotating basin/watershed approach that will provide monitoring coverage of all watersheds over a five-year cycle. The State also planned to increase its monitoring stations from 25 bimonthly chemical sampling sites to 100 monthly chemical sampling locations within the State's ten river basins. As of September 1998, the State reported it had established 143 monitoring sites including chemical, biological, and fish tissue sites. The State had further plans to include from 80 to 100 monitoring stations in each river basin group on an annual rotating basis.

ANALYSIS OF THE STATE'S DATA ON LAKE WATERS COULD BE USEFUL

The State has obtained significant monitoring data on its lakes from external sources such as the Corps of Engineers, the U.S. Geological Survey, and the Tennessee Valley Authority. These sources periodically provide the State with data

Prior to 1998, Mississippi's monitoring program included advanced monitoring techniques, such as biological assessments, on a very limited basis. However, most of the State's monitoring had involved physical data and chemical-specific water quality testing. Assessments of biological indicators for the State's waters had been limited although such data is needed to fully determine the ecological health of the water. Skewed emphasis on chemical testing could result in the State not identifying all impaired waters.

from fish tissue analysis which is a primary indicator of lake water quality. These agencies also provide the State with nutrient, as well as physical and chemical analyses of lake waters. The State indicated that lakes had also been added to its ambient monitoring program.

However, the State did not have a process for analyzing this data to develop trends about the condition of lake waters. The State indicated that such trend analyses were optional in EPA guidance and, in the past the, available State resources were devoted to performing the basic monitoring requirements.

Without this type of analysis, the State may not be able to determine if lake water quality is improving or degrading.

**MISSISSIPPI
COULD UTILIZE MORE
ADVANCED
MONITORING
TECHNIQUES**

The effectiveness of the State's water quality monitoring would improve with a more well rounded monitoring design to include increased biological monitoring, habitat studies, and macro invertebrate bioassessments. According to the State's 1996 305(b) report, such monitoring techniques are primary indicators of the ecological condition of a watershed. The report further states that robust aquatic communities are a sign that the water body and related watershed are healthy and can support a wide variety of aquatic life. The State's limited resources and the cost of these monitoring techniques require that advanced monitoring be phased in as resources become available. A comprehensive monitoring plan will be needed to ensure that such monitoring is used for maximum effectiveness in assessing the quality of the State's waters.

Although Mississippi's water quality monitoring program has seen tremendous improvement since 1997 and generally met most statutory requirements, the effectiveness of the program could be improved by increased monitoring, trend analysis on monitoring data obtained, and use of advance monitoring techniques. Such improvements would provide a more meaningful assessment of the State's water quality. Mississippi officials indicated that funding constraints limited their ability to expand their monitoring program, but that Mississippi had implemented significant improvements in the program since 1997.

RECOMMENDATIONS

We recommend the Regional Administrator:

- 3-1. Provide technical assistance to help Mississippi formulate a long range plan to expand its monitoring program to include advanced testing techniques.
- 3-2. Encourage the State to establish a process for developing trends about the condition of its lakes.

**AGENCY AND STATE
COMMENTS AND OIG
EVALUATION**

Region 4's response and the State's editorial comments offered no general disagreement with the findings and recommendations presented in this Chapter. However, the Region and State indicated that actions had already been completed in 1998 and 1999 that essentially resolved the findings and recommendations. Region 4's response also expressed concerns related to specific statements presented in Chapter 3. Changes were made as deemed appropriate. A summary of responses or comments by Region 4 and the State on the findings and recommendations are presented below. Our evaluation of Region 4's concerns with specific statements in Chapter 3 have been incorporated into the Region's response included in Appendix I.

Region 4 agreed that in years preceding 1998, Mississippi's monitoring program did not sufficiently incorporate advanced monitoring techniques. However, both the Regional and State comments indicated that the monitoring program made great strides in this area during FYs 1998 and 1999 and the program currently met or exceeded EPA guidance. The Region documented that it had provided the State with additional grant funds in 1998 and 1999 to assist the State in improving its water quality monitoring. Region 4 further indicated that the State included a long-term monitoring strategy in its 1998 305(b) report which was received by the Region in final form in August 1999.

State comments acknowledged that trend analyses on lake water monitoring data were not being done but both the

State and Regional comments indicated that such analyses were optional in EPA guidance. Region 4 responded that it would encourage the State to include lake trend analyses as part of the State's rotating basin approach in assessing water quality conditions.

At the time of our review, the 1996 305(b) report and the 1997 Comparative Environmental Risk study contained the only validated data available that documented the State's monitoring program. Increases in State monitoring activities and resources after 1997 were based primarily on statements by MDEQ staff. The 1998 305(b) report had not been completed and validated at the time of our audit fieldwork.

Region 4's response to the draft report included completed actions that adequately addressed the recommendations presented in Chapter 3. Therefore, we consider the findings and recommendations to be resolved in accordance with EPA Order 2750.

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CHAPTER 4

MISSISSIPPI NEEDS TO ADHERE TO REQUIRED TIME FRAMES FOR WATER QUALITY REPORTS

Mississippi's water quality reports were generally complete and accurate. However, the State has been consistently late in submitting water quality reports as required under the Clean Water Act. Significantly late reports decrease the usefulness and effectiveness of these reports to EPA and the State as a program management tool. Mississippi did not complete and submit the final 1998 305(b)⁵ water quality assessment report to Region 4 until August 1999. The 1998 303(d) impaired waters list, that was due April 1, 1998, was not submitted until July 1999. The Region has still not approved the list. Reports due in 1994 and 1996 were submitted from two months to two years late. The State assigned the reports low priority and concentrated its limited resources on those problems the State considered more important. For the 1998 reports, the State indicated that the on-going lawsuit concerning the State's designated impaired waters and the completion of TMDL determinations for these water bodies had delayed completion of the 305(b) and 303(d) reports.

BACKGROUND

Section 305(b) of the Clean Water Act requires each State to prepare and submit biennially to EPA a water quality assessment report, commonly referred to as the 305(b) report.⁶ These reports are to include: (1) a description of the quality of all navigable waters within the State; (2) an analysis of the extent all navigable waters within the State provide protection and propagation of balanced populations of shellfish, fish, and wildlife, and allow recreational activities in and on the water; and (3) an analysis of the extent to which elimination of pollutant discharges and improved water quality has been or will be achieved under

⁵ Region 4 indicated that an electronic version of the 1998 305(b) report was received in February 1999. However, Region 4 did not review and approve this version as the final report. The Region waited until the August 1999 formal report was received. State comments indicated final 305(b) report was not submitted until August 1999.

the Clean Water Act requirements. The water quality assessment report serves as the primary assessment of state water quality and provides the basis for water quality management planning. Clean Water Act, section 303(d), requires states to identify all impaired water bodies where existing pollution control requirements are not stringent enough to achieve the water quality standards. This section further requires that states establish a priority ranking for impaired waters and establish TMDLs for each water body listed. Pursuant to 40 CFR 130.7(d), each State shall submit to EPA, beginning in 1992, an impaired waters list (commonly referred to as the 303(d) list) on April 1 of every even-numbered year.

**MISSISSIPPI
CONSISTENTLY LATE IN
COMPLETING WATER
QUALITY REPORTS**

Mississippi has consistently submitted untimely 305(b) reports and 303(d) lists to EPA. The 305(b) report due April 1, 1994 was submitted almost a year late. The 1994 303(d) list was almost two years late. In fact, the 1994 303(d) list was so late it was updated and approved by Region 4 as the 1996 303(d) list. As a result, the State really did not have a 1994 303(d) list. The State's 1996 305(b) report was two months late. The final 1998 305(b) report, due April 1, 1998, had not been completed as of August 1999. The Region had received draft 1998 303(d) and 305(b) reports in December 1998 and February 1999, respectively. However, the Region had serious concerns with the 303(d) list. Because of the need for consistent information between reports, these 303(d) concerns also impacted completion of the 1998 305(b) report. Untimely completion and submission of water quality reports affects the usefulness of the water quality data provided and the effectiveness of the reports as basis for water quality management planning. In addition, late completion of water quality reports, impact TMDL development and jeopardizes EPA section 106 funding for State water quality management programs. This funding is crucial to Mississippi because the State's program already suffers from a lack of staff and financial resources.

According to State officials, the 1998 305(b) report and 303(d) list have not been completed due to an ongoing lawsuit related to TMDL determinations for impaired waters included on the State's 1996 303(d) list. MDEQ

indicated that many water bodies were placed on the initial 303(d) list based only on a potential for impairment due to agricultural activities around these waters. The State had not verified the impairments or performed the studies necessary to delist the waters. State officials indicated it would be resource intensive and take years to perform the required assessments. However, the State wants to delist all waters based on a potential impairment. State officials indicated that the large number of potentially impaired waters on the list created an adverse economic impact on the State because of problems in permitting discharges into impaired waters. Region 4 has indicated that any such delisting without proper justification would be inappropriate. EPA would disapprove the list and promulgate an appropriate list if this occurred. According to Region 4, such delisting may inhibit settlement of the current lawsuit against EPA and the State concerning the State's delay in preparing TMDLs for impaired waters and EPA's non-enforcement of statutory requirements for TMDLs as relates to the State's impaired waters.

Problems with the State's 303(d) list and related TMDLs need to be resolved as expeditiously as possible. State officials indicated that they had to shift resources devoted to water quality standards to assist in 303(d) and 305(b) reports preparation. Therefore, these problems are consuming a significant amount of the State's resources and, according to State officials, have adversely impacted the State's ability to update State water quality standards and produce acceptable antidegradation implementation procedures in a timely manner.

In July 1999, Region 4 informed us that a final 303(d) list had been received from Mississippi. At that time, the Region still had concerns with the list but was proceeding with the review and approval process. Documentation obtained from the Region indicated that Regional personnel had put forth a tremendous effort in FY 1999 to assist the State in completing the 1998 303(d) list.

RECOMMENDATIONS

We recommend the Regional Administrator:

- 4-1. Assist Mississippi in developing processes to ensure

proper scheduling and timely preparation of water quality assessment reports so that future reports will be completed and submitted to EPA on the required dates.

- 4-2. Assist Mississippi in its efforts to correct or adjust its 303(d) impaired water list.

**AGENCY AND STATE
COMMENTS AND OIG
EVALUATION**

Region 4 generally agreed with the findings and recommendations presented in Chapter 4. Region 4 indicated that in March 1999, Region 4 initiated weekly conference calls with MDEQ which allowed EPA to better track and facilitate MDEQ's progress in implementing EPA priorities and submission of water quality reports. In response to Recommendation 4-1, the Region further agreed to establish with the State a set of interim dates for completion of certain activities related to timely completion of 305(b) and 303(d) reports. This set of interim milestone dates are to be established by December 31, 1999. Since Mississippi's final 303(d) list had been recently received by Region 4, Regional officials felt that the requirements of Recommendation 4-2 had been satisfied.

Based on the Region's response, we concluded that both recommendations presented in this chapter could be resolved in accordance with EPA Order 2750.

Region 4's response to the draft report also expressed concerns with certain statements or facts presented in Chapter 4. Mississippi also provided editorial comments on Chapter 4. Changes were made in the final report as deemed appropriate. Our evaluation of Region 4's concerns are included in Appendix I.

CHAPTER 5

REGION 4 NEEDS TO STRENGTHEN OVERSIGHT AND TECHNICAL ASSISTANCE FOR MISSISSIPPI-S WATER QUALITY STANDARDS

Region 4 had not always been timely in decisions on Mississippi's water quality standards and had not always provided effective technical assistance to the State to resolve the Region's concerns related to certain water quality criteria or the development of required water quality reports. The Region needs to develop procedures that will ensure a timely review and approval/disapproval of standards adopted by the State. The Region also needs to aggressively pursue resolution of concerns with standards and related policies and to place more emphasis in Section 106 Work Plans, water management agreements, and meetings with State officials on those problems that have existed for years without resolution. Work plans have documented for years State goals for promulgating acceptable policies, standards, or criteria, where EPA had expressed concerns, with little results. As a consequence, Mississippi's water quality management program has not been as effective and protective of its waters as it could be.

CERTAIN WATER QUALITY CRITERIA/POLICIES HAVE REMAINED UNAPPROVED BY EPA FOR 10 YEARS OR MORE

Little progress had been made since 1990 to address EPA's longstanding disapproval of a site-specific dissolved oxygen criteria and the State's need to perform a use attainability analysis (UAA) for the Escatawpa River. In addition, the State has not produced acceptable implementation procedures for the State's antidegradation policy. The current requirement for this policy and related implementation procedures was issued in 1983. Region 4 needs to take aggressive action to resolve these longstanding deficiencies in the State's water quality standards.

Per 40 CFR 131.22(a), if the State does not adopt the changes specified by the Regional Administrator within 90 days after notification of the Regional Administrator's disapproval, the Administrator shall promptly propose and

promulgate such standard. As of April 1999, EPA had not promulgated a dissolved oxygen criteria for the Escatawpa River even though it had initially disapproved the State's criteria in 1990, almost 10 years ago.

In 1990, the State adopted a dissolved oxygen criteria less stringent than the criteria specified by EPA. The State established a dissolved oxygen criteria of 3.0 mg/l for the Escatawpa River. EPA requires a standard of 5.0 mg/l for dissolved oxygen. The 3.0 mg/l criteria is not sufficient to support the swimmable/fishable designated use required in the Clean Water Act, section 101(a)(2). To justify a less stringent criteria, a State must complete a UAA to support its decision of a less stringent dissolved oxygen criteria. However, the State has failed to submit a time frame for completion of the UAA in accordance with requirements in prior years Section 106 Work Plans. The State indicated that it did not have the resources or expertise to perform a UAA and had requested technical assistance from Region 4. Regional progress reviews on State work plans also indicated that the Region planned during at least two different FYs to assist the State in UAA data gathering. However, this assistance was not initiated until the Summer of 1999. Although Region 4 was aware of the State's limited resources, the Region did not take timely action to assist the State with the UAA or to promulgate an acceptable standard for the State. As a result, the waters of the Escatawpa River may not be adequately protected and maintained.

The State has had water quality standards in place for over 20 years and still has not adopted acceptable implementation procedures for its antidegradation policy. These procedures are required to be a part of the State's water quality standards. Mississippi submitted draft implementation procedures in November 1997 but the procedures were not considered acceptable by Region 4. Consequently, Mississippi's standards, for an extended period, did not ensure that water quality was maintained or that high quality waters were properly protected as intended by the Clean Water Act. As a result, the Agency risked being sued for not promulgating adequate water quality standards for the State.

**REGION 4 DID NOT
TIMELY REVIEW AND
APPROVE/DISAPPROVE
STATE STANDARDS**

Water Quality standards, initially adopted by the State in February 1994, were not approved by Region 4 until December 1998, almost five years later. The standards still do not include acceptable antidegradation implementation procedures as required by the Clean Water Act. Per 40 CFR 131.21(a)(2), the Region has a 60-day time frame for approval and a 90-day time frame for disapproval of the State's standards. A lawsuit involving another State's standards and untimely consultations with the FWS delayed the Region's review and approval of Mississippi's standards.

Even though Mississippi implemented procedures to develop comprehensive water quality standards that protected its water quality, the criteria or water quality standards initially promulgated in February 1994 were not adequate and remained unapproved until December 28, 1998. Region 4's initial reviews expressed serious concerns with Mississippi's standards. However, the Region did not officially disapprove the standards and EPA did not promulgate acceptable standards in place of those adopted by the State. Over a period of almost two years, the State submitted proposed revisions to the Region that addressed most of the Region's concerns. However, because of delayed submission of the standards to the FWS and delays in obtaining clearances from the FWS, the Region did not approve the standards and revisions until almost five years after promulgation by the State.

Section 7 of the Endangered Species Act requires EPA to consult with the FWS on water quality standards adopted by each state and their potential impact on endangered species. Because of a lawsuit and other problems related to FWS consultation for another State's water quality standards, the Region delayed submission of Mississippi's water quality standards to the FWS. Region 4 waited until the lawsuit and the related FWS consultation were settled before submitting Mississippi's standards and proposed revisions to the FWS. This was almost 10 months after the February 1994 standards were adopted by the State. However, the basis of the lawsuit did not appear to be directly related to Mississippi's standards. We found no plausible reason why the Region could not have initiated

consultations with the FWS in early 1994. After submission of the standards to the FWS in December 1994, the Region took periods ranging from almost a year to over two and half years to respond to FWS concerns. FWS finally provided clearance for the State's 1994 standards in November 1998. The following are the dates of correspondence between Region 4 and the FWS concerning Mississippi's standards.

<u>Approximate Description of Correspondence</u>	<u>Date</u>	<u>Elapsed Time</u>
Region 4 Initial Submission to FWS	12/21/94	
FWS Initial Response to Standards	02/07/95	1.5 months
Region 4 Response to FWS Concerns	09/15/97	2 years, 7 months
FWS Followup Response to Region 4	09/24/97	9 days
Region 4's Final Response to FWS	08/13/98	11 months
FWS Provides Clearance for Standards	11/19/98	3 months

**RESOLUTION OF
CONCERNS WITH
WATER QUALITY
STANDARDS/POLICIES
HAS NOT BEEN A
REGIONAL PRIORITY**

Region 4's use of Section 106 work plans and related progress reviews did not indicate that resolution of problems related to the Mississippi's water quality program was a priority. Also, annual management agreements between Region 4 and the Office of Water did not provide specific Regional priorities or goals for resolving current problems with State water quality programs.

Section 106 Work Plans for FYs 1994 through 1998 included annual commitments by the State that were continually not achieved as evidenced in the Region's Mid-Year and Year-End Work Plan Progress Reviews. These commitments included: (1) a UAA to resolve the dissolved oxygen criteria problem for the Escatawpa River and (2) the promulgation of acceptable antidegradation implementation procedures. Many of the work plans and progress reviews were almost duplicates of the previous years' plans and reviews.

The fiscal 1998-1999 water management agreement between the Office of Water and Region 4 listed the priority activities for the Region, and contained the measures the Region uses to report on water program accomplishments to the Office of Water. Resolution of existing problems

with state water quality standards and monitoring programs was not listed as a Regional priority. No Regional actions were detailed in the agreement, and the agreement did not include measures to improve state water quality monitoring and reporting programs.

RECOMMENDATIONS

We recommend the Regional Administrator:

- 5-1 Develop procedures that ensure a timely review and approval/disapproval of state water quality standards.
- 5-2 Place more priority on resolution of issues related to state water quality standards and related programs in agreements between the Region and the State, and the Region and the Office of Water. This should include specific actions the Region will take to resolve these problems.
- 5-3 Provide more aggressive oversight and technical assistance, where needed, to ensure that problems related to water quality standards and reporting are timely resolved.
- 5-4 Coordinate with EPA Headquarters to promulgate standards if states do not correct the deficiencies in standards within the 90 days allowed by the Clean Water Act.

AGENCY AND STATE COMMENTS AND OIG EVALUATION

Region 4 generally concurred with the findings and recommendations. The Region indicated that it has identified two impediments to timely review of water quality standards: (1) the required consultations with the FWS and (2) the practice of working with states to correct disapproved standards rather than EPA promulgating proper standards. Region 4 stated that it is participating in a national effort to obtain a Memorandum of Agreement (MOA) with the FWS, as well as obtaining a Regional MOA for water quality standards reviews. The Region further stated that it would increase state oversight and communications regarding proposed standards changes in order to resolve problems before revised standards are

submitted to the Agency.

The Region's response stated that efforts have been increased to resolve outstanding water quality issues and that the Region is currently providing extensive monitoring and water quality modeling to Mississippi to determine the appropriate dissolved oxygen criteria for the Escatawpa River. The Region further indicated that a pilot study had been initiated with the State to enhance the State's water quality programs and the State Performance Partnership Agreement process. In addition, the Region's Section 106 Work Plan mid-year review process had been revised to elevate significant issues to the Division Director level. These actions are to ensure that significant issues related to water quality standards and other programs are addressed in a timely manner.

Region 4 indicated that the Office of Water has proposed new regulations that would require EPA approval of a state's standards before the standards are effective. Currently, standards are effective upon adoption by the states. Under the proposed regulations, if EPA disapproves a standard, the standard is voided. EPA could then reinstate any previously approved standard by administrative order or, where a previously approved standard does not exist, EPA would have default criteria that would be promptly promulgated to replace any disapproved standards.

Region 4's response included completed and planned actions in response to the recommendations presented in Chapter 5. For planned actions, the Region included milestone dates for completion of the actions. Therefore, the Region's response is considered adequate for resolution of the recommendations presented in this Chapter in accordance with EPA Order 2750.

APPENDIX I

AGENCY RESPONSE AND OIG EVALUATION



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

SEP -8 1999

SEP 8 1999

REGIONAL INSPECTOR GENERAL/AUDIT

MEMORANDUM

SUBJECT: Mississippi's Water Quality Standards, Monitoring, and Reporting Draft Audit Report 1998-000368

FROM: John H. Hankinson, Jr.
Regional Administrator
Region 4

A handwritten signature in black ink, appearing to read "JH Hankinson".

TO: Mary Boyer
Divisional Inspector General

Please find attached, the Region 4 response to the draft audit report on Mississippi's water quality standards, monitoring and reporting program functions. The response document focuses on the specific actions the Regional and national programs will undertake to address each of the recommendations made in the draft audit report. The Region is in general agreement with the findings of this report and acknowledges that past state program oversight deficiencies need to be corrected. As discussed in our response document, the Region has initiated several actions to enhance our program oversight of the water quality standards and monitoring programs. In addition, there are proposed changes to the federal water quality standards regulations that will provide the Region with the ability to correct many state water quality standards regulatory deficiencies without having to promulgate a federal rule in most cases.

This draft audit report reinforces the importance of the Agency's base program responsibility to provide timely and effective state program oversight. Please be assured that the Region is taking steps to ensure adequate state oversight is an ongoing commitment. If you have any questions, please contact Gail Mitchell at (404) 562-9234.

Attachment

**Regional Response to Mississippi's Water Quality Standards, Monitoring, and Reporting
Draft Audit Report 1998-000368**

OIG Overall Comments: The OIG's evaluation of Region 4's response to draft report recommendations are included at the end of each applicable report chapter. OIG's responses to Region 4 comments on the factual accuracy of specific statements in the draft report are presented below in italics. The Region was given an opportunity to comment on the factual accuracy of a pre-release version of the draft report. However, most of the comments below were not communicated to the OIG with the Region's informal comments on the pre-release report.

Executive Summary Recommendations:

1. Assist Mississippi in completing the use attainability analysis (UAA) for the Escatawpa River as currently scheduled.

The Region is continuing to provide its extensive monitoring and water quality modeling support to the State to determine the appropriate dissolved oxygen criteria for the Escatawpa River. The September 1999 deadline is a target date based on the Section 106 Workplan. Due to technical and logistical constraints, this deadline will be missed.

Milestone:

April 1, 2000 -- EPA Region 4 will ensure that the State must either a) complete the UAA and associated standards revisions, if necessary or b) present a milestone schedule of activities, by April 1, 2000.

Request that Mississippi update its water quality standard for pentachlorophenol and adopt adequate antidegradation implementation procedures that fully support the intent of the Clean Water Act.

The Region has received a commitment from the State to complete a Triennial Review in FY 2000. This Triennial review will include a revised PCP criterion. The Region has included the Mississippi Triennial review as one of its three FY 2000 formal water quality standards actions documented in the Region's Office of Water Management Agreement. The State's antidegradation implementation procedures are undergoing active review by the State and we expect these procedures to be finalized by December 1999.

Milestone Dates:

September 30, 2000 -- The PCP criterion will be revised as part of MS's Water Quality Standards Triennial Review

December 31, 1999 -- MS's antidegradation implementation procedures will be

finalized.

2. Assist Mississippi in developing a long-term monitoring strategy and management plan to incorporate more advanced monitoring techniques and ensure that the State comprehensively monitors the quality of its waters.

As noted in comments below, the State has made significant progress in applying advanced monitoring techniques, including biological assessments, in evaluating water quality conditions. The State has developed and is implementing a long range monitoring strategy that describes in detail their approach in using physical, chemical and biological monitoring parameters in assessing the State's water quality. This strategy is also described in the State's 1998 305(b) Report under the Chapter entitled, "Surface Water Monitoring Program." With the assistance already provided to the State and the progress the State has already made in developing and implementing its long range monitoring strategy, it is suggested that this recommendation has already been accomplished.

Milestone Date: Complete

3. Request that Mississippi place more priority on timely completion of required water quality reports. Assist State in establishing a process for properly scheduling and preparing water quality reports so that future reports are submitted to EPA on the required dates.

The Region continues to use the annual workplan negotiations and the midyear and end-of-year reviews as processes for identifying and addressing concerns regarding MDEQ's water quality and assessment programs, and for fostering MDEQ progress towards meeting the national and regional requirements and goals. These reviews provide a forum for EPA to formally address Agency concerns regarding the State's programs on a periodic basis and to establish milestones for resolving them.

Regular communication is exercised between EPA's state coordinators and program managers and MDEQ's managers in an effort to identify and discuss EPA and State priorities and activities, and to monitor MDEQ's progress in meeting national and regional requirements and goals. In March 1999, in an effort to better coordinate with and assist MDEQ and to ensure timely completion of required State reports and activities related to Sections 303(d) and 305(b), EPA, Region 4 initiated weekly conference calls between EPA and MDEQ. The weekly conferences have allowed EPA to better track and facilitate MDEQ's progress in implementing EPA's priorities.

Milestone Dates:

October 31, 1999 -- Send letter from the RA to the Director of the MS Department of Pollution Control requesting that the State give greater priority to the timely completion of the 2000 305b Report and the 303d List.

December 31, 1999 B Establish with the State a set of interim dates by which certain activities (integral to timely completion of the 305b Report and the 303d List) will be accomplished. Monitor the State's progress towards meeting the interim milestone dates.

Chapter 1

Factual Inaccuracies:

1. Page 3, paragraph 2: The CWA requires TMDLs for certain impaired waters, not for all impaired waters, as indicated in line 3.

OIG Comments: The final report was changed to reflect that TMDLs were only required for certain impaired waters.

2. Page 3, third paragraph: EPA has the authority to approve or disapprove State developed TMDLs, contrary to the statement on line 4.

OIG Comments: This Regional comment is incorrect. The statement on line 4, page 3, third paragraph, explicitly states that EPA reviews and approves all state-developed TMDLs.

Chapter 2

Factual Inaccuracies:

1. Page 5, second paragraph: The report mischaracterizes several items as deficiencies in lines 3 - 6. These items were first identified by the Region as areas which the State should review and revise, as necessary, in correspondence to the State in 1993. The State's submittals in 1994 and 1996 addressed these areas, where necessary and to the greatest extent possible, and were approved by this Region. The situation revolving around the dissolved oxygen criteria for the Escatawpa River is addressed elsewhere in these comments.

OIG Comments: The word deficiencies was changed to concerns. These concerns were identified as part of the Region's review of the February 1994 standards. We were not provided any 1993 correspondence to the State regarding these concerns or any documentation that any of these concerns were resolved with State adoption of standards in February 1994. Regional documentation indicated that these concerns were still outstanding after February 1994. We agree that revised standards, adopted by the State in November 1995, did address most of the Region's concerns. The final report has been changed to reflect this fact.

2. Page 5, third paragraph: This paragraph is somewhat incorrect in the explanation of the delay due to consultation with the Fish and Wildlife Service (FWS). Region 4 was actively engaged in a formal consultation with FWS on the State of Alabama's water quality standards at the time of the submission from Mississippi. When the Region initiated

informal consultation with the Mississippi FWS, many of the same issues that were being discussed during the Alabama water quality standards consultation were raised about MS's standards. The Region decided to await the outcome of the Alabama consultation in order to a) conserve resources and b) use the results of the consultation to address the issues in Mississippi. At the conclusion of the Alabama consultation, the Region reinitiated

discussions with the Mississippi FWS and resolved the outstanding issues.

OIG Comments: The subject paragraph is based on specific statements made by Regional staff that the law suit over consultation with FWS on Alabama's water quality standards caused the delay in submission of Mississippi's standards to the FWS. However, the final report was changed to include the additional circumstances described above which delayed formal submission of Mississippi's standards to the FWS.

P Page 6, second paragraph: It should be noted that the Region actually initiated field studies in the summer of 1998 on the Escatawpa River.

OIG Comments: The date that the Escatawpa field studies were initiated has been included in the final report. However, we do not believe this omission represents a factual discrepancy.

P Page 7, first paragraph: In order to accurately characterize the acceptability of the PCP criteria, we recommend the addition of the following language after "... there was little chance of environmental impact (for PCP)": Mississippi's current freshwater aquatic life-based criterion at 7 pH (neutral conditions) is 2.1 ug/l, and the current salt water aquatic life-based criterion is 7.9 ug/l. EPA's current human health-based criteria for the protection of cancer (at Mississippi's state adopted and approved risk level of 10⁻⁵) is 2.8 ug/l. Therefore, the aquatic life-based criteria also protects for the human health-based criterion in all situations in freshwater and in saltwater where the ratio of the annual average concentration is greater than 3.8 to 1. There are very few coastal water bodies, if any where this ratio is less than 3.8 to 1. Therefore, the State's aquatic life criterion should be protective in most (if not all) cases for human health endpoints, including cancer, as currently adopted.

OIG Comment: We revised the narrative related to the PCP issue in the final report to make it more understandable for the casual or uninformed reader. Most of the technical details were eliminated from the report. The language that Region 4 requests be inserted in the report is very technical and would be difficult to understand by most readers of the final report. Therefore, the report was not revised to include this information.

P Page 8, second full paragraph: Region 4 had concerns about the State not identifying implementation methods for Tier I streams, not Tier II streams. Barring the other comments in the Regional response letter, the draft implementation policy adequately addresses Tier II.

OIG Comments: The Region's January 20, 1998 correspondence, related to Regional concerns with the State's draft antidegradation implementation procedures, included references to both Tier I and Tier II waters. A Regional official told us during the audit that the reference to Tier I was a typographical error. The Region's concerns were with Tier II waters. However, based on the Region's official comments above, we have changed the applicable finding and related recommendation to reflect that Region 4 had concerns regarding identification and protection of Tier I waters in Mississippi's draft antidegradation implementation procedures.

Recommendations:

- 2-1. Assist the State, where possible, in completing the UAA for the Escatawpa River...by the current September 1999 deadline.

The Region is continuing to provide extensive monitoring and water quality modeling support to the State to determine the appropriate dissolved oxygen criteria for the Escatawpa River. The September 1999 deadline is a target date based on the Section 106 Workplan. Due to technical and logistical constraints, this deadline will be missed.

Milestone Date:

April 1, 2000 B EPA Region 4 will ensure that the State must either a) complete the UAA and associated standards revisions, if necessary or b) present a milestone schedule of activities, by April 1, 2000.

- 2-2. Request the State to perform the required triennial review of its standards and update human health criteria for PCP to reflect current requirements in EPA guidance.

The Region met with the State on August 20, 1999 to discuss this action. The Region has received a commitment from the State to conduct a Triennial Review in FY 2000. This Triennial review will include a revised PCP criterion. The Region has included the Mississippi Triennial review as one of its three FY 2000 formal water quality standards actions documented in the Region's Office of Water Management Agreement.

Milestone Date: Complete

- 2-3. Assist Mississippi in adopting appropriate implementation procedures for the State's antidegradation policy that supports the intent of the Clean Water Act.

This issue was also discussed at the August 20 meeting noted above. The State's antidegradation implementation procedures are undergoing active review and we expect these procedures to be finalized by December 1999.

Milestone Date:

December 31, 1999 B MS's Antidegradation Implementation procedures

will be final.

- 2-4. Request that Mississippi identify and protect the second level of high quality waters in any revised antidegradation implementation procedures.

This recommendation appears to be based on factual inaccuracies previously cited (see comments pertaining to page 8 of the report). This recommendation should be removed or revised. It is the intent of the Region to assure that any antidegradation implementation procedures protect all waters of the State.

Chapter 3

Factual Inaccuracies:

1. Page 11, second paragraph: The third sentence is not correct and does not agree with the previous two sentences. The OIG should carefully check the figures as presented in the 305(b) reports and discuss them with the State.

OIG Comments: We disagree with the Region's statement that the third sentence in the second paragraph, page 11, is not correct and does not agree with the previous two sentences. The percentages shown in the third sentence and the preceding sentence were taken almost verbatim from the State's 1996 305(b) report. The percentages in the third sentence, refer to the percent of assessed rivers and streams that were based on presumed site conditions versus those rivers and streams actually monitored. The preceding sentence refers to the percent of total streams/rivers in the State that had been assessed. We changed the third sentence to state: "Of the 46 percent of rivers and streams assessed, 93 percent were evaluated based on presumed site conditions or old test data and only 7 percent had been monitored."

2. Page 11, third paragraph: The first sentence is inappropriate for this report. The rest of the paragraph is inaccurate in terms of the level of staff support for monitoring both before and after the program improvements referenced. There is also confusion over the staff and resource increases for monitoring needs (circa 1996), as opposed to staff and resource increases for TMDLs (circa 1997/98). The monitoring program had more than two employees involved prior to 1997 and has many more than seven involved currently. The State should be consulted to determine the exact numbers of FTEs that are assigned to the monitoring program, including those in Field Services. The timing of the addition of new staff as well as the areas of responsibility of the staff should also be discussed with the State. The statement that 29 new staff were funded leaves the impression that they were all assigned to monitoring, which is not the case.

OIG Comments: The description of "Apathetic" for the State's pre-1997 monitoring program was made by a senior MDEQ official during the audit. However, we changed the final report to reflect that the State's monitoring program needed significant improvement prior to 1997. The number of employees in the State's monitoring program prior to 1997 was obtained from a senior State official during the audit fieldwork. However, the State editorial comments on the draft report indicated that three to five full-time employees were involved in monitoring. The final

report was changed to show three to five monitoring employees prior to 1997. The State's editorial comments on the draft report indicated that seven to nine full-time employees were assigned to monitoring activities in 1997. The final report was changed to reflect a maximum of nine monitoring staff in 1997. The final report was changed to clearly reflect that the 29 new positions were for both permitting and monitoring requirements.

3. Page 12, Analysis of the State's Data on Lake Waters Could Be Useful: Line 6 of the draft OIG report indicates the State does not have a process to assess the relevant condition of lake waters. This statement is wrong. The State has a process to assess the lake data provided by COE, USGS, and TVA to complete a use impairment assessments and make use support determinations. This paragraph should be changed to reflect that assessment of data on lake water quality conditions for the determination of use support is performed by the state.

OIG Comments: We agree that the State was assessing lake monitoring data for determining use support. However, the draft report's reference to *Arelevant condition@pertained to the relevant condition of lake waters over time, i.e., are lake waters improving or degrading, which would require trend analysis. Since the Region indicates that the term relevant condition only applies to determinations of use support, we removed this term from the final report.*

4. Page 12, Mississippi Could Utilize More Advanced Monitoring Techniques: DEQ is making significant progress in applying advanced monitoring techniques in assessing the quality of evaluated waters. With EPA funding assistance (Section 104(b)(3) grants) and EPA technical assistance (both EPA and contractor field support), MDEQ in 1999 has allocated a substantial amount of resources to performing rapid biological assessments on evaluated waters in the State on an accelerated monitoring schedule. This EPA technical and funding assistance to MDEQ has led and continues to lead to additional improvements in the water quality monitoring program, with real benefits that will not be fully realized until completion of one or two cycles through the State's rotating basin plan (i.e., 2003 or 2008, respectively). Additional Section 104(b)(3) grants are specifically targeted to support continued performance of rapid biological assessments to determine if evaluated waters are actually impaired.

The State has also worked closely with the Region and EPA ORD in delineating ecoregions in the State and in identifying reference streams. They have worked cooperatively with Alabama in the joint ecoregion project. The State is one of the leaders among Region 4 states in conducting this work which is essential for establishing a strong foundation for developing and using bioassessment techniques. As new resources have become available they have continued to expand the use of bioassessments in the monitoring program and have included them as an integral part of their fixed ambient monitoring station network and rotating basin approach. The State is continuing the effort to improve and expand their biological monitoring program. For example, the state used bioassessments at over 80 sites during the 1998 sampling period to determine the ecological condition of watersheds.

OIG Comments: The Region cites progress made by Mississippi in 1998 and 1999 in integrating advanced monitoring techniques into its monitoring program. The data cited by Region 4 was not available at the time of our audit fieldwork. However, if the State has made such progress in these

techniques, the applicable finding can be resolved.

Recommendations:

- 3-1. Provide technical assistance to help Mississippi formulate a long range plan to expand its monitoring program to include advanced testing techniques.

As noted above, the State has made significant progress in applying advanced monitoring techniques, including biological assessments, in evaluating water quality conditions. The State has developed and is implementing a long range monitoring strategy that describes in detail their approach in using physical, chemical and biological monitoring parameters in assessing the State's water quality. This strategy is also described in the State's 1998 305(b) Report under the Chapter entitled, "Surface Water Monitoring Program". With the assistance already provided to the State and the progress the State has already made in developing and implementing its long range monitoring strategy, it is suggested that this recommendation has been met.

Milestone Date: Completed

- 3-2. Encourage the State to establish a process for analyzing monitoring data for lake waters and developing trends about the condition of its lakes.

As noted in a previous comment, the State has a process for obtaining and assessing lake data provided by other agencies. The State considers this data in making impairment assessments and use support determinations. It is, therefore, suggested that the first part of this recommendation be deleted.

With regard to encouraging the State to develop trends about the condition of its lakes, it must first be understood that the Agency's 305(b) guidance includes this activity as an optional activity and is not one that is required by regulation or guidance. The State does analyze lake data for the purpose of making impairment assessments and use support determinations, but does not use this data for establishing trends. The Region, however, will work with the State to encourage them to include lake trend analyses as part of the rotating basin approach in assessing water quality conditions in the State. This will be accomplished through the established procedures of workplan development and review and program overview. This issue will be a focused component of the workplan process.

Milestone Dates:

December 31, 1999 B RA will send letter to the State requesting the State to include trend analysis for their lakes as part of their rotating basin monitoring approach.

Chapter 4

Factual Inaccuracies:

1. Page 15, first paragraph: Region 4 did not have serious concerns over the draft 1998 305(b) report. The main concern was that the report was late.

OIG Comments: The final report was changed to eliminate any reference to Regional concerns with the draft 1998 305(b) report other than those concerns related to the timeliness of the report.

2. Page 15, Mississippi Needs to Adhere to Required Time Frames for Water Quality Reports

The following statement is incorrect: AAs of April 1, 1999, Mississippi had not completed and submitted to EPA the final 305(b) water quality assessment report. (Page 15, 1st paragraph). Mississippi's 1998 Section 305(b) Report was received electronically by EPA in February 1999. (See comments below for an explanation of the late submittal). Although two months late, submittal of the electronic version of the report was provided to EPA/HQ in time for developing the National Water Quality Assessment Report and sufficient for the State to maintain Section 106 funding. The electronic report provided essential data that could be used by the Agency to review the surface water quality and assessment information. The hardcopy report was received in August 1999.

OIG Comments: Neither during the audit fieldwork nor in Regional comments on the pre-release draft report was there a mention of a February 1999 electronic version of the 1998 305(b) report. Although the Region indicates that this electronic version was used as input for the National Water Quality Assessment Report, the Region did not review and approve this version as the official, final 1998 305(b) report. Therefore, the report did not meet the regulatory requirements for review and approval. In addition, even if the February report was the final version, the report would be more than two months late since the Clean Water Act, Section 305, specifies the report is due biennially on April 1 or in this case April 1, 1998. The Region indicates in other comments that the official 305(b) report was not received until August 1999. Also, State editorial comments to the draft report clearly indicate that the State submitted the final 1998 305(b) report in August 1999.

3. The comments in the report pertaining to late submittal of the State's 1998 ' 303(d) list and ' 305(b) report do not reflect the special mitigating circumstances which prevailed in the context of EPA-Region 4's efforts to settle the TMDL litigation in progress at that time. During this time, MDEQ was involved in continuous discussion with EPA-Region 4 about the specific nature of the 1998 303(d) list in a sincere effort to provide a list that would accurately reflect the State's known impairments, but would not weaken EPA's position in the existing, or future potential, litigation. The delay of submittal was encouraged by EPA-Region 4, with full cooperation of MDEQ, in order to find a mutually satisfactory resolution of the issue. In addition, during this time MDEQ felt that they could not submit a 1998 305(b) report that might end up contradicting the version of the ' 303(d) list that would be finally agreed upon. The reasons for late submittal of both documents was fully understood by EPA-Region 4, and

provided the necessary time to agree on a version of the 1998 '303(d) list that met EPA-Region 4's needs and facilitated settlement of the TMDL lawsuit.

OIG Comments: The final report was changed to more clearly reflect the mitigating circumstances involved in the State's completion of the 1998 303(d) list.

4. Page 16, Paragraph 1: The 1994 303(d) list was NOT approved as the 1996 303(d) list and the State did NOT fail to prepare a 1996 303(d) list, contrary to the statements in lines 3 - 5.

The 1994 draft 303(d) list was submitted to EPA on May 11, 1995. EPA provided significant written comments on the draft list to the State on June 20, 1995. On July 7, 1995, EPA sent correspondence to Mississippi and all the Region 4 States that indicated the States should already be compiling and analyzing data and information for the 1996 303(d) list. Some time after July 7, and before October 30, 1995, Region 4 staff visited the State to discuss the 303(d) list. On October 30, 1995, EPA sent correspondence to the State which stated that Mississippi had requested to consolidate its 1994 303(d) list with its 1996 303(d) list and to submit a consolidated 1994/1996 303(d) list to EPA for approval by April 1, 1996. The State had requested concurrence with this approach because the dedication of resources to submit a separate 1994 303(d) list would delay work on the 1996 305(b) report and the 1996 303(d) list. In the October 30 correspondence, EPA assented to the State's decision to proceed in the manner requested, because that would serve the public interest and further the purposes of 303(d). Additionally, in the October 30, letter, EPA committed to provide technical assistance to Mississippi in the form of an EPA environmental engineer who helped analyze data for use in compiling its consolidated 1994/1996 303(d) list.

On February 6, 1996, the State submitted a draft, consolidated 1994/1996 303(d) list. EPA provided written comments on February 22, 1996. The State submitted a final consolidated 1994/1996 303(d) list to EPA for approval on April 1, 1996. EPA approved Mississippi's consolidated 1994/1996 303(d) list on May 3, 1996.

OIG Comments: The statement in the draft report that the State essentially did not complete a 1996 303(d) list came directly from Region 4 staff. However, based on the Region's comments that the late 1994 list was updated, we changed the final report to reflect that the State essentially did not complete a 1994 303(d) list. The Region can not have it both ways. Either the State did not produce a 1994 303(d) list or a 1996 303(d) list. We do not believe a consolidated 1994/1996 303(d) list approved by Region 4 in May 1996 meets the regulatory or statutory requirements for both a 1994 and 1996 303(d) list.

5. Page 16, Paragraph 2: This narrative is outdated. The State made a determination that it would leave evaluated waters on the 1998 303(d) list in February 1999 and this is a moot issue.

OIG Comments: Our copies of Regional documentation concerning Mississippi's 1998 303(d) list, dated as late as June 1999, indicate that the list included delisting decisions for evaluated waters. The Region submitted no documentation that supported its statement that the State made a decision

in February 1999 to leave evaluated waters on the 1998 303(d) list. Apparently, as late as June 1999, the State still wanted some evaluated waters delisted.

6. Page 16, Paragraph 3: Problems with the State's 303(d) list and related TMDLs are discussed in terms of consuming a significant amount of State resources and adversely impacting the State's ability to update water quality standards and produce acceptable antidegradation implementation procedures. The linkage between these two activities is unclear. While senior management in the State may have management responsibilities over listing, TMDLs and standards activities, the broad statement linking listing and TMDL problems with performance in the standards program is inappropriate. DEQ employees staffing the 303d Listing and TMDL activities are not the same as those staffing the Water Quality Standards activities, and, therefore, these activities should not have interfered with each other. Additionally, the reference to TMDL related problems is unclear. EPA and the State have been working diligently to improve the State's capability and capacity to develop TMDLs - the suggestion to expeditiously resolve TMDL related problems is, therefore, unclear.

OIG Comments: According to MDEQ officials, significant resources assigned to water quality standards were being used to assist in preparing the 303(d) list and in activities related to resolving the TMDL law suit. They also told us that this loss of resources from water quality standards impacted their ability to update water quality standards and promulgate antidegradation implementation procedures in a timely manner.

7. Page 16, Paragraph 4: The narrative is outdated. Region 4 has clarified that conditional approval of Mississippi's 1998 303(d) list is inappropriate. EPA is proceeding with full approval of Mississippi's 1998 303(d) list.

OIG Comments: Region 4 staff told us, just prior to issuance of the July 1999 draft report, that the Region was seeking EPA Headquarters consent for conditional approval of the State's current 303(d) list. There were problems with a least one waterbody on the list that had not been resolved. The final report was changed to indicate that the Region is now proceeding with full approval of the State's 1998 303(d) list.

Recommendations:

- 4-1. Assist Mississippi in developing processes to ensure proper scheduling and timely preparation of water quality assessment reports so that future reports will be completed and submitted to EPA on the required dates.

The Region continues to use the annual workplan negotiation and the midyear and end-of-year reviews as processes for identifying and addressing concerns regarding MDEQ's water quality and assessment programs, and for fostering MDEQ progress towards meeting the national and regional requirements and goals. These reviews provide a forum for EPA to formally address Agency concerns regarding the State's programs on a periodic basis and to establish milestones for resolving them.

Regular communication is exercised between EPA's state coordinators and program managers and MDEQ's managers in an effort to identify and discuss EPA and State priorities and activities, and to monitor MDEQ's progress in meeting national and regional requirements and goals. In March 1999, in an effort to better coordinate with and assist MDEQ and to ensure timely completion of required State reports and activities related to Sections 303(d) and 305(b), EPA, Region 4 initiated weekly conference calls between EPA and MDEQ. The weekly conferences have allowed EPA to better track and facilitate MDEQ's progress in implementing EPA's priorities. These conferences have been very effective in improving the State's responsiveness to EPA's priorities and goals and in improving the timeliness of State submittals.

Milestone Dates:

December 31, 1999 B Establish with the State a set of interim dates by which certain activities (integral to timely completion of the 305b Report and the 303d List) will be accomplished. Monitor the State's progress towards meeting the interim milestone dates.

4-2. Assist Mississippi in its efforts to correct or adjust its 303(d) impaired water list.

No further action is required to assist the State in correcting or adjusting its 303(d) list. Region 4 is proceeding with completing the decision document for approval of Mississippi's 1998 303(d) list.

Milestone Date: Completed

Chapter 5

Factual Inaccuracies:

1. Page 19: The title of this chapter should reflect that it addresses the Water Quality Standards Program, not the Water Quality Program. The current title is too broad and implies weaknesses throughout the program when the text refers only to the Standards Program.

OIG Comments: The title to Chapter 5 was changed to reflect that the problems relate primarily to the Water Quality Standards Program and not the Water Quality Program as a whole.

2. Page 19, Paragraph 1: Region 4 has provided significant assistance to Mississippi in order to resolve the Region's concerns related to the development of the required 1998 303(d) list. This is documented by written letter of comments to the draft list and numerous electronic mail messages concerning unresolved concerns/questions. The statement in lines 1-3 of the draft report is that the Region has not provided technical assistance. As occurred in 1995 - 1996, the State requested needed technical assistance in developing the consolidated 1994/1996 303(d) list and EPA did provide technical assistance.

OIG Comments: We agree that the Region has provided technical assistance to the State as relates to the preparation of 303(d) lists. Based on documentation we received in July 1999, the Region has provided substantial assistance to the State in order to overcome obstacles to completion of the 1998 303(d) list. Therefore, we made changes to the first sentence in Chapter 5. We also included additional narrative in Chapter 4 to recognize this recent effort by Regional staff.

Recommendations:

5-1. Develop procedures that ensure a timely review and approval/disapproval of state water quality standards.

The Region 4 water quality standards program is taking steps to ensure a timely review and approval/disapproval process is implemented. The Region has identified two principal impediments to a timely water quality standards review process: 1) the lack of a National Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service regarding the EPA procedures to consult on under Section 7 of the Endangered Species Act; and 2) the practice of working with states to correct disapproved water quality standards, rather than undertaking a federal promulgation. These are discussed below.

Consultation under Section 7 of the Endangered Species Act has created delays in state standards review in several regions. This consultation requirement and its time frames can conflict with the Clean Water Act state standards review time frames. The Region has taken the following steps to address these impediments. The Region is participating on the national workgroup to finalize a MOA with the Fish and Wildlife Service and concurrently the Region is pursuing a Regional MOA with the Service to address our water quality standards and other program review issues. In addition, we are providing the Service staff with background information and regarding specific standards issues and are preparing training sessions for their staff for FY 2000 in an effort to build a more collaborative working relationship.

Regarding delays in resolving water quality standards disapprovals, such as the Escatawpa dissolved oxygen criteria, EPA will increase its state program oversight efforts by conducting more on-site visits and exchanging formal communication regarding proposed changes to state water quality standards. These activities will provide the Agency and the state programs an opportunity to effectively resolve water quality standards issues before they are formally submitted to the Agency for approval/disapproval.

Milestone Dates:

October 31, 1999 - End of Year report outlining the progress of the State's water quality standards program will be transmitted to the State

April 30, 2000 - Have a Regional MOA established between EPA and the FWS to streamline the consultation process for water quality standards.

June 30, 2000 - Regional Water Management Division Director will have an on site discussion with Mississippi DEQ updating the status of the State's water

quality standards program.

- 5-2 Place more priority on resolution of issues related to state water quality standards and related programs in agreements between the Region and the State, and the Region and the Office of Water. This should include specific actions EPA will take to resolve these problems.

The Region has increased its efforts to resolve the outstanding water quality standards issues. Specifically, the water quality standards program has taken the following steps to address documented deficiencies. The Region has received a commitment from the State to complete a Triennial Review in FY 2000. This Triennial review will include a revised PCP criterion. The Region has included the Mississippi Triennial review as one of its three FY 2000 formal water quality standards actions documented in the Region's Office of Water Management Agreement. The State's antidegradation implementation procedures are undergoing active review and we expect these procedures to be finalized by December 1999.

Also, the Region is continuing to provide its extensive monitoring and water quality modeling support to the State to determine the appropriate dissolved oxygen criteria for the Escatawpa River. The Region will be conducting additional sediment monitoring in May 2000 and will complete the model calibration and perform the TMDL calculations, using the new dissolved oxygen criteria, by December 2000. This time frame is required in the Mississippi TMDL Consent Decree.

Milestone:

April 1, 2000 -- EPA Region 4 will ensure that the State must either a) complete the UAA and associated standards revisions, if necessary or b) present a milestone schedule of activities, by April 1, 2000.

- 5-3 Provide more aggressive oversight and technical assistance, where needed, to ensure that problems related to water quality standards and reporting are timely resolved.

The Region is committed to providing more effective oversight and technical assistance as Agency resources allow. The Region has taken two key steps to ensure that significant issues related to water quality standards and other programs are addressed in a timely manner. In 1999, the Region initiated a pilot study with Mississippi programs to enhance the Region and State Performance Partnership Agreement process. Specifically, the process is being modified to ensure critical programmatic issues, such as disapproved water quality standards are documented as mutual priorities for prompt resolution. In addition, the Water management Division revised its State mid-year review process in 1999. The principal modification of the mid-year process is that significant issues are raised formally at the Division Director level and that State and EPA program commitments are documented to ensure resolution of these significant issues in a timely manner.

Milestone Date:

October 1, 1999 B Performance Partnership Agreement between Mississippi

and EPA in place.

October 31, 1999 - End of Year report complete.

May 1, 2000 - Midyear report complete

5-4 Coordinate with EPA Headquarters to promulgate standards if states do not correct the deficiencies in standards within the 90 days allowed by the Clean Water Act.

The Office of Water has proposed new regulations, projected to be finalized by April 2000, that would require EPA approval of a state's newly adopted water quality standard before that state standard could become effective. Therefore, if EPA disapproved a state water quality standard under these new regulations, the disapproved state standards would be voided. For cases where a previously approved standard was in place, EPA would reinstate that standard by administrative order, without having to formally promulgate a federal water quality standard. For cases where new criteria or antidegradation policy had not been previously approved, EPA is preparing default criteria and antidegradation policy regulations that would be promptly promulgated to replace the disapproved state standards.

Milestone Date:

April 30, 2000 B OW will establish new water quality standards regulations that will enhance EPA's ability to promulgate standards for a state where EPA has disapproved a state's standard.

APPENDIX II

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