



Office of Inspector General

Audit Report

WATER

Kansas National Pollutant Discharge Elimination System Program

Report No. E1HWF7-07-0022-8100089

March 31, 1998

Inspector General Division
Conducting the Audit:

Central Audit Division
Kansas City, Kansas

Region Covered:

Region 7

Program Office Involved:

Water, Wetlands, and Pesticides Division

March 31, 1998

MEMORANDUM

SUBJECT: Kansas National Pollutant Discharge Elimination System Program
Audit Report E1HWF7-07-0022-8100089

FROM: Bennie S. Salem
Divisional Inspector General

TO: Dennis Grams
Regional Administrator
Region 7

We have completed our audit of Kansas' National Pollutant Discharge Elimination System Program. This report includes recommendations that Region 7 direct Kansas to establish and implement an action plan for eliminating the backlog of expired National Pollutant Discharge Elimination System permits. Region 7 recently notified Kansas of the Region's approval (and disapproval of specific provisions) of the Kansas 1994 water quality standards and began discussions with Kansas to address the recommendations within the fiscal 1999 program grant process.

Action Required

In accordance with Environmental Protection Agency (EPA) Order 2750, you, as the action official, are required to provide this office a written response to the audit report within 90 days of the final audit report date. For corrective actions planned, but not completed by the response date, reference to specific milestone dates will assist in deciding whether to close this report.

We appreciate the cooperation your staff provided throughout the audit. We especially appreciate the program staff's assistance and timely response during the audit. The staff exhibited a genuine interest in working with us to improve the water quality program. The staff recognized from the beginning that this audit would provide the basis for similar audits of other states, and worked closely with us to ensure we had a comprehensive understanding of Region 7's water quality program. The staff's efforts helped add value to this audit and to our planned national program audits.

This audit report contains findings that the Office of Inspector General (OIG) has identified and corrective actions OIG recommends. This audit report represents the opinion of OIG, and the findings in this audit report do not necessarily represent the final EPA position. Final determinations on matters in this audit report will be made by EPA managers in accordance with established EPA audit resolution procedures.

We have no objections to the release of this report to the public.

If you have any questions, please call me at 551-7831 or Connie Walton, Audit Manager, at 551-7007. Please refer to report number E1HWF7-07-0022-8100089 on any correspondence.

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PURPOSE

The Clean Water Act required the Environmental Protection Agency (EPA) to control point sources of water pollution through the National Pollution Discharge Elimination System, hereafter referred to as the “permits” program. The permits program is EPA’s primary regulatory tool for controlling pollutant discharges into surface waters. We selected the Kansas permits program for audit because Office of Water personnel suggested several states, including Kansas, where audits could identify best practices and needed improvements in states’ permits programs. Our specific objectives were to determine if:

- Kansas implemented procedures to ensure complete and timely permits were issued for dischargers;
- Kansas restricted waste dischargers based on effluent limitations and established monitoring requirements for each pollutant;
- Kansas monitored permit conditions, including effluent limitations and compliance schedules;
- Kansas permitted stormwater, combined sewer, sludge, and pretreatment program activities; and
- Region 7 monitored Kansas’ implementation of the permits program and established controls to ensure that water quality goals are met.

BACKGROUND

The Federal Water Pollution Control Act amendments of 1972 included the permits program as the centerpiece of the national water pollution control efforts. Congress reauthorized and renamed the Act the Clean Water Act in 1977 and amended it in 1987. Permits limit the pollutants

that a facility may discharge into United States waters through a specific point, such as a pipe. The Code of Federal Regulations (CFR) Title 40, Parts 122 to 133 and Parts 401 to 503 contain EPA regulations for implementing and administering the permits program.

EPA classifies permitted facilities primarily as municipal and non-municipal. Municipal facilities typically treat municipal sewage or industrial wastes to acceptable limits and discharge the treated wastes into United States waters. Non-municipal facilities include industrial facilities and all other facilities that discharge pollutants directly into United States waters rather than through municipal facilities.

EPA also classifies facilities as either major or minor. EPA regulations define major municipal facilities as those having a design or actual flow of one million gallons or greater per day. Major non-municipal facilities are determined based on specific ratings criteria developed by EPA and states.

Kansas had 56 major and 776 minor facilities in August 1997. Of the 56 major facilities, 40 were municipal and 16 were non-municipal.

The permits program originally focused on the municipal and non-municipal facilities. As the program matured and municipal and non-municipal facilities' discharges were permitted, the focus of the permits program expanded to regulate other pollution sources. These newer programs include pretreatment, stormwater, combined sewer, and sludge programs.

The pretreatment program regulates wastewater from industrial facilities that discharge to municipal facilities and is primarily implemented directly by the municipal facility receiving industrial wastes. The stormwater program regulates large volumes of water that can result from surface runoff, street washing, rain, and snowmelt that drain to receiving waters. The combined sewer program was designed to regulate untreated overflows into receiving

waters from municipalities with combined sewer systems. The sludge program regulates the use and disposal of the semisolid residue from municipal facilities.

In addition to pollutant discharge limits, permits contain requirements to monitor and report on pollutant discharges. States enter major facilities' discharge monitoring data into the Permit Compliance System. The Permit Compliance System is a centralized repository of information used to determine reductions in pollutants discharged to the United States waters.

Region 7 delegated its authority to administer the Kansas permits program to the Kansas Department of Health and Environment. The Kansas Department of Health and Environment is responsible for protecting and maintaining Kansas' water quality. The Division of Environment within the Kansas Department of Health and Environment is responsible for implementing Kansas' permits program. In fiscal 1998, EPA provided \$850,000 in grants to the Kansas Department of Health and Environment for Kansas' water quality program which includes the permits program.

**SCOPE AND
METHODOLOGY**

We performed our audit in accordance with *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 conducted our fieldwork from June 1997 through January 1998. We performed our fieldwork at Region 7 in Kansas City, Kansas, and at Kansas Department of Health and Environment in Topeka, Kansas.

See Exhibit 1 for scope and methodology details.

**PRIOR AUDIT
COVERAGE**

The Office of Inspector General issued an audit report entitled *Region 7's Efforts to Address Water Pollution From Livestock Waste* (E1HWF6-07-0017-6100312), dated September 30, 1996, and reported that a more structured approach was needed to address livestock waste. The United States General Accounting Office has not issued recent reports directly related to the Kansas permits program.

RESULTS IN BRIEF

When Kansas issued permits, it established permit limits and monitoring requirements, and inspected permittee operations in accordance with EPA regulations. Further, Kansas permitted stormwater, combined sewer, and pretreatment program activities in accordance with EPA regulations. However, Kansas did not reissue expired permits timely. Kansas' failure to submit expired permits for Region 7 review limited the Region's options to ensure Kansas' permits program controlled pollutant discharges into Kansas' waters. As a result, the permittees were allowed to discharge pollutants at levels that could adversely affect aquatic life and human health.

**TIMELY ISSUANCE
OF PERMITS**

Kansas did not reissue 22 percent of its expired permits in the required timeframe. Federal regulations require the periodic review of permits to ensure that changed conditions and advancements in science are considered in establishing permit limits. As of August 1997, Kansas had 832 permits, of which 182 were expired for periods up to 6 years. Kansas officials said they had not reissued these permits due to their change in permitting approach, state legislative mandates, and Region 7's failure to approve Kansas' 1994 water quality standards. As these facilities continue to operate under their expired permits, they may discharge pollutants at levels that could adversely affect aquatic life and human health.

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CFR part 122.46, *Duration of permits*, requires that the duration of permits not exceed 5 years. CFR part 122.6, *Continuation of expiring permit*, allows an expired permit to remain in effect until a new permit is issued.

States are required to develop water quality standards that serve as the regulatory basis for pollutant discharge limits in the permits program. Section 303 of the Clean Water Act, *Water Quality Standards and Implementation Plans*, requires states to review their water quality standards once every 3 years and obtain EPA approval for the standards. EPA is required to promulgate water quality standards for the state if EPA disapproves a state's water quality standards. CFR part 131.21, *EPA review and approval of water quality standards*, provides that a state's water quality standards remain in effect unless EPA promulgates standards for the state.

The status of Kansas permits, as of August 1997, by major and minor facilities are shown in Table 1.

Table 1: Expired Permits

<u>Type of Facility</u>	<u>Number of Permits</u>	<u>Number of Expired Permits</u>	<u>Percent Expired</u>
Major	56	26	46
Minor	<u>776</u>	<u>156</u>	20
TOTAL	832	182	22

We analyzed the backlog of the 26 expired major permits and found 2 were subsequently issued. Of the remaining 24 permits, 6 were attributed to Kansas' change in permitting approach, 17 to changes in the ammonia water quality standard, and 1 to changes in the arsenic water quality standard.

Change in Permitting
Approach

In 1994, Kansas changed its permitting approach to issue all permits in a geographical location, or basin, at the same time. This approach allows Kansas to more effectively develop permit limits for all dischargers in the same basin, using water quality data from the same point in time. Six of the major expired permits were located in the Kansas Lower Republican Basin. This basin is Kansas' current priority for implementing the new permitting approach. Thus, we believe it is reasonable that the permits were temporarily allowed to expire to switch all permits in the Kansas Lower Republican Basin to the same permit cycle.

Change in Ammonia Water
Quality Standard

Kansas did not issue 17 major permits pending resolution of differences between Kansas and Region 7 over ammonia water quality standards. Kansas adopted more restrictive ammonia water quality criteria in 1994. However, Kansas officials said they could not issue the permits using the more restrictive 1994 ammonia limits because Region 7 had not approved Kansas' 1994 water quality standards. In 1994, Kansas adopted an ammonia water quality standard that was compatible with EPA's 1985 ammonia guidance. Region 7 was supportive of Kansas' 1994 ammonia standard and complimented the State on its revision. However, Region 7 did not formally approve Kansas' 1994 water quality standards due to concerns with pollutants other than ammonia.

Permittee complaints and EPA's lack of formal response to the 1994 Kansas water quality standards led to Kansas House Bill 2368, dated May 1, 1997. The House Bill provided permittees their choice of ammonia permit limits based on Kansas' 1994 standard or interim limits based on the less restrictive 1987 standard, pending a special commission review of Kansas surface water quality standards. The House Bill cited uncertainty over the science used to develop Kansas' 1994 ammonia standard and the social and economic costs to meet the 1994 standard.

The uncertainty over the science rose from the types of aquatic life used in EPA's testing. EPA acknowledged that the science that supported its 1985 ammonia guidance was based on aquatic life that may not be indigenous to all states. However, Kansas developed its 1994 ammonia standards based on its own studies using aquatic life indigenous to the State.

The House Bill also cited Kansas' concern over the social and economic cost to meet the 1994 ammonia standard. Kansas officials identified 5 of the 17 facilities that would need plant upgrades to meet the 1994 ammonia standard. Kansas officials thought the remaining 12 major facilities would not require upgrades; however, they believed the permittees would not agree to ammonia permit limits. As a result, Kansas did not issue the 17 permits and stopped the permits issuance process prior to submitting the permits for public comment and Region 7 review. These permittees continue to operate under their less restrictive expired permits.

Kansas did issue several major facility permits that limited ammonia based on the 1994 ammonia water quality standard. During 1997, Kansas issued permits containing ammonia limits based on its 1994 ammonia water quality standard to two major municipal wastewater treatment plants. Kansas officials said that the facilities needed to upgrade the treatment plants for reasons other than ammonia; however, Kansas developed the permits limits using the 1994 ammonia standard as the basis of design for the new treatment plant.

Change in Arsenic Water
Quality Standard

Kansas did not issue one major permit pending resolution of differences between Kansas and Region 7 over the arsenic water quality standards. EPA promulgated water quality standards for Kansas in 1991 which included standards for arsenic. Kansas did not agree with the national promulgated arsenic standards, and adopted a less restrictive standard in 1994. Region 7 had concerns whether Kansas' 1994 arsenic standard was protective of human health and did not

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approve the standard. Kansas and Region 7 are still in negotiations over this water quality standard. As the new permit had not been issued, the permittee is operating under the expired permit, which includes arsenic limits that are not as strict as current EPA science. As a result, this permittee may be discharging arsenic at levels unsafe for human health.

**OVERSIGHT OF
KANSAS PERMITS
PROGRAM**

Kansas' failure to submit expired permits for Region 7 review limited the Region's oversight options to ensure that the Kansas permits program appropriately controlled pollutant discharges in Kansas waters. As Kansas did not submit the revised permits to Region 7, the Region could not review and approve or comment on the permits.

CFR part 123.43 *Transmission of information to EPA*, requires that states submit draft permits to EPA for review at the same time the permit is submitted for public notice. The regulations provide that EPA may only issue a permit in a delegated state if objections are raised and not resolved.

Region 7's failure to approve the Kansas 1994 water quality standards contributed to the Kansas permits backlog. The Region recognized its need to approve state standards as a fiscal 1997 Federal Managers' Financial Integrity Act area of concern, and committed in its fiscal 1998/1999 regional management agreement with Office of Water to complete timely approval actions.

Region 7 and Kansas also recognized Kansas' permits backlog as a concern in 1996, and established the issuance of expired permits as a high priority in Kansas' fiscal 1997 annual work plan. The annual work plan identifies mutual expectations as well as the State's responsibilities and priorities for the upcoming year. However, the Region did not exercise its option of withholding grant funds for Kansas' failure to issue expired permits.

**OPPORTUNITY FOR
ADDITIONAL
ENVIRONMENTAL
DATA**

Region 7 developed a software program for Kansas that may be used to improve the quality of environmental data used to measure the success of the permits program. EPA does not require states to record minor permittee discharge monitoring data in the Permit Compliance System as the process is time-consuming and expensive; however, CFR part 123.45 *Noncompliance and program reporting by the Director*, does require states to report on their reviews, compliance issues, and enforcement actions for minor permits. Region 7 developed a software program that electronically transfers discharge monitoring data from Kansas' 56 major facilities to the Permit Compliance System. Kansas could use the program to record discharge monitoring data for its 776 minor facilities, as the program eliminates the time and expense barriers to recording minor permittee monitoring data.

EPA uses the discharge monitoring data as a surrogate environmental indicator of the success of the permits program. This environmental indicator may be significantly misstated in Kansas as 93 percent of the permitted facilities in Kansas are minors.

RECOMMENDATIONS

We recommend the Regional Administrator direct the Water, Wetlands, and Pesticides Division to:

1. Encourage Kansas to submit all expired permits for major facilities for public comment and Region 7 review.
2. Direct Kansas to establish an action plan for eliminating the backlog of expired permits.
3. Work with Kansas to assess the effect of its permits backlog in developing its water quality monitoring plan.

4. Develop an action plan for the timely review of and prompt action on state water quality standards.
5. Negotiate with Kansas to provide data on minor dischargers in the Permit Compliance System using the newly developed software.

**AUDITEE COMMENTS
AND OIG EVALUATION**

Region 7 generally agreed with the findings and recommendations. Kansas Department of Health and Environment agreed that the report was substantially accurate and factual. Both Region 7 and Kansas provided comments to clarify portions of the report, and we have incorporated these comments and modified the report as appropriate.

Both Region 7 and Kansas indicated that they had begun taking corrective actions through discussion in the fiscal 1999 program grant process. Further, Region 7 notified Kansas of the Region's approval (and disapproval of specific provisions) of Kansas' water quality standards.

Both Region 7 and Kansas emphasized that the Results in Brief conclusion, ". . . permittees were allowed to discharge pollutants at levels that could adversely affect aquatic life and human health" acknowledges the uncertain results of the expired permits. However, neither Region 7 nor Kansas was aware of any evidence of actual impacts to aquatic life or human health from expired permits. Kansas noted that they would act swiftly to minimize such risk if they were aware of factual instances where human life was at imminent risk.

Kansas felt that it would not be cost beneficial to provide data on minor dischargers in the Permit Compliance System using the Region 7 developed software. As EPA uses the discharge monitoring data as a surrogate environmental

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indicator of the success of the permits program, we recommend that Kansas consider prioritizing the minor dischargers and use the software program as they have resources.

SCOPE AND METHODOLOGY

We reviewed Kansas' internal controls over the permits program. We analyzed internal controls to assure compliance with federal statutory and regulatory criteria and with the State's policies and procedures. We determined whether Region 7's Federal Managers' Financial Integrity Act reports disclosed any material weaknesses applicable to the audit. Our audit disclosed several areas needing improvement that are discussed in the report.

We focused on the 832 permits Kansas issued to municipal and non-municipal facilities to limit pollution discharges. The review did not include permits for confined animal feeding operations, as these are zero discharging permits and were addressed in a prior audit. Further, the review did not include Kansas supplement permits are not part of the National Pollution Discharge Elimination System.

To determine whether Kansas procedures ensured complete and timely permits were issued and whether permit limits were appropriately calculated and monitored, we interviewed Kansas and Region 7 officials to obtain an understanding of their procedures for administering the permits program. We compared permit procedures to applicable laws, regulations, and documentation provided by Region 7 and Kansas.

We selected a judgmental sample of 10 of Kansas' 832 permits to determine if Kansas implemented procedures to ensure complete permits were issued. The 10 permits were for major and minor facilities located in areas of impaired water. We compared the permit information to the requirements in CFR parts 122 to 133, and the Permit Writers Manual (EPA-833-B-96-003), dated December 1996. We analyzed Kansas' automated permit data to evaluate the timeliness of permits issued.

To determine whether Kansas monitored permit conditions, including effluent limitations and compliance schedules, we reviewed Kansas' inventory of inspections and reviewed the contents of inspection reports. We obtained Kansas' procedures for monitoring discharges and compared monthly discharge monitoring report data with permit limits to determine if permittees complied with effluent limits.

To determine whether Kansas effectively permitted stormwater, combined sewers, sludge, and pretreatment, we interviewed Kansas and Region 7 personnel to determine how they ensured programs operated in compliance with EPA regulations. For stormwater, we reviewed the basic permit to determine if the required elements were included and if stormwater permits were issued

for construction sites. We reviewed the three Kansas combined sewer permits to determine if the permits included the required controls and long range plans. To evaluate the Kansas sludge program, we reviewed three annual reports and sludge procedures for compliance with sludge regulations. Also, we reviewed controls over the 15 approved pretreatment programs and determined if municipal facilities' permits included pretreatment requirements.

To evaluate Region 7 monitoring of Kansas implementation of the permits program, we interviewed Region 7 personnel to determine how they evaluated the Kansas permits program. We reviewed management agreements to determine required performance. We reviewed Kansas work plans to evaluate activities and performance reporting. We also reviewed correspondence between Region 7 and Kansas to identify issues or areas of interest.

AUDITEE RESPONSE

TO BE ADDED.

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