Office of Inspector General

Final Report

Pennsylvania's Reporting of Safe Drinking Water Violations

Report No. 2002-P-00007 **March 25, 2002**

Region Covered:	**Region 3**
State Covered:	**Pennsylvania**
Program Office:	**Office of Water**
Resource Center Conducting the Audit:	**Mid-Atlantic Division, Philadelphia, PA**
Contributors:	**Anne Bavuso** **Teri Woodcock**

Abbreviations

EPA:	Environmental Protection Agency
MCL:	Maximum Contaminant Level
OGWDW:	Office of Ground Water and Drinking Water
OIG:	Office of Inspector General
PADEP:	Pennsylvania Department of Environmental Protection
PADWIS:	Pennsylvania Safe Drinking Water Information System
SDWIS:	Safe Drinking Water Information System

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL
MID-ATLANTIC DIVISION
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March 25, 2002

MEMORANDUM

SUBJECT: Final Report:
Pennsylvania's Reporting of Safe Drinking Water Violations
Report No. 2002-P-00007

FROM: Carl A. Jannetti
Divisional Inspector General for Audit
Mid-Atlantic Division (3AI00)

TO: Thomas C. Voltaggio
Deputy Regional Administrator
Region 3 (3DA00)

G. Tracy Mehan
Assistant Administrator
Office of Water (4101)

Attached is our final report on Pennsylvania's Reporting of Safe Drinking Water Violations. We initiated our review as a result of information learned regarding the Pennsylvania Department of Environmental Protection (PADEP) not reporting violations of drinking water standards into the Federal data systems. The results of our review indicated that PADEP may be excluding critical monitoring data from its compliance determinations.

This final report contains issues that describe problems the Office of Inspector General (OIG) has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG. Final determinations on matters in this report will be made by EPA managers in accordance with established EPA audit resolution procedures. Accordingly, the issues contained in this report do not represent the final EPA position, and are not binding upon EPA in any enforcement proceedings brought by EPA or the Department of Justice.

Action Required

In accordance with EPA Manual 2750, the action officials are required to provide a written response to the report within 90 days. We request that Region 3 coordinate its response with any response provided by PADEP. Also, we request that you provide us with copies of the Region 3 States' procedures for sampling at sources other than permanent sources. The action officials' response should address all recommendations, and include milestone dates for corrective actions.

We have no objections to the further release of this report to the public. If you or your staff have any questions regarding this report, please contact me or Teri Woodcock at (215) 814-5800.

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Pennsylvania May Not Be Reporting to EPA All Maximum Contaminant Level Violations

The Pennsylvania Department of Environmental Protection (PADEP) may not be reporting to the U.S. Environmental Protection Agency (EPA) all maximum contaminant level (MCL) violations of the Safe Drinking Water Act. Specifically, PADEP may be excluding critical entry point monitoring data from its compliance determinations. This exclusion of data, due to insufficient guidance and PADEP not always ensuring its laboratory reporting procedures are followed, may have contributed to EPA not being aware of a major health crisis at one location. If PADEP does not correct these problems, the likelihood of EPA not being made aware of future occurrences of public health risks remains.

During our review, we also noted an additional reporting problem. Specifically, PADEP does not notify EPA of all its drinking water sources, because EPA does not explicitly require this information. In the event of an environmental disaster, drought, or outside threat, it is our opinion that EPA should have knowledge of all drinking water sources that are in use or could be put into service quickly, in case this information is needed to protect the public.

Instance of Contamination Sparked Concern

In early 2000, a public interest group notified EPA that drinking water samples taken from an "emergency" source of water for the Borough of Zelienople, PA, contained dangerously high levels of nitrates. The Connoquenessing Creek, which was being used to supplement the Borough's drinking water supply due to the shortage of available water during drought conditions, was downstream from a steel producer. In drinking water, nitrates can impair metabolism and deprive the brain of oxygen. Nitrates above the safe drinking water level pose an acute health risk for infants, pregnant women, and nursing mothers.

The State had been aware of high nitrate levels in the Connoquenessing Creek for several years. When the Creek was in use during periods of 1998 and 1999, the public water system for Zelienople notified the State of the high levels of nitrate. At the suggestion of State officials, the public water system provided bottled water to pregnant women and infants.

EPA responded to concerns raised by the public interest group by issuing an emergency order to the steel producer causing the high nitrate levels. This order required the steel producer to provide an alternate source of water, such as bottled water, to the more than 4,000 customers of the public water system, and reduce dangerous nitrate discharges from its operation.

Purpose of Report

We initiated our review based on the above information about Zelienople. We obtained this information during a prior unrelated audit and from EPA and Zelienople websites. From this information, we learned that PADEP did not report nitrate violations to EPA. The intent of this review was to identify similar occurrences in a sample of public water systems. The objectives of the review were to determine whether: (1) drinking water violations reported to PADEP are being entered into its data management system, and (2) PADEP is reporting the violations to EPA. Details on our scope and methodology are in Exhibit 1.

Although we did not review the Zelienople public water system, we did review 27 public water systems during our preliminary research. We did not identify any instances of PADEP not entering violations into its data management system or reporting them to EPA. Therefore, we did not proceed with any further work in this area.

However, in an effort to understand how the exclusion of entry point monitoring data into the Pennsylvania Drinking Water Information System (PADWIS) could occur, we asked PADEP staff to explain its procedures for entering data into PADWIS when emergency, reserve, interim, and seasonal water supply sources (referred to herein as non-permanent entry points) distribute water to the public.

After discussions with PADEP and EPA Region 3 personnel, we noted that PADEP's guidance does not specifically require compliance monitoring for non-permanent entry points when water is distributed to the public. In addition, PADEP does not always ensure that its laboratory reporting procedures are followed. Further, we believe that EPA national guidance is needed to establish definitions and compliance monitoring requirements for non-permanent entry points. If these issues are not addressed, the likelihood of EPA not being made aware of future occurrences of public health risks remains. Thus, we are reporting on this information.

Background

Both Federal and PADEP regulations require public water systems to monitor for a wide variety of contaminants to verify that treated water distributed to the public meets all drinking water standards. The monitoring results are sent to PADEP for determination of compliance with drinking water standards. When PADEP determines that an MCL violation has occurred, PADEP is responsible for reporting the information quarterly to EPA through the Federal Safe Drinking Water Information System (SDWIS). The transfer of violation information occurs from PADWIS to SDWIS, allowing EPA to ensure that unsafe conditions are promptly addressed and the public health is protected. In essence, the "compliance process" includes both monitoring and reporting requirements.

Monitoring for many chemical contaminants is required to be conducted at entry points. An entry point is where treated water is passed from the public water system to customers. In Pennsylvania, consistent routine monitoring is required at permanent entry points. For non-permanent entry points, monitoring is conducted at PADEP's discretion. Details on the drinking water program are in Exhibit 2.

Regulations Require Monitoring and Reporting of MCL Violations

Title 40 Code of Federal Regulations Parts 141.23 and 141.24 requires compliance monitoring to represent all sources. The monitoring requirements for surface water systems for inorganic compounds, volatile organic compounds, and synthetic organic compounds state:

> *Surface water systems shall take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment.*

Similar regulations apply to ground water systems. Also, for systems that use more than one source of water, the requirements state:

> *If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used.)*

Pennsylvania Code also supports all sources being included in compliance monitoring. Specifically, Pennsylvania Code Title 25 Section 109.303(4) requires that all samples for determining compliance with MCLs for organic contaminants and inorganic contaminants and with the special monitoring for unregulated contaminants shall be taken at each entry point to the distribution system after an application of treatment during periods of normal operating conditions. If a system draws water from more than one source and the sources are combined prior to distribution, the system shall sample at the entry point where the water is representative of combined sources being used during normal operating conditions.

Pennsylvania Code Title 25 Section 109.301(11) outlines monitoring requirements for entry points that do not provide water continuously. These entry points are required to have compliance monitoring for inorganic compounds, volatile organic compounds, and synthetic organic compounds during the period in which they provide water to the public, unless special monitoring is required by PADEP under Pennsylvania Code Title 25 Section 109.302.

The results of the monitoring are used by PADEP for determining compliance with the MCLs. Not all MCL exceedances are violations of the drinking water regulations. Compliance with the MCLs is based on more than one sample collected at the entry point, and the calculation for determining compliance can vary depending on the contaminant. For example, for contaminants such as volatile organic compounds, an individual sample may exceed the MCL value, but an MCL violation will not occur unless the running annual average of all samples collected over four quarters exceeds the MCL value. In accordance with Title 40 Code of Federal Regulations Part 142.15, each State that has primary enforcement responsibility shall submit quarterly reports to EPA on new violations by the public water systems in the State during the previous quarter.

PADEP Needs More Inclusive Definition of Compliance

After discussions with PADEP and EPA Region 3 personnel, we found problems with PADEP's guidance and laboratory reporting procedures that need to be addressed to prevent incidents where MCL violations may not be reported to EPA.

Guidance Only Requires Compliance Monitoring for Permanent Entry Points

PADEP's guidance narrowly defines compliance and may contribute to non-permanent entry point monitoring data from being excluded in compliance determinations. PADEP's drinking water regulations, in Section 109.301(11), require compliance monitoring at entry points that do not provide water continuously. However, PADEP's Data Management Staff Handbook, Appendix I, implies that compliance monitoring is only required for entry points that are used on a regular basis.

Specifically, PADEP's Data Management Staff Handbook states that consistent routine monitoring is required at permanent entry points, which are points used by the water system on a regular basis and are generally relied upon for use all or nearly all the time. For non-permanent entry points, the Handbook states:

> *Reserve entry points should be tested as deemed appropriate at the discretion of DEP staff when put into use.*
>
> *Emergency sources, before put into use, should undergo testing as deemed appropriate at the discretion of DEP staff.*

This language, along with information from PADEP staff, indicates that data from the monitoring conducted at non-permanent entry points may not always be used for compliance purposes.

In addition, when a non-permanent and permanent source share the same entry point, the entry point monitoring results subsequently obtained when the non-permanent source was activated may or may not be entered into PADWIS to be used for automated compliance determinations. This is because the compliance monitoring and reporting requirements had already been fulfilled for that entry point. If this situation should occur, it would conflict with the compliance monitoring requirements in the federal regulations relating to combined sources. These regulations require a system that draws from more than one source and the sources are combined before distribution, to sample when the water is representative of all sources being used.

Laboratory Reporting Procedures Not Followed

Federal and State regulations require compliance monitoring to be conducted by a certified laboratory that uses an approved EPA analytical testing methodology. PADEP's guidance requires certified

laboratories to report monitoring results to PADEP on specific forms depending on the contaminant tested. These forms trigger routine entry of the results into PADWIS for automatic compliance determinations. Based on discussions with PADEP officials, we concluded that these forms are only used to report monitoring results for permanent entry points – those regularly used to supply drinking water to the public.

Non-permanent entry points provide drinking water to the public on a temporary basis, such as during a drought, periods of increased demand, or when permanent facilities are temporarily out of service for maintenance or repairs. However, when these non-permanent sources are used to supplement the permanent entry point, and water is distributed to the public, the reporting procedures as outlined above may not always be followed. For example:

- Safe Drinking Water Act forms may not be routinely used by certified laboratories when reporting sampling results for non-permanent entry point monitoring. PADEP does not require certified laboratories to report results for non-permanent entry point monitoring on the Safe Drinking Water Act forms. The lack of using the proper forms prevents the information from routinely being entered into PADWIS. Although the results can be manually entered into PADWIS, the possibility exists that the results will not be entered and used for compliance.

- If monitoring samples are not specifically classified as compliance samples, the monitoring performed at PADEP's discretion may not be conducted by a certified laboratory, or the laboratory may not use the approved methodology. Either one of these circumstances will prevent the data from being used for compliance purposes.

For all of the above reasons, critical monitoring data may be excluded from being entered into PADWIS for automated compliance determinations, thus preventing MCL violations from being detected and reported to EPA.

PADEP Needs Clear Availability Definitions

PADEP's guidance on the various availability definitions that are used to classify whether a drinking water source is permanent, emergency, reserve, interim, and seasonal needs to be more clearly worded. Availability definitions are the foundation for tracking monitoring data

and the subsequent reporting of the data in PADWIS. However, the definitions are not clearly worded. For example, PADEP needs to better define what constitutes an emergency situation and time frames for its duration. The PADEP guidance indicated an emergency source is only used during "temporary" emergency situations, such as a drought. However, the drought conditions at Zelienople that necessitated the use of the emergency source for several months during 1998 and 1999 were not temporary.

EPA Needs to Strengthen Guidance

EPA's SDWIS guidance may be encouraging States to formulate a narrow definition of compliance. This guidance requires States to report to EPA at least *one source of water* (the primary source) and *all surface water sources*. According to clarification issued in June 1998:

> *Although only one source is needed to register a public water system inventory in SDWIS, the intent of this reporting requirement was always to have all sources of water reported for each public water system.* ***This document therefore clarifies this requirement by stating that <u>all</u> active sources of water should be reported for each public water system.***

However, this clarification does not define what is meant by "active." Although this guidance clarifies an inventory reporting requirement, this language may be encouraging States to associate permanent entry points with compliance requirements. In Pennsylvania, the entry points of active sources are those associated with permanent sources. Compliance monitoring should be required for all "active" entry points when put in use, and should represent combined sources.

Also, EPA needs to define its source availability codes. EPA does not give States any information on how to define these codes (such as permanent or emergency) in its guidance. As already noted regarding Pennsylvania, its availability definitions need revision. In addition, since each State can craft its own definitions, consistency problems can occur when reporting to SDWIS. Because availability codes are the initial step in organizing information in State tracking systems that eventually report violations to EPA, we believe it is important for source availability codes to be discussed in EPA guidance. Guidance to States should make it clear that compliance monitoring and reporting

is required for all entry points when they are activated and distributing water to the public.

EPA Needs Inventory of All Drinking Water Sources

During our review, we noted that PADEP does not notify EPA of all its drinking water sources, because EPA does not explicitly require this information for its SDWIS inventory. It is our opinion that EPA should have knowledge of all drinking water sources that are in use, or could be put into service quickly. EPA Headquarters and Region 3 staff agreed. Drinking water supplies can be subject to natural or environmental disasters, or outside threat. EPA should have knowledge of all sources that could be affected, to ensure sufficient preventive planning and that measures are in place to minimize disastrous consequences.

Recommendations

We recommend that the EPA Region 3 Administrator:

1. Require PADEP to align compliance monitoring guidance with Federal and State drinking water regulations. Specifically, PADEP's Data Management Staff Handbook, Appendix I, should specify monitoring requirements for non-permanent entry points that do not provide water continuously rather than conducting monitoring at PADEP's discretion.

2. Require PADEP to:

   (a) Follow its procedures contained in the Laboratory Reporting Instructions. Specifically, PADEP should require certified laboratories to submit monitoring results on the specific forms. This will ensure that non-permanent entry point monitoring data is entered into PADWIS for compliance determinations, and any MCL violations detected from this monitoring would be reported to EPA.

   (b) Clarify its facility availability definitions contained in the Data Management Staff Handbook. Specifically, PADEP needs to re-evaluate what it considers appropriate use and duration of an emergency entry point.

3. Review compliance reporting procedures for other Region 3 States to ensure they are interpreting compliance appropriately.

In addition, we recommend that the EPA Assistant Administrator for Water:

4. Revise SDWIS guidance to further clarify what is meant by "active" as it applies to SDWIS reporting requirements, and include a discussion of source availability codes.

5. Require States to report to EPA all potential sources of drinking water.

Agency and State Responses and OIG Evaluations

Region 3's Response to Draft Report

The Region emphasized that our review of the 27 public water systems did not indicate any instances where PADEP did not report violations to EPA. The Region noted that our statements about PADEP excluding critical monitoring data are not substantiated by the results of the research and the contents of the draft report. Zelienople was the only case where PADEP failed to recognize and report a violation to EPA, and the Region believes this was an isolated case. Further, the Region believes that, given the information at hand, the risk of PADEP not informing EPA of a serious health threat is not significant.

The Region also referred to "special purpose" samples, and that any exceedances resulting from those samples are not compliance samples and are not reportable to EPA. Region 3 would not expect the States to report this information because the samples are taken for other than compliance purposes. The Region suggested we correct the statements regarding the reporting of additional monitoring results.

With regards to our recommendations, Region 3 agreed with Recommendation 1. However, the Region did not know of any areas where PADEP's compliance monitoring or reporting procedures and guidance are not aligned with federal requirements. Region 3 did not agree with Recommendation 2 and suggested the recommendation be reworded. Region 3 agreed with Recommendation 3 and provided information on actions underway.

OIG Evaluation of Region 3's Response

During our exit conference with Region 3, we clarified several issues. We advised Region 3 that our review did not include the Zelienople public water system, and that the information about that situation included in our report was obtained during a prior unrelated audit and from EPA and Zelienople websites. In addition, we explained that during our limited review of 27 public water systems, some of our work involved "special purpose" samples and that we understand that these results are not used for compliance purposes. Further, we clarified that our report focuses on the exclusion of non-permanent entry point monitoring data from compliance determinations.

We clearly state in our report that our limited review of the 27 public water systems did not disclose any reporting failures by PADEP. However, based on our discussions with PADEP and Region 3 personnel, as well as the Zelienople situation – our reason for reviewing PADEP's reporting of violations to EPA – we believe improvements to PADEP's drinking water program are necessary. Only one instance, like that at Zelienople, can have serious consequences.

With regard to Recommendation 1, we believe that PADEP's procedures and guidance for compliance monitoring and reporting need to be aligned with federal requirements. PADEP's Data Management Staff Handbook notes that monitoring at non-permanent entry points is at PADEP's discretion, rather than required, as outlined in its own regulations as well as federal requirements. Although monitoring may be performed at these entry points, the results may not always be considered for compliance determinations. Federal and State regulations clearly require compliance monitoring at non-permanent entry points, and PADEP's guidance and procedures should ensure this occurs.

We reworded Recommendation 2 as suggested. Regarding Recommendation 3, Region 3 concurred and indicated actions are already underway. The Region intends to formally document procedures in all Region 3 States for sampling at sources other than permanent sources. In addition, Region 3 indicated it will suggest that the Office of Ground Water and Drinking Water add a section on reviewing drinking water source use and monitoring for other than permanent sources to its Data Verification Protocol. The Region's proposed actions for Recommendation 3 meet the intent of our recommendation.

PADEP's Response to Draft Report

PADEP emphasized that our review of the 27 public water systems did not indicate any instances where PADEP did not report violations to EPA. Also, they said our report does not cite any specific instances where PADEP excluded critical monitoring data. Further, PADEP said it is misleading for the OIG to conclude that public health is jeopardized simply because some small amount of data may not be transmitted to EPA.

PADEP said that the OIG incorrectly stated that compliance data is specifically excluded from reporting to EPA based on the assumption that sample data for sources is not being entered into PADWIS and reported to EPA. Chemical monitoring compliance for water supplies is based on entry point samples (treated water), and not source water samples (untreated water). PADEP's response indicates that when the data from an entry point sample is entered into PADWIS that results in a violation of an MCL, the MCL violation is reported to EPA regardless of the source of water. In addition, field staff can manually enter violations into PADWIS, which are also sent to EPA.

PADEP strongly disagreed with the statements indicating that PADWIS does not determine MCL compliance on results submitted for emergency, reserve, interim, and seasonal entry points. PADEP said these statements are incorrect because PADWIS determines MCL compliance on all entry point results regardless of the entry point availability code in PADWIS. When results are submitted to PADEP for a non-permanent entry point, PADWIS will automatically determine MCL compliance for the entry point. When PADWIS determines that an MCL violation has occurred and the field staff validate it, the violation is transmitted to EPA.

Only monitoring compliance determinations for emergency, reserve, interim, and seasonal entry points are not automated in PADWIS because these non-permanent entry points generally are not used for many years. This additional entry point monitoring (when another source is brought online) should be tracked manually by PADEP staff, and PADEP staff should require the certified laboratory to report the data on Safe Drinking Water Act forms in order for PADWIS to determine compliance with the Safe Drinking Water Act MCLs. PADEP agrees that laboratory reporting guidance requires the reporting of all analytical results conducted by the certified laboratory to be submitted on Safe Drinking Water Act forms.

With regard to the recommendations, PADEP disagreed with Recommendation 1, citing that the OIG audit failed to show any discrepancies. PADEP also disagreed with Recommendation 2 because EPA reporting guidelines do not require the reporting of MCL exceedances, only MCL violations. PADEP agreed with Recommendation 3, stating that the recommended action should be an on-going requirement of EPA oversight of the State Safe Drinking Water Programs. PADEP also provided comments on the recommendations addressed to the Assistant Administrator for Water, and conditionally agreed with those recommendations.

OIG's Evaluation of PADEP's Response

During our exit conference with PADEP, we clarified several issues. Specifically, we noted that our review did not include the Zelienople public water system, and that the information about Zelienople in our report was obtained during a prior unrelated audit and from EPA and Zelienople websites. We clearly state that our limited review of the 27 public water systems did not disclose any reporting failures by PADEP. This review was initiated as a result of the Zelienople situation in which contaminated water was distributed to the public. Based on our work, we believe improvements to PADEP's drinking water program are necessary to ensure all non-permanent entry point monitoring data is entered into PADWIS and used for compliance determinations, and any subsequent MCL violations reported to EPA. Only then will EPA be able to adequately perform its oversight function and ensure that no potential health problems exist.

Our report discusses PADEP's narrow concept of compliance, which we believe creates the possibility that non-permanent entry point monitoring results may be overlooked in compliance determinations. Specifically, the guidance implies that consistent routine monitoring is only required at regularly used (permanent) entry points. These results are routinely used for compliance determinations. However, PADEP's guidance suggests that non-permanent entry points are subject to a different type of monitoring at PADEP's discretion, and the results may not be used for compliance determinations. This guidance not only directly impacts PADEP's processing of data but also does not comply with State and Federal regulations requiring compliance monitoring for contaminants at entry points that do not provide water continuously.

We also discuss PADEP not always ensuring certified laboratories use the Safe Drinking Water Act forms when reporting non-permanent

entry point monitoring results to PADEP. Following the structure set forth in its Data Management Handbook, PADEP's current practice requires certified laboratories to submit analytical results on the specific forms only for routine monitoring on permanent entry points. This is despite the fact that PADEP's laboratory guidance requires all analytical reporting from the certified laboratories to be submitted on Safe Drinking Water Act forms. Since the monitoring data for non-permanent entry points (emergency and reserve) may not always be used for compliance determinations, the laboratories report the monitoring results on their letterhead rather than on the specific forms. This is important because only results on Safe Drinking Water Act forms are routinely entered into PADWIS and used for automatic compliance determinations.

Although results submitted to PADEP for non-permanent entry point monitoring can be manually entered into PADWIS, these results will be discounted by PADEP if an uncertified laboratory performed the test or the laboratory used an unapproved testing methodology. We realize that quality assurance checks of results need to be performed. However, our point is that these conditions will more likely occur if the sample is not designated as a compliance sample.

We would like to note that PADEP agreed with our interpretation of Federal and Pennsylvania regulations requiring that compliance monitoring represents all sources. PADEP also agreed that its laboratory reporting guidance requires the reporting of all analytical results conducted by a certified drinking water laboratory to be submitted on the Safe Drinking Water Act forms. Further, PADEP stated that staff should require the certified laboratory to report the analytical data on the forms in order for PADWIS to determine compliance with the MCLs.

Assistant Administrator for Water Response to Draft Report

The Assistant Administrator agreed with recommendations 4 and 5 and provided proposed actions and completion dates. The response indicated the Office of Ground Water and Drinking Water (OGWDW) will evaluate the need for additional guidance to clarify what "active" means regarding sources of drinking water. If a determination is made that the problem is widespread, guidance will be provided to ensure that appropriate actions are taken to protect public health. If the problem exists only in a few States, individual technical assistance and guidance will be provided by the appropriate regional office.

In addition, it was indicated OGWDW will evaluate the need for requiring States to report all sources of drinking water. However, information to be routinely reported to EPA, other than that specifically identified in the regulations, needs to be evaluated and recommended by the State/EPA Data Sharing Committee. If it is found that intermittent and emergency sources of drinking water should be maintained by EPA, the OGWDW will work with the Committee to determine the best method for implementation.

OIG's Evaluation of Assistant Administrator's Response

Although the proposed actions provided by the Office of Water meet the intent of our recommendations, a portion of Recommendation 4, relative to SDWIS source availability codes, was not addressed in the response. The response to that portion of the recommendation was discussed during our exit conference. OGWDW expressed an interest in adding clarifications on availability codes to the SDWIS dictionary. With regard to OGWDW providing additional guidance on the word "active," feedback obtained during a conference call with the regional offices indicated States were interpreting the guidance appropriately and there was no need for additional guidance. However, OGWDW advised there is a need to clarify how an emergency source should be used. It is expected that the proposed actions will be completed by April 2002.

Exhibit 1
Scope and Methodology

We began our research on November 16, 2000. We attended a training course on PADWIS provided by PADEP personnel. We reviewed files for 27 public water systems in Pennsylvania. We visited three PADEP Regional Offices to review various files and discuss issues with personnel. We completed our field work on August 28, 2001.

Based on our research, we determined that we should not proceed with an audit. However, during our research, we noted various areas of concern that if not corrected by PADEP, the likelihood of EPA not being made aware of future occurrences of public health risks remains. Therefore, we discussed those issues with EPA Headquarters and Region 3 personnel, as well as PADEP personnel. We reviewed the various regulations and guidance related to the issues noted. Although Pennsylvania lists four different potential sources of water in addition to permanent – emergency, reserve, interim, and seasonal – we focused on the first two, which appeared to be more likely to be used.

We issued our draft report on November 26, 2001. We received a response from PADEP on December 20, 2001. Region 3 provided a response on January 8, 2002, and the Assistant Administrator for Water provided a response on January 31, 2002. Based on these comments, we revised our report; however, our positions remain the same. These responses are summarized after the "Recommendations" section of this report, and are included in their entirety in Appendices A through C. We held exit conferences with the EPA Office of Water, Region 3, and PADEP during February 2002.

We performed our work in accordance with the *Government Auditing Standards*, issued by the Comptroller General of the United States.

Exhibit 2
Details on Drinking Water Program Requirements

The Safe Drinking Water Act was passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources – rivers, lakes, reservoirs, springs, and ground water wells. The Act required EPA to set national health-based standards to protect against both naturally occurring and man-made contaminants that may be found in drinking water. These standards are called maximum contaminant levels (MCLs). The MCL is the highest level of a contaminant that is allowed in drinking water delivered to the public. These levels are enforceable standards.

The Act gave EPA authority to delegate to States primary responsibility (primacy) for enforcing the regulations. States with this authority must adopt standards at least as stringent as EPA's, and must make sure water systems meet these standards. In addition, States should ensure water systems monitor for contaminants, review plans for water system improvements, conduct on-site inspections and sanitary surveys, provide training and technical assistance, and take action against water systems not meeting standards. Pennsylvania has been delegated primacy.

Both Federal and PADEP regulations require water systems to monitor for a wide variety of contaminants to verify that the water they provide to the public meets all Federal and State standards. The monitoring results are sent to PADEP for determination of compliance with drinking water standards. When PADEP determines that a MCL violation has occurred, PADEP is responsible for reporting the information quarterly to EPA through SDWIS. The transfer of violation information occurs from PADWIS to SDWIS, allowing EPA to ensure that unsafe conditions are promptly addressed and the public health is protected. In essence, the "compliance process" includes both monitoring and reporting requirements.

The major classes of contaminants water systems must monitor include volatile organic compounds, synthetic organic compounds, inorganic compounds, radionuclides, and microbial organisms. Monitoring for these contaminants takes place on varying schedules and at different locations throughout the water system.

Regulations require public water systems to determine compliance with the MCLs for volatile organic compounds, synthetic organic compounds, and inorganic compounds by taking samples at entry points to the distribution system at a location where water is representative of all sources. Entry points can be designated to include one or more sources of water supply. If a source of water that supplements

the permanent supply has its own entry point, the regulations require monitoring at this entry point when the source is in use. For example, if the source is not used for 2 years, this water does not need to be sampled during that 2-year period. However, once that source is put into use, compliance monitoring and reporting is required for its entry point. If drinking water entry points contain "combined" sources (more than one source) of water, the compliance sample and monitoring is required by the regulations to represent normal operating conditions, and be representative of all sources.

In addition, Federal and State regulations require compliance monitoring to be performed by a certified laboratory. The laboratory must use an EPA-approved method to analyze the results. Under PADEP's guidance for laboratory reporting, laboratories are required to report the results of all monitoring on Safe Drinking Water Act forms to ensure routine input of the results into its data management system for automatic compliance determinations. Pennsylvania uses PADWIS, a comprehensive data management system, to support and manage the safe drinking water program.

PADWIS contains several different subsystems that store specific types of drinking water information. The Inventory Subsystem contains information pertaining to sources of water supply for each public water system. It also includes the source availability, location, service area, treatment plant information, entry point information, and monitoring frequency for the contaminants. The Sample Subsystem contains the sampling results from compliance monitoring for each public water system. The certified laboratory may send the results of monitoring electronically, or PADEP may manually enter this information. PADWIS automatically generates potential violations based on the data in the Sample Subsystem. Although violations are automatically generated, field staff may also manually add violations to PADWIS. Potential violations must be validated prior to being captured in the Violation and Enforcement Subsystem. Valid violations are reported to EPA on a quarterly basis.

SDWIS stores basic information (name, identification number, and source of water) as well as violation and enforcement information for each water system. EPA uses this information to determine if and when it needs to take action against non-compliant systems, oversee State drinking water programs, track contaminant levels, respond to public inquiries, and prepare national reports to Congress and the public on the status of public drinking water. EPA also uses the information in SDWIS to evaluate the effectiveness of its programs and regulations, and to determine whether new regulations are needed to further protect the public health.

Appendix A

Environmental Protection Agency
Region 3 Response

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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SUBJECT: Review of Draft Report No. 2001-000398: Pennsylvania's Reporting of Safe Drinking Water Violations

FROM: Thomas C. Voltaggio
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Divisional Inspector General For Audit
Mid-Atlantic Division (3AI00)

Thank you for the opportunity to respond to the above referenced draft report and to comment on the recommendations of the report. We appreciate the opportunity to provide input and to offer clarification of the Public Water System Supervision (PWSS) Program and the National Primary Drinking Water Regulations. We also appreciate the Office of Inspector General for Audit's detailed reviews conducted of monitoring and reporting data for 27 water suppliers in Pennsylvania. These comprehensive reviews of water systems with raw water intakes on streams with impaired water quality provided valuable assurance regarding the safety of public water supplies coming from those sources of drinking water.

The Region's response includes general and specific comments related to the factual accuracy of the report, actions taken and comments on the recommendations. This response covers the survey report and the recommendations for the Administrator of the U.S. Environmental Protection Agency (EPA) Region III. The Office of Water will be responding separately to the recommendations made to the Assistant Administrator for Water.

General Comments

- In both of your November 26, 2001 transmittal memoranda, you state that during this preliminary research, your Office found that the Pennsylvania Department of Environmental Protection (PADEP) is not reporting to EPA all instances of drinking water standards being exceeded because the Department is excluding critical information from its compliance determinations. EPA Region III recommends that the final report clarify that the only identified instance of PADEP not reporting a violation was in relation to the Zelienople water system case where PADEP did fail to recognize and report a violation to EPA. The Zelienople case seems to be an isolated incident. The review of 27 selected water systems during the preliminary research did not find any instances where PADEP failed to report violations. Except for the Zelienople water system case, EPA Region III has no evidence to say that PADEP does not meet the PWSS program primacy

requirements found in 40 C.F.R. § 142. The final report and associated correspondence should more clearly reflect this.

- Monitoring requirements for inorganic, organic and synthetic organic chemicals, as specified in 40 C.F.R. §§ 141.23 and 141.24, specify that water suppliers must take samples at every entry point to the distribution system which is representative of each source, after treatment. The requirements also state that each sample [for compliance purposes] must be taken at the same sampling point unless conditions make another sampling point more representative of each source's treatment plant. The final report should acknowledge that samples taken elsewhere for special purposes are not considered compliance samples and, as such, any exceedances resulting from those samples are not required to be reported to EPA. Another example where a single sample result that exceeds the drinking water standard is not a violation is when the result is to be averaged with other samples taken either as a confirmation sample, or when compliance is determined by calculating running annual averages of quarterly samples. If the average is below the MCL, there is no violation.

  Not all MCL exceedances are violations of the National Primary Drinking Water Regulations (NPDWR). State primacy agencies such as PADEP are only required to report violations of the NPDWRs to EPA. It is the primacy state's discretion to report sample results that exceed the MCL if they are samples taken for purposes other than for compliance monitoring, e.g., for investigation or assessment purposes of source water prior to treatment, or in the distribution system. The report refers to "additional monitoring" in several places and infers that PADEP has committed an error for not reporting results from this additional monitoring. Many times, monitoring results from these special purpose sampling events cannot be used for compliance determination purposes based on where the sample was taken, how the chain of custody was treated and the laboratory methods used to perform the analyses.

  EPA Region III would not expect state primacy agencies to report most of this information. States may use discretion in reporting special purpose sampling results and must report violations generated by these results if the state determines that those results are to be used for compliance determination purposes. The final report should correct statements made regarding MCL exceedances and additional monitoring results reporting (such as in the November 26, 2001 memorandum, the title on page 1, the second sentence of the first paragraph of page 2 and on page 4, last sentence, second paragraph).

Specific Comments

Page 1

- The title "Pennsylvania Is Not Reporting to EPA All Instances of Safe Drinking Water Levels Being Exceeded" is not factual and should be worded in the past tense. There is no evidence, other than the historical knowledge of what happened in the Zelienople case, that PADEP continues to violate federal requirements.

- The draft report states that PADEP is not reporting all exceedances of drinking water standards. Since the preliminary research did not find any reporting failures on the part of PADEP, the report should be modified to reflect that, with the exception of the Zelienople case, PADEP is reporting MCL violations to EPA as required. EPA Region III also believes that, given the information at hand, the risk of PADEP not informing EPA of serious health threats is not significant. The report should accurately reflect this situation.
- It is stated in the last paragraph that during subsequent research, the Office of Inspector General noted that PADEP is excluding critical data from its compliance determinations for systems using emergency, reserve, interim and seasonal water sources. This statement does not appear to be substantiated by the results of the research and the contents of the draft report. The only instance like this mentioned in the draft report was the Zelienople water system, which was not a public water supply reviewed during this preliminary research. We recommend that the final report reflect this.
- The references to bioterrorism here and on page 6 are misleading and not appropriate since there have been no instances of bioterrorism in public water supplies. The statements may cause the public to assume otherwise and should be removed.

Page 2

- Monitoring for many chemical contaminants is done at entry points to the distribution system. It is not accurate to say that *all* chemical contaminants are sampled at entry points to the distribution system (second paragraph, first sentence).
- While it is true that federal and state regulations require monitoring that reflects all entry points to the distribution system, it is not true that monitoring must be conducted at all permanent sources. A permanent source may only be used very infrequently, if ever. These sources and their respective entry points to the distribution system do not need to be monitored unless they are active sources providing water to the public. Federal and state regulations offer the authority to require additional monitoring on a case by case basis since the numerous situations are difficult to capture in a one size fits all regulation.

Page 3

- EPA does not have any strong evidence that nitrates above the MCL are unhealthy for all people. There is limited evidence that nitrates significantly above the MCL of 10 mg/l (i.e.>45 mg/l) may be unhealthy for adults. The third sentence in the third paragraph would be accurate if it was modified to read as follows: “Nitrates above the safe drinking water level can pose an acute health risk for bottle-fed infants six months of age or less.”

Page 6

- For purposes of EPA Region III oversight of the PWSS Program, the Region does not need an inventory of all drinking water sources. Many sources remain on state inventories even though they have been taken out of service and abandoned (e.g., well pumps pulled and wells properly plugged and unprotected springs taken out of service) due to reasons such as water system consolidation or replacement of unsafe sources. EPA Region III agrees that we need inventory information on drinking water sources that are in use, or

could be put into service quickly, but not on all possible sources. The methodology of the preliminary research as stated in Exhibit 1 used this same logic when the researchers focused only on emergency and reserve sources but not on all possible sources.

Page 11

- Exhibit 2 reviews details on the Safe Drinking Water Act, specific drinking water regulations and the PWSS program in general. It does not discuss much in the way of guidance. This exhibit would be more appropriately named "Details on the PWSS Program" or "Details on Drinking Water Program Requirements."

Recommendation Concurrence/Nonconcurrence

Recommendation 1

EPA Region III agrees with this recommendation. We do not, however, know of any areas where PADEP's compliance monitoring or reporting procedures and guidance are not aligned with federal requirements. The Zelienople case aside, the preliminary research in this draft report and programmatic file reviews in the past indicate PADEP is following PWSS Program requirements.

Recommendation 2

EPA Region III does not concur with this recommendation. EPA Region III has clarified with PADEP that the Department must report all MCL violations for sources of drinking water that are supplying water to the public. MCL exceedances at sources of water not providing water to the public are not required to be reported to EPA. EPA Region III suggests that Recommendation 2 be worded as follows: "Require PADEP to clarify data management procedures to ensure the reporting of maximum contaminant level violations for all water sources in use."

Recommendation 3

EPA Region III concurs with this recommendation. Actions in this regard are already underway and are noted below.

EPA Region III Actions Items

- EPA Region III met with state PWSS Program directors on December 11-12, 2001 and informed them of this potential problem area. The state directors were asked to comment on how their programs handle sampling at sources other than permanent sources. Two of the Region III states present could confirm at the meeting that, regardless of a source being classified as seasonal, emergency, interim or other, they require that a full range of testing be done before allowing the source to be placed back into service. The Region will formally document procedures in all Region III states in a written request and during regular state program evaluations and file audits.

- EPA Region III has reviewed reports from data verification audits conducted by the program office from 1992 through 2001 to determine whether similar discrepancies were found in Pennsylvania or other states. No similar occurrence was found. It is important to note, however, that the PWSS Program Data Verification Protocol does not have a specific section on reviewing source usage of other than permanent sources. EPA Region III will recommend that the Office of Ground Water and Drinking Water add a section on reviewing drinking water source use and monitoring to determine if a source labeled in the federal data system as "emergency ," "interim," "seasonal" or "other" is actually used as anything other than as labeled and sampled accordingly.

Thank you for this opportunity to comment on the draft report. If there are any questions on this response, please contact me or have your staff contact Rick Rogers, Chief of the Drinking Water Branch, at 215-814-5711.

cc: Charles Job, Chief, Infrastructure Branch (4606)
Clive Davies, Acting Chief, Protection Branch (4606)
William Diamond, Director, Drinking Water Protection Division (4606)

Appendix B

Pennsylvania Department of Environmental Protection Response

Rachel Carson State Office Building
P.O. Box 8467
Harrisburg, PA 17105-8467
December 20, 2001

Bureau of Water Supply and Wastewater Management 717-787-5017

Mr. Carl A. Jannetti
Divisional Inspector General for Audit
United States Environmental Protection Agency
Office of Inspector General
Mid-Atlantic Division
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Dear Mr. Jannetti:

Enclosed is our response to your draft report on Pennsylvania's Reporting of Safe Drinking Water Violations.

The Safe Drinking Water (SDW) Program at the state and federal levels is extremely complex. We would like to recognize the efforts of Teri Woodcock, Anne Bavuso and Niam Chernosky of your staff, who conducted this review, to learn as much as possible about how the SDW Program is implemented in Pennsylvania and at EPA Region III. Your review of 27 public water systems during the preliminary phase of your audit did not disclose any instances of the Pennsylvania Department of Environmental Protection (PADEP) not entering violations into its data management system or reporting them to EPA, which supports our position as outlined in our response.

We believe that your staff's subsequent research, which noted that PADEP excluded critical data from compliance determinations for systems that used other than permanent supply sources, reached several erroneous conclusions based in part on an incomplete understanding of the SDW Program's complex regulatory and data management requirements. However, your recognition that some of the issues stem from federal guidance deficiencies, which will require EPA to work with Pennsylvania and the rest of the states to correct those deficiencies, is appreciated.

Pennsylvania and other states with primacy for the federal SDW Program are the frontline in the effort to ensure that the health of our citizens and visitors consuming water from public water systems is protected. As you will note in our response, that program includes a great deal of pro-active effort that is in addition to what the federal SDW Program requires to reduce or prevent public health risk. Self-monitoring by public water systems when taken in context with that overall effort is an important part of the total picture of the risk to public health. However, taken by itself, it cannot be used to determine the extent of the total public health risk.

We recommend that the final report on this matter includes the entire text of our response along with your assessment of our comments and any revisions to the draft report. This will ensure that all parties involved in this effort have a thorough understanding of our position. Should you have any questions concerning our comments, please contact Jeffrey A. Gordon, Chief, Division of Drinking Water Management, at (717) 772-4018.

Sincerely,

Frederick A. Marrocco
Director

Enclosure

PADEP Response to OIG Draft Report on
Pennsylvania's Reporting of Safe Drinking Water Violations
Report No. 2001-000398 November 26, 2001

We would like to emphasize that the OIG preliminary review of 27 randomly selected public water systems across Pennsylvania did not disclose any instances of PADEP not entering violations into the data management system (PADWIS) or reporting these violations to EPA. This OIG Draft Report on Pennsylvania's Reporting of Safe Drinking Water Violations (hereinafter "Report") does not cite any specific instances of water systems reviewed where PADEP excluded critical data from any compliance determinations for systems using emergency, reserve, interim or seasonal water supply sources.

The report incorrectly states that compliance data is specifically excluded from reporting to EPA based on the assumption that sample data for sources is not being entered into PADWIS and reported to EPA. Chemical monitoring compliance for water supplies is based on entry point samples, which are treated water, and not source water samples, which are raw untreated water. When the analytical result from an entry point sample is entered into PADWIS that results in a violation of a maximum contaminant level (MCL), the MCL violation is reported to EPA, regardless of the source of water. In addition, field staff can manually enter violations (monitoring or MCL) into PADWIS, which are also sent to EPA.

According to the Federal Safe Drinking Water regulations at 40 CFR Part 141, Subparts B and G, which are incorporated by reference in the Pennsylvania Safe Drinking Water regulations, chemical MCL violations are based on analytical results from water system entry points. Source water analytical results may exceed an MCL value, but they will not result in an MCL violation if the water is not served to the public or if the water is treated to below the MCL before delivery to the public.

In addition, compliance with the Safe Drinking Water regulations is based on more than one sample collected at an entry point. For example, a nitrate entry point sample result may exceed the MCL value of 10 mg/L, but it will not be an MCL violation if the average of the original sample and a check sample collected within 24 hours of the original are below 10 mg/L. For contaminants such as VOCs (volatile organic chemicals), an individual sample may exceed the MCL value, but an MCL violation will not occur unless the running annual average of all samples collected over 4 quarters exceeds the MCL value.

The EPA data reporting requirements are referenced in the *Consolidated Summary of State Reporting Requirements for the Safe Drinking Water Information System (SDWIS)*. Under the reporting requirements for Phase I, II, IIB, and V Rules, which includes the inorganic chemicals (IOCs), volatile organic chemicals (VOCs) and synthetic contaminants (SOCs), the only SDWIS reporting requirements for the States are violations (monitoring and MCL), violations returned to compliance, public notification violations, and formal enforcement actions. Nowhere is it indicated that exceedance of an MCL value is a SDWIS reporting requirement for the States.

Monitoring of the source water (untreated water) for compliance with the safe drinking water regulations is not required at the federal level, only entry point monitoring representative of all

sources being used. Pennsylvania requires water quality monitoring of source water (Title 25 Pa. Code 109.503(1)(iii)(B)) during the permitting process (approval) of a source to determine what treatment (if any) will be needed to ensure water served to the public will meet the safe drinking water quality standards. Federal safe drinking water regulations have no such source water approval requirements.

We agree that 40 C.F.R Parts 142.23 and 141.24 require entry point safe drinking water compliance monitoring to represent all sources. Title 25 Pa. Code 109.303(a)(4) states that samples for determining compliance with MCLs for organic contaminants listed by the EPA under 40 CFR 141.61 (relating to maximum contaminant levels for organic contaminants) and inorganic contaminants listed by the EPA under CFR 141.62 (relating to maximum contaminant levels for inorganic contaminants) and with the special monitoring requirements for unregulated contaminants under § 109.302(f) shall be taken at each entry point to the distribution system after an application of treatment during periods of normal operating conditions. If a system draws water from more than one source and the sources are combined prior to distribution, the system shall sample at the entry point where the water is representative of combined sources being used during normal operating conditions.

We strongly disagree with the statements on pages 1, 4 and 5 indicating that PADWIS does not determine MCL compliance on analytical results submitted for emergency, reserve, interim, and seasonal entry points. This is incorrect in that PADWIS determines MCL compliance on all entry point analytical results submitted to PADEP regardless of the entry point availability code in PADWIS (e.g., emergency).

Only monitoring compliance determinations for emergency, reserve, interim, and seasonal entry points are not automated in PADWIS. **All MCL** compliance determinations **are** automated. The reason monitoring compliance determinations are not automated for these non-permanent entry points is that they generally are not used for many years. Automating PADWIS to look for routine monitoring on entry points that are not serving water to the public would result in the generation of thousands of erroneous monitoring violations.

When analytical results are submitted to PADEP for a non-permanent entry point, PADWIS will automatically determine MCL compliance for the entry point. When PADWIS determines that an MCL violation has occurred and the field staff validate it, the violation will be automatically transmitted to EPA. The decision is left with PADEP field staff whether to require entry point monitoring of these non-permanent sources before the source is used and to set the monitoring frequency in PADWIS.

There are specific situations that occur with sources that cannot be addressed by setting PADWIS to automatically and indiscriminately require routine monitoring of non-permanent entry points. As stated in our response to OIG questions of August 27, 2001, PADEP field staff may wish to set initial entry point monitoring on a more frequent basis than normally required due to circumstances such as a potential source of contamination since the source was first permitted. This is why our guidance states that monitoring at entry points for emergency and reserve sources is “at the discretion of” PADEP staff.

OIG states on page 3 of the Report that PADEP officials did not believe they were required to report to EPA an instance of dangerous drinking water levels because compliance monitoring had already been performed at the entry point when a permanent but not emergency water source was in use. We believe OIG staff are confusing automated compliance determinations in PADWIS with EPA reporting requirements.

PADWIS can only be automated to determine monitoring compliance at entry points since monitoring at individual source water locations is not a requirement for compliance determinations under the Safe Drinking Water regulations. Therefore, staff would not be alerted by PADWIS of a monitoring violation if a system did not collect an additional sample after bringing another source online during a monitoring period in which an entry point sample had previously been analyzed and entered into PADWIS.

Staff should track this type of additional entry point monitoring manually and require the certified laboratory to report the analytical data on SDWA forms in order for PADWIS to determine compliance with the Safe Drinking Water regulation MCLs. Any MCL violations would then be reported to EPA from PADWIS. When analytical data for entry points is entered into PADWIS, MCL compliance determinations are made by PADWIS regardless of source code availability or when during the monitoring period the sample is collected.

On page 4 of the Report, OIG indicates that instances of safe drinking water levels being exceeded are only reported to EPA at the State's discretion. PADEP disagrees with this statement. Instances of safe drinking water levels being exceeded are reported to EPA when the exceedance results in an MCL violation, as per EPA reporting instructions (see *Consolidated Summary of State Reporting Requirements for the Safe Drinking Water Information System (SDWIS)*).

As stated previously, an exceedance of an MCL is not a violation of the safe drinking water regulations if the water is not being served to the public. Water systems may conduct "additional monitoring" of reserve sources prior to use to determine if treatment is necessary in the event the source will be needed. However, this is not an MCL violation if the reserve source is not being used to provide water to the public at the time of the monitoring.

Compliance with the chemical contaminants of the Safe Drinking Water regulations is based on more than one sample collected at an entry point. IOC MCL violations occur if the average of the original sample and a check sample collected within 24 hours of the original exceed the MCL value. For VOCs an MCL violation will not occur unless the running annual average of all samples collected over 4 quarters exceeds the MCL value.

PADEP disagrees with the statement on page 4 of the Report, which states that all instances in which drinking water standards are exceeded during additional monitoring should be reported to EPA. For the record, the statement from PADEP personnel was that all instances in which an MCL violation occurs should be reported to EPA. Reporting the exceedance of a drinking water standard without an MCL violation is not an EPA reporting requirement (see *Consolidated Summary of State Reporting Requirements for the Safe Drinking Water Information System (SDWIS)*).

PADEP agrees with the OIG assessment that PADEP's data management drinking water source availability definitions could be more clearly worded. Before PADEP clarifies its PADWIS guidance, EPA needs to expand their SDWIS data management source availability codes, including adding a source availability code of "abandoned". Recent information in the August 2001 edition of the EPA *Information Management Update* bulletin indicates that EPA is already in the process of updating source availability codes to have an activity status of active, deactivated, etc. In the interim, PADEP staff have changed all 206 source availability codes in PADWIS that were identified as being incorrect, which was acknowledged by the OIG audit team during their review.

On page 5 of the report, OIG indicates that some analytical results conducted by PADEP certified drinking water laboratories are not being entered into PADWIS since they are not reported on a Safe Drinking Water Act (SDWA) form even though PADEP laboratory reporting guidance indicates all analyses conducted by a certified laboratory should be submitted to PADEP on SDWA forms. The review of 27 water systems did indicate that some source water analytical results conducted by PADEP certified drinking water laboratories were not entered into PADWIS because the results were not submitted on SDWA forms. PADEP agrees that PADEP laboratory reporting guidance does require the reporting of all analytical results conducted by a certified drinking water laboratory to be submitted on SDWA forms.

The analytical results in question from the review relate to additional monitoring of sources that were not in use and, therefore, not conveying water to the public. Since this data pertains to sources of water that may be used in the future, the analytical results should have been reported on SDWA forms and entered into PADWIS in order to maintain a historical record of each potential water supply source. The review indicated the information is currently maintained in hard copy form in the PADEP public water supply permit files. Although these inactive source water analytical results were not entered into PADWIS, a compliance determination was not required since the water was not being served to the public. The lack of this additional source monitoring data in PADWIS did not compromise the public health in any way.

On page 5 of the Report, OIG assumes that monitoring results other than those used for MCL compliance determination purposes do not undergo data quality checks. PADEP disagrees with this assumption. All certified drinking water laboratories in Pennsylvania undergo periodic evaluations of their analytical methodologies to ensure they are using those methods that are approved for use. It is true that PADWIS will place sample results into a "reject file" if the laboratory analysis is not conducted according to the approved laboratory method. However, the field staff are notified of these rejected samples, which allows them to respond to analytical results of concern and to request additional samples using the approved analytical method. Contrary to the OIG statement, these procedures are a data quality check that the certified laboratory did indeed use the approved analytical methodology

On page 5 of the Report, OIG indicates that PADEP does not report exceedances detected at entry points for emergency or reserve sources if it has already conducted compliance monitoring for that entry point. Therefore, if the public water system later detects an exceedance, such as

after an emergency source is put into use, PADEP will not report the exceedance to EPA. Again, we believe OIG staff are confusing automated compliance determinations in PADWIS with EPA reporting requirements.

As stated previously, staff should track this type of additional entry point monitoring manually and require the certified laboratory to report the analytical data on SDWA forms in order for PADWIS to determine compliance with the Safe Drinking Water regulation MCLs. Any MCL violations would then be reported to EPA from PADWIS. When analytical data for entry points is entered into PADWIS, MCL compliance determinations are made by PADWIS regardless of source code availability or when the sample is collected.

On page 6 of the Report, OIG states that PADEP does not notify EPA of all drinking water sources, because EPA does not explicitly require this information for its SDWIS inventory. OIG goes on to state that EPA needs this information since drinking water supplies can be subject to natural or environmental disasters, as well as bioterrorism. PADEP agrees, but would like to clarify why some data is not currently reported to EPA.

Under the Pennsylvania Surface Water Filtration Rule, many water systems decided to abandon their unfiltered surface water sources rather than install filtration treatment, which can be rather expensive. Because SDWIS does not have an availability source code of abandoned, sources in PADWIS with an availability code of abandoned were not sent to EPA to avoid data management problems. Last year at EPA's request, we reported these abandoned sources to EPA but had to assign an availability source code of "other" because SDWIS does not have an abandoned source availability code. Although abandoned unfiltered surface water sources are not subject to the Surface Water Filtration Rule, these abandoned surface water sources are now appearing incorrectly on SDWIS reports as unfiltered surface water sources.

Our on-going efforts to deal with the threat of terrorism and EPA's need for source information should not be tied together with this review as they are not relevant to the issues originally raised. PADEP has been working closely with EPA Region III staff, the FBI, the Federal and Pennsylvania Emergency Management Agencies, ASDWA, and others to ensure that all inventory information and information on activities being conducted by PADEP to improve counter-terrorism efforts is available, if needed.

In summary:

PADEP disagrees with the OIG recommendation that the EPA Region 3 Administrator require PADEP to align compliance monitoring and reporting procedures and guidance with Federal and State drinking water regulations. The OIG audit failed to show any discrepancies as documented by our previous comments.

PADEP disagrees with the OIG recommendation that the EPA Region 3 Administrator require PADEP to clarify data management procedures to ensure the reporting of maximum contaminant level exceedances for all sources of public drinking water. As stated previously, EPA reporting guidelines do not require the reporting of maximum contaminant level exceedances, only maximum contaminant level violations.

PADEP agrees with the OIG recommendation that the EPA Region 3 Administrator should review compliance reporting procedures for other Region 3 States, as this should be an ongoing requirement of EPA oversight of the State Safe Drinking Water programs.

PADEP conditionally agrees with the OIG recommendation that the EPA Assistant Administrator for Water should revise SDWIS guidance on the term "active" and source availability codes, as well as require that States report to EPA all designated sources, so long as the guidance and requirement is conveyed to all EPA Regions and administered uniformly across the nation. This guidance should only apply to data management reporting and not change implementation of the safe drinking water regulations.

PADEP agrees that compliance monitoring is an important part of the Safe Drinking Water Program, but it is only one part of a much greater public health protection effort. Pennsylvania has invested many years of effort in a much more comprehensive approach to ensure that infrastructure, department and water system personnel, operational procedures, public involvement, compliance monitoring, data management, and other activities are all "optimized" in a holistic effort to protect public health. It is misleading for the OIG to conclude that public health is jeopardized simply because some small amount of data may not be transmitted to EPA. The findings in the Report need to be presented in the context of the PADEP's Safe Drinking Water Program with the built-in multiple barriers that we have put into place to protect public health in Pennsylvania.

PADEP staff routinely respond to complaints and violations of public water systems in order to protect public health regardless of whether the information is reported to EPA. Adding more reporting requirements will do nothing to improve our response and may adversely impact our ability to act quickly if we must respond to a public health emergency.

Over the years, PADEP has been proactive in terms of protecting public health. Pennsylvania had a requirement to filter all surface sources before EPA did; and, without the filtration avoidance criteria that the federal regulations currently allow. An additional 130 filter plants were built in Pennsylvania to treat water at systems using unfiltered surface water sources. More than 250 water systems in Pennsylvania have eliminated their unfiltered surface water sources.

Recognizing that protection of finished water from the time it is treated until it flows from a consumer's tap is critical to protection of public health, PADEP required systems with uncovered finished water reservoirs to cover them at the same time we required filtration of all surface sources starting in 1988. EPA did not require finished water reservoirs to be covered until February 16, 1999, under the Enhanced Filtration and Disinfection Rule. To date, all but two uncovered finished water reservoirs in Pennsylvania have been covered, with the remaining two under PADEP order to comply.

To assure that Pennsylvania's 329 filtration plants maximize public health protection for their customers, PADEP initiated the Filter Plant Performance Evaluation (FPPE) program in 1988. The FPPE program has resulted in optimum performance for nearly 90% of Pennsylvania's filter plants. Over 3 million people have benefited from upgrading filter plants in response to the FPPE program.

PADEP is also helping water systems to protect public health through the regional Partnership for Safe Water program, which is one of only three in the nation. Currently, about 25% of the nation's Partnership for Safe Water members are located in Pennsylvania. This voluntary Partnership encourages water systems to conduct a self-assessment of their water system, prepare for upcoming regulations, and optimize their treatment plants for best performance. This program is providing improved public health protection benefits to more than 4.5 million Pennsylvanians.

These programs are essential in terms of protecting public health from the occurrence of giardia, cryptosporidium, and other waterborne disease organisms. Combined with our Joint Cryptosporidium Action Plan with the Pennsylvania Department of Health, which has armed health care providers and public water suppliers with the means to protect the public and raise awareness about waterborne cryptosporidiosis, waterborne disease outbreaks in Pennsylvania are a thing of the past. Pennsylvania has not had a single waterborne disease outbreak sine 1996.

But this is only part of the story. Our Engineering Services Program provides engineering services through an outside contract consultant to water systems unable to afford such services. This program has resulted in 24 small water systems being able to design treatment schemes to ensure water delivered to their customers that meets safe drinking water standards. To date, 5 of these systems have completed construction

Four grant programs, Regionalization Feasibility Studies, County Water Supply Planning, Formation of Water Authorities, and Small Water System Consolidation Grants, are available in Pennsylvania to help small water systems remain viable through consolidation of systems and capital. To date, 39 regionalization studies, 20 county water supply plans, and 3 formation of water authorities grants have been completed. A total of $5.2 million has been awarded under these four grant programs.

The capability enhancement program has provided technical, financial and managerial expertise to more than 33 drinking water systems across Pennsylvania. This investment has resulted in systems on the verge of failure to once again become viable water systems.

PADEP has made a considerable resource commitment to training of operators and field staff. Through the use of the Environmental Training Partnership's 75 peer trainers, on-going assistance services are provided to public and privately owned drinking water systems. The Environmental Training Partnership has provided over 20,000 hours of training annually in such courses as Corrosion Control, Water Math, and Pumps and Pumping.

PADEP has, in cooperation with Penn State Harrisburg, completed construction of a pilot conventional water treatment plant to help train water operators. The focal point of this multipurpose environmental training center is a two-gallon per minute conventional water treatment plant, complete with coagulation, flocculation, sedimentation, filtration, and all associated instrumentation, including turbidity meters, a pH sensor, chart recorders, a display control panel, and a personal computer. The primary purpose of this unit is for "hands-on" operator training, with all unit process tanks constructed of clear acrylic plastic to allow visual inspection and evaluation of process performance.

PADEP has initiated the Source Water Assessment and Protection Program (SWAPP), which will assess all sources of public drinking water for their susceptibility to contamination. This program is a proactive effort to prevent pollution from contaminating a water supply source, rather than treating the contamination after the fact. A cornerstone of the SWAPP is Pennsylvania's Wellhead Protection Program (WHPP). Under the WHPP all groundwater sources developed after October 9, 1995, must take precautions to ensure that potential contamination of the source is limited.

Contracts, grants and staff training are in place to assess all of the 14,000 sources at public water systems in Pennsylvania. To date, 236 community water systems have initiated source water assessments. Three of these systems have completed the source water assessments, which consists of 6 steps: source delineation, source inventory, susceptibility determination, public availability, management measures, and contingency planning.

Additional projects to support development of local source water protection include a grant with the League of Women Voters of PA Citizen Education Fund to administer mini-grants to coalitions of local and regional organizations involved with water resources education projects, the lower Susquehanna pilot SWAPP project on the Swatara Creek Watershed, grants to the PA Rural Water Association for local WHPP development, a grant to Lehigh Valley Water Suppliers for education and promotion projects, a grant to Montana Water Center for development of a source water protection workbook, and a source water protection grant program to support development of local protection programs.

The PADEP Safe Drinking Water Program does much more than ensuring that the safe drinking water regulations are followed and data indicating such is reported to EPA. We are dedicated to protecting the public health through numerous complex programs, some of which are mentioned above. Through the efforts of the PADEP staff these programs have made a dramatic improvement in the quality of water delivered to consumers in Pennsylvania

Appendix C

Environmental Protection Agency
Office of Water Response

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 25 2002

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Draft Report:
Pennsylvania's Reporting of Safe Drinking Water Violations
Draft Report No. 2001-000398

FROM: G. Tracy Mehan, III
Assistant Administrator
Office of Water (4101)

TO: Carl A. Jannetti
Divisional Inspector General for Audit
Mid-Atlantic Division (3AI00)

Thomas C. Voltaggio
Acting Regional Administrator
Region 3 (3DA00)

Thank your for your memorandum of November 26, 2001 transmitting the Draft Report entitled "Pennsylvania's Reporting of Safe Drinking Water Violations" (Draft Report No. 2001-000398). Responses to Findings 4 and 5, as requested in the report are included in this memorandum.

Response Actions

Finding 4: Revise SDWIS guidance to further clarify what "active" means as it applies to SDWIS reporting requirements and include a discussion of source availability codes

Proposed Action: The Office of Ground Water and Drinking Water (OGWDW) will evaluate the need for additional guidance to clarify what "active" means regarding sources of drinking water. We will do this by conducting a conference call with regional offices to determine if the problem identified in Pennsylvania exists in other states. If we find the problem to be widespread, we will provide guidance to ensure that appropriate actions are taken to protect public health. If we find the problem exists only in a few states, individual technical assistance and guidance will be provided by the appropriate regional office.

Responsible Party: Jeffrey Bryan, OGWDW's Associate Branch Chief for the Infrastructure Branch, will be responsible for coordinating and facilitating the proposed actions including conducting the conference call with the regions and making recommendations to this office regarding the implementation method for any corrective actions.

Completion Date: The regional conference call will be held in January 2002. A schedule for other actions that may be required, should any be needed, will be developed after the conference call.

Finding 5: Require states to report to EPA all designated sources of drinking water.

Proposed Action: OGWDW will evaluate the need for requiring states to report all sources of drinking water. The Public Water Supply Supervision (PWSS) program is managed through a partnership of EPA and state primacy programs. Information to be routinely reported to EPA, other than that specifically identified in regulation, is evaluated and recommended by the State/EPA Data Sharing Committee. If it is found that intermittent and emergency sources of drinking water data should be maintained by EPA, we will work with the Committee to determine the best method for implementation.

Responsible Party: Jeffrey Bryan, OGWDW's Associate Branch Chief for the Infrastructure Branch, will be responsible for coordinating and facilitating the proposed actions.

Completion Date: March 29, 2002.

Thank you for the opportunity to provide comments on the Draft Report. We look forward to working with you in the future to improve the information maintained on the drinking water program. Any questions should be directed to Jeffrey Bryan at 202-564-3942.

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Appendix D
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