



OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Evaluation Report

Federal Facilities in Chesapeake Bay Watershed Generally Comply with Major Clean Water Act Permits

Report No. 2007-P-00032

September 5, 2007



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Abbreviations

DoD	Department of Defense
EPA	U.S. Environmental Protection Agency
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
OIG	Office of Inspector General
PCS	Permit Compliance System
SNC	Significant Noncompliance

Cover photo: The Naval Surface Warfare Center Indian Head is a Federal facility within the Chesapeake Bay watershed that operates under a major NPDES permit. The center is a tenant of the Naval Support Facility Indian Head. The Indian Head facility is on a peninsula surrounded by the Potomac River and the Mattawoman Creek in Charles County, Maryland, about 20 miles south of Washington, DC. (Photo from Naval Support Facility Indian Head Website).



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

Much effort is being expended to clean up impaired waters in the Chesapeake Bay watershed. We looked at whether Federal facilities in the watershed were in compliance with Clean Water Act permitted levels, what tools were available for the U.S. Environmental Protection Agency (EPA) to identify permit noncompliance and enforce compliance, and whether EPA's actions were improving compliance at Federal facilities.

Background

One hundred Federal facilities discharge into the Chesapeake Bay or its tributaries. Nine of those facilities operate under major National Pollutant Discharge Elimination System (NPDES) permits. The Clean Water Act provides that any discharges into U.S. waters must be permitted by EPA or a State. The NPDES program assigns discharge amounts to all facilities, including Federal ones. EPA and States regulate compliance with permitted levels and take enforcement actions when necessary.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2007/20070905-2007-P-00032.pdf

Federal Facilities in Chesapeake Bay Watershed Generally Comply with Major Clean Water Act Permits

What We Found

Overall, EPA and the States are doing well managing how major Federal facilities comply with their NPDES permits. In EPA's last reporting period (2004), major Federal facilities in the Chesapeake Bay watershed had a lower rate of Significant Noncompliance than other Federal and non-Federal major-permit facilities nationwide.

EPA and States have a variety of formal and informal tools available to enforce Federal facility compliance with NPDES permits. They employed several of these tools with major Federal facilities. These tools included:

- Multimedia, voluntary agreement, and media press release approaches
- Notices of Violation
- An administrative order
- A Federal Facility Compliance Agreement

Also, EPA developed the Wastewater Integrated Strategy, which seeks to eliminate Federal facility Significant Noncompliance with NPDES permit limits. EPA also worked with the Department of Defense to make NPDES permit compliance a higher priority at military installations (eight of the nine Federal facilities with major NPDES permits are at military installations). Due to our small sample size, we did not determine the tools' relative effectiveness in bringing about and maintaining compliance.

We make no recommendations in this report. Both Region 3 and the Chesapeake Bay Program Office declined to provide formal responses to the draft report.



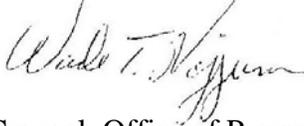
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

September 5, 2007

MEMORANDUM

SUBJECT: Federal Facilities in Chesapeake Bay Watershed
Generally Comply with Major Clean Water Act Permits
Report No. 2007-P-00032

FROM: Wade T. Najjum 
Assistant Inspector General, Office of Program Evaluation

TO: Donald S. Welsh
Regional Administrator, Region 3

Jeffrey L. Lape
Director, Chesapeake Bay Program Office

This is our report on Chesapeake Bay Federal facilities' compliance with the Clean Water Act evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report describes our findings about how the Agency is managing Federal facility compliance with their National Pollutant Discharge Elimination System (NPDES) permits and the tools available to the EPA and States to enforce compliance. We make no recommendations in this report. This report represents the opinion of the OIG and does not necessarily represent the final EPA position.

The estimated cost of this report – calculated by multiplying the project's staff days by the applicable daily full cost billing rates in effect at the time – is \$184,914.

Action Required

Because this report contains no recommendations, you are not required to respond to this report. We have no objections to the further release of this report to the public. This report will be available at <http://www.epa.gov/oig>.

If you or your staff have any questions regarding this report, please contact me at 202-566-0827 or Najjum.Wade@epa.gov; Dan Engelberg, Director of Program Evaluation, at 202-566-0830 or Engelberg.Dan@epa.gov; or Ira Brass, Project Manager, at 212-637-3057 or Brass.Ira@epa.gov.

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Purpose

Federal facilities have a responsibility to comply with Federal environmental laws such as the Clean Water Act. At the request of the Office of Management and Budget, we reviewed Federal facilities in the Chesapeake Bay watershed and their compliance with National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act. We also reviewed corresponding U.S. Environmental Protection Agency (EPA) and State enforcement actions and their impact on the watershed. The following four questions guided our review:

1. What is EPA's role and responsibility for oversight of Federal facilities holding NPDES permits?
2. To what extent are Federal facilities in the Chesapeake Bay watershed complying with NPDES permit levels?
3. In the Chesapeake Bay watershed, what tools are available for EPA to identify NPDES permit noncompliance and enforce compliance at Federal facilities, and are they being utilized?
4. Are EPA's actions improving NPDES compliance at Federal facilities in the Chesapeake Bay?

The first question is addressed in the Background section of this report; the remaining questions are addressed in the Results of Evaluation section.

Background

The Chesapeake Bay is North America's largest and most biologically diverse estuary. It is home to more than 16 million people and 3,600 species of plants, fish, and animals. The Bay's watershed, the geographic area that drains water to the Bay, covers 64,000 square miles. The watershed includes parts of six States – Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia – as well as all of the District of Columbia.

Over time, the Bay and its tributaries have suffered from excess nutrients and sediment, impairing water quality and affecting aquatic life. Formal efforts to restore the health of the Bay have been ongoing since 1983, when the Chesapeake Bay Program was formed to lead and direct restoration of the Bay. The program is a regional partnership of State and Federal agencies, academic institutions, and non-governmental organizations. Bay program partners include EPA, Maryland, Pennsylvania, Virginia, the District of Columbia, and the Chesapeake Bay Commission (a tri-State legislative advisory body). Delaware, New York, and West Virginia are also actively involved in the Bay program but are not signatories to the 2000 agreement for cleaning up the Bay.¹ EPA and its Chesapeake Bay Program Office, which is part of EPA's Region 3, coordinate Bay restoration activities and implementation of strategies.

¹ *Chesapeake 2000* is the latest agreement whereby the Chesapeake Bay Program partners recommitted to their overall mission of Bay restoration, and established the goal of improving water quality in the Bay and its tributaries so that these waters may be removed from EPA's impaired waters list by 2010.

Improving water quality in the Chesapeake Bay is dependent, in part, on reducing pollution from point sources. To decrease pollutants entering the waters of the Chesapeake Bay, EPA, under the Clean Water Act, requires all point source dischargers to abide by an NPDES permit.

Federal Facilities in Chesapeake Bay Watershed

According to EPA, 100 Federal facilities in the watershed discharge into the Chesapeake Bay or a tributary of the Bay. The EPA Permit Compliance System (PCS) database tracks EPA regional and State compliance and enforcement data for the NPDES program under the Clean Water Act. According to PCS, 11 major permits are issued to 9 Federal facilities in the Chesapeake Bay Watershed under the NPDES program.² Facilities with major permits are those that discharge more than 1 million gallons per day. These major facilities are located in Maryland, Pennsylvania, Virginia, and the District of Columbia (see Appendix A).

Eight of the nine major-permit holders are Department of Defense (DoD) installations. The other major-permit facility, which supplies drinking water for the District of Columbia and northern Virginia, is operated by the U.S. Army Corps of Engineers. The 91 other Federal facilities are considered minor permit facilities under the NPDES permit classification system.

EPA and State Roles and Responsibilities for Federal Facility Oversight

For the most part, EPA and State roles and responsibilities for Federal facility oversight are the same as for non-Federal facilities. Agency and State staff may work with those from EPA Region 3's Office of Enforcement, Compliance, and Environmental Justice during inspections. However, Agency staff members are located in separate offices and usually are not involved in Federal facility oversight or enforcement. Unlike some other statutes, the Clean Water Act does not grant EPA or States with authority to levy penalties against Federal facilities.

NPDES permits require NPDES-permitted facilities to self-report the contents and volume of water discharged through discharge monitoring reports. These reports are sent to States, many in paper format, and then uploaded by the State to an EPA data system. The system tracks both major and minor permits. However, information on violations and enforcement are not required for minor permits.

Title 40, Code of Federal Regulations, Section 123.45 requires EPA and States to report when NPDES major dischargers are in noncompliance with their permit conditions. Reportable Noncompliance can include a violation of effluent limits in NPDES permits, violations of enforcement orders or schedules for compliance with permit conditions, failure to provide compliance schedule reports, unauthorized bypasses or discharges, and failure to submit discharge monitoring reports on time.

² PCS lists the City of Aberdeen facility as a Federal facility, and we originally included it in this list of major facilities. We learned that the City of Aberdeen has operated this facility during the time period reviewed under this evaluation. We verified that this facility is not a Federal facility by reviewing the facility's last two active permit documents. EPA staff indicated they will remove the incorrect designation.

Significant Noncompliance (SNC) is a subset of Reportable Noncompliance. SNC involves priority violations of NPDES permits that EPA believes merit special attention, including:

- Violations of monthly and non-monthly effluent limits for two or more months during two consecutive quarterly review periods by (a) 20 percent for toxic pollutants, such as metals; and (b) 40 percent for conventional pollutants, such as total suspended solids.
- Non-effluent violations, such as bypasses or unpermitted discharges, which cause or have the potential to cause a water quality problem, such as beach closings.
- Permit compliance schedule violations.
- Reporting violations, including failure to submit timely discharge monitoring reports (filing the report more than 30 days late or not at all).
- Violations of existing enforcement orders, including judicial or administrative orders.

Federal facilities, like other NPDES permitted facilities, are subject to periodic inspections, compliance reviews, and enforcement actions where applicable.³ According to EPA Region 3 staff, States conduct 90 percent of monitoring and compliance assurance at Federal facilities. EPA performs civil enforcement when necessary, mainly when a State requests assistance.

Noteworthy Achievements

Chesapeake Bay Federal facilities had lower SNC rates in the 2004 reporting period than other facilities nationwide. EPA works with Federal agencies to involve facilities in efforts to improve, enhance, and recognize success in pollution reduction. These efforts include activities such as: wetland restoration, forest stewardship, and leadership in storm water management. The Businesses for the Bay Program is one example of how the EPA recognizes Federal partner efforts. This program is comprised of a voluntary team of forward-looking businesses, industries, government facilities, and other organizations within the watershed that strives for voluntary implementation of pollution prevention practices. In addition, over the past 2 years, EPA worked with DoD to make NPDES permit compliance a higher priority at military installations. As a result, in January 2007, the DoD Office of the Under Secretary of Defense issued a directive with a goal of zero SNCs at installations to encourage compliance with permitted levels of discharge. DoD facilities must prepare and present a corrective action plan when in SNC. DoD expects to meet or closely approach the zero SNC goal in the near future.

Scope and Methodology

We conducted our review from December 2006 to April 2007 in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States. We focused on compliance rates of the nine Federal facilities in the watershed with major NPDES permits (see Appendix A). Major facilities account for a large share of the pollutants discharged. To evaluate compliance, we used PCS data to look at quarterly rates of SNC during Fiscal Years 2000 to 2006 (October 1999 to September 2006). The EPA Office of the Inspector General (OIG) data

³ According to EPA guidance, major-permit holders should be inspected annually; no recommended frequency exists for minor permit holders.

mining staff pulled data directly from PCS. Where possible, we verified PCS facility data with EPA Region 3, DoD management, and State and facility staff, as well as through applicable files.

To obtain an understanding of the Federal facility oversight process, we interviewed EPA staff and managers from EPA Region 3's Office of Enforcement, Compliance, and Environmental Justice; Water Protection Division; and Chesapeake Bay Program Office. We also interviewed Office of Enforcement and Compliance Assurance staff at EPA Headquarters. We identified Federal facilities in the watershed through the use of designated Chesapeake Bay watershed codes. To obtain information on the State roles and perspectives, we interviewed NPDES permit enforcement staff from Maryland, Virginia, and Pennsylvania.

Working through DoD, we arranged site visits at two major facilities and spoke by phone with personnel at a third. Each of the three facilities was located in a different Chesapeake Bay signatory State. We also met with an EPA attorney regarding the U.S. Army Corps of Engineers' Washington Aqueduct facility. We contacted representatives from the National Oceanic and Atmospheric Administration and non-governmental organizations to obtain information and input.

We reviewed those internal controls relevant to our objectives. Our study was limited to the small number of major-permit Federal facilities located in the Chesapeake Bay watershed. We reviewed relevant prior reports issued by the EPA OIG and the U.S. Government Accountability Office; they are listed in Appendix B.

Results of Evaluation

EPA and States Address Major Federal Facility Noncompliance

Based on our review of PCS data, EPA and States appear to be doing well in managing major-permit Federal facility compliance with the Clean Water Act. In its last national report on Federal facility compliance, covering Fiscal Years 2003-2004, EPA reported that NPDES permitted Federal facilities, including the Chesapeake Bay facilities, had lower rates of SNC than non-Federal facilities nationwide. In 2004, only one of the nine Chesapeake Bay Federal facilities, or 11 percent, was in SNC. This compares to a national 2004 SNC rate (increasing since 2001) of 22 percent for all NPDES-permitted Federal Government facilities and 20 percent for non-Federal facilities. EPA and State enforcement representatives said there were no significant compliance concerns at major Federal facilities in the Chesapeake Bay watershed.

Over our 7-year review period (Fiscal Years 2000-2006), four of the nine major Chesapeake Bay NPDES permitted Federal facilities were in SNC at least once (see Appendix A). The Washington Aqueduct was in SNC for 11 of the 28 quarters, while Naval Surface Warfare Center Indian Head was in SNC for 5 quarters. The U.S. Marine Corps Base Quantico (which had two permits) and Fort Indiantown Gap were each in SNC for 3 quarters. The reasons for SNC at the four major facilities varied, as follows.

- The **Fort Indiantown Gap** facility had upgraded water treatment processes to a level that would enable it to achieve permit limits for sediments, while the **Washington Aqueduct**

had not. The need to upgrade had been identified as new permit limits were issued for both facilities. However, neither facility had completed renovations before the new permit limits went into effect, resulting in SNC designations. Upgrades at the Fort Indiantown Gap facility are complete and the facility is meeting its permit conditions. SNC issues at the Washington Aqueduct facility will remain unresolved until the facility upgrades are complete (expected by December 2009).

- **U.S. Marine Corps Base Quantico** was in SNC for effluent violations under permit VA0028363 for the quarters ending June and September 2002, and resolved both violations in December 2002. Under permit VA0002151, the facility was also in SNC for a chlorine maximum violation due to a potable waterline break for the quarter ending September 2006. Virginia considered the break to be an accident. In March 2007, after the facility had repaired the broken line, Virginia listed the SNC as resolved.
- The **Naval Surface Warfare Center Indian Head** facility reported high levels of total suspended solids at one monitoring point from May 2005 to January 2006. Facility staff disagreed with the SNC designation, contending that a laboratory analyst failed to follow Standard Operating Procedures during testing. Though the SNC designation may be at issue, all open items have been concluded on this case except for a storm water pollution prevention plan, which EPA is awaiting.

EPA and State staff agreed that major-permitted Federal facilities are not large contributors to the water quality impairments for the Chesapeake Bay; there are few of them and they generally meet their permit limits. Data from EPA and States, as well as interviews with representatives from other Federal agencies and environmental organizations, supported this assertion. Further, NPDES permits for major-permit Chesapeake Bay Federal facilities are not for nutrients, which are a primary cause of the water quality degradation and loss of aquatic life in the Bay.

EPA and States Use a Variety of Enforcement Tools to Address Noncompliance

EPA and States used a variety of formal and informal enforcement tools to bring Federal facilities in SNC back into compliance. According to Region 3 and Chesapeake Bay Program Office staff, the most effective tools have been the multimedia, voluntary agreement, and media press release approaches. Another available tool for encouraging compliance is the EPA Federal Facility Enforcement Office's Wastewater Integrated Strategy. The strategy seeks to eliminate Federal facility SNC with NPDES permit limits. This initiative included extensive outreach, information gathering, and a compliance workshop attended by environmental managers from DoD and Federal civilian facilities. This effort impressed upon the Federal facility community the need to bolster its compliance with NPDES requirements.

For Federal facilities in SNC reviewed, reported formal actions included an administrative order and a Federal Facility Compliance Agreement. Official informal enforcement actions included 15 Notices of Violation (NOVs). Given the small sample, we were not able to determine which tools were most/least effective in maintaining compliance and bringing noncompliant facilities into compliance. Examples of enforcement actions taken follow.

- The **Naval Surface Warfare Center Indian Head** facility was in SNC five times during the analysis timeframe. On February 28, 2003, EPA issued an NOV to the facility, and the facility responded on March 13, 2003. On October 24, 2005, EPA issued two NOV's resulting from a May 2004 EPA multimedia inspection. As outlined in an October 18, 2006, EPA letter, citations from the 2004 multimedia inspection have been resolved. EPA is awaiting the new storm water pollution prevention plan.
- The **U.S. Marine Corps Base Quantico** facility was in SNC three times during the analysis timeframe. Virginia issued 11 NOV's to the facility between 2002 and 2004 and an administrative consent order on July 10, 2003. Virginia believed the facility should not have been listed as being in SNC for the quarter ending September 2006. On October 6, 2006, Virginia issued an NOV to the facility. Virginia considered the violation to be resolved in March 2007.
- The **Washington Aqueduct** facility was in SNC for 11 quarters during the analysis timeframe. EPA issued an NOV to the facility on October 9, 2002. EPA issued an administrative order the U.S. Army Corps of Engineers on June 12, 2003, for \$70 million (the cost of the upgrades). EPA also entered into a Federal Facility Compliance Agreement with the Army Corps on June 12, 2003, to enable the development of a lengthy compliance schedule. The facility had a compliance schedule violation on June 3, 2005.
- The **Fort Indiantown Gap** facility has been in SNC for the three quarters stretching from July 2005 to March 2006. The State did not issue a formal enforcement action to the facility because the facility was working to complete facility upgrades suggested by the State in 1997. The facility completed the upgrades in 2006 and current discharges comply with permit requirements.

Agency Response

We are not making any recommendations in this report, and both Region 3 and the Chesapeake Bay Program Office declined to provide formal responses to the draft report.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status ¹	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
No recommendations							

¹ O = recommendation is open with agreed-to corrective actions pending;
 C = recommendation is closed with all agreed-to actions completed;
 U = recommendation is undecided with resolution efforts in progress

Federal Facility Significant Noncompliance by Quarter (Fiscal Years 2000-2006)

Facility Name	State	Permit #	2000				2001				2002				2003				2004				2005				2006			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Fort Detrick WWTP- Area C	MD	MD0020877																												
Fort Indiantown Gap STP	PA	PA0028142																												
Fort Meade WWTP	MD	MD0021717																												
Naval Surface Warfare Center - Indian Head	MD	MD0003158																												
Naval Surface Warfare Center - Indian Head	MD	MD0020885																												
U.S. Army Garrison – APG	MD	MD0021229																												
US Marine Corps - MCB Quantico	VA	VA0002151																												
US Marine Corps - MCB Quantico	VA	VA0028363																												
US Navy - Naval Station Norfolk	VA	VA0004421																												
Washington Aqueduct	DC	DC0000019																												

Source: OIG analysis of EPA data

Legend	
SNC	
No SNC	

Quarters – by Fiscal Year:

- 1: October – December
- 2: January – March
- 3: April – June
- 4: July – September

Abbreviations:

- APG: Aberdeen Proving Ground
- MCB: Marine Corps Base
- STP: Sewage Treatment Plant
- WWTP: Waste Water Treatment Plant

Pertinent Prior Reviews

EPA OIG

- *Saving the Chesapeake Bay Watershed Requires Better Coordination of Environmental and Agricultural Resources* (2007-P-00004), November 20, 2006
- *EPA Grants Supported Restoring the Chesapeake Bay* (2006-P-00032), September 6, 2006
- *Congressionally Requested Review of EPA Region 3's Oversight of State National Pollutant Discharge Elimination System Permit Programs* (2005-S-00002), October 29, 2004

U.S. Government Accountability Office

- *Chesapeake Bay Program: Improved Strategies Are Needed to Better Assess, Report, and Manage Restoration Progress* (GAO-06-96), October 2005
- *Water Pollution: Stronger Enforcement Needed to Improve Compliance at Federal Facilities* (GAO-RCED89-13), December 1988

Distribution

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