

SECOND FIVE-YEAR REVIEW REPORT

**PICATINNY ARSENAL
MORRIS COUNTY, NEW JERSEY**

Prepared by:

United States Environmental Protection Agency

Region II

New York, New York

September 26, 2001

**U.S. Environmental Protection Agency
Region II
Emergency and Remedial Response Division
Second Five-Year Review (Type Ia)
Picatinny Arsenal, New Jersey**

I. Introduction

Authority Statement & Purpose: EPA Region II conducted this review pursuant to CERCLA Section 121 (c), NCP Section 300.430(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991), 9355.7-02A (July 26, 1994), and 9355.7-03A (December 21, 1995). It is a statutory review, and the second five-year review conducted for Picatinny Arsenal (PTA). The purpose of a five-year review is to ensure that remedial actions remain protective of public health and the environment and are functioning as designed. This document will become part of the Administrative Record for PTA. This review (Type Ia) is applicable to a site at which response is still ongoing.

Community Involvement: The Picatinny Arsenal Environmental Restoration Advisory Board (PAERAB) consists of representatives of local government and interested local citizens who meet bi-monthly to discuss the Installation Restoration Program (IRP) at Picatinny. Representatives of the Army, EPA, and New Jersey Department of Environmental Protection (NJDEP) also attend the meetings. Per agreement with the PAERAB, the Army makes reports on current IRP issues and progress at Picatinny Arsenal. When appropriate, the PAERAB votes on and makes recommendations on remedial options at Picatinny IRP sites.

II. Site Background

Picatinny Arsenal consists of 6,491 acres located 4 miles north of the City of Dover in Rockaway Township, Morris County, New Jersey (see Figure 1, page 11). State Route 15 establishes the southern boundary of the arsenal and Interstate 80 is located within 1 mile of the arsenal's entrance. PTA is situated in an elongated classic U-shaped glacial valley, trending northeast-southwest between Green Pond and Cooperas Mountains on the northwest and an unnamed ridge on the southeast. Most of the buildings and other facilities at PTA are located on the narrow valley floor or on the slopes along the southeast side. In general, the areas that surround the arsenal are suburban and summer-vacation areas because of numerous small lakes and mountains.

PTA is owned and operated by the U.S. Army and was a major source of munitions for World War I, World War II, the Korean War, and the Vietnam Conflict. Previously, the local area contained iron

forges dating back to the American Revolution, which produced cannons, shot, bar iron, and other items for George Washington's army. Presently, PTA has 3,000 employees with near-total responsibility for the research and development of armament items for the U.S. Army. It is anticipated that the future use of PTA will remain the same as the current use.

Currently, several production wells at PTA supply drinking water to employees and officer's quarters. Before groundwater from the production wells can be used for drinking water, it must be treated for volatile organic compounds (VOCs) which are above maximum contaminant levels (MCLs). The PTA water supply system is regulated by the New Jersey Department of Environmental Protection (NJDEP).

The Army has conducted environmental investigations at PTA since the mid 1970s. The IRP at Picatinny, which involves investigation and cleanup under CERCLA, currently includes a total of 166 sites at various stages of investigation and/or cleanup. The 166 sites are divided into three groups, each consisting of approximately 55 sites: Phase I, Phase II and Phase III. The IRP is being implemented according to a Federal Facilities Agreement (Docket No.: II-CERCLA-FFA-10201) signed between the Army and EPA on April 17, 1991. Picatinny was placed on the National Priorities List on March 23, 1990.

III. Site Characteristics/Cleanup

As of the date of this Report, one Interim Action Record of Decision (ROD) has been signed for one operable unit (OU) at Picatinny Arsenal. The OU addressed by the Interim Action Record of Decision is Area D Groundwater, a Phase I site. Description of the interim remedy for Area D Groundwater is provided below.

Area D Groundwater:

Area D groundwater contamination is located in the southern portion of PTA. Building 24, the source of Area D groundwater contamination, was a plating facility in operation from 1960 to 1981. Washing and degreasing of metal parts prior to plating generated waste trichloroethylene (TCE). Reportedly, TCE flowed to a dry well located adjacent to Building 24 via an overflow line from the degreasing facility. From this source, TCE migrated to groundwater forming a plume which discharges to Green Pond Brook 1,600 feet away. 800 feet at its widest point, the plume is primarily located in the unconfined aquifer.

The Interim Action ROD for this OU was signed September 28, 1990. The Interim Remedial Action Objective established in the ROD was to prevent deterioration of Green Pond Brook by minimizing movement of contaminated groundwater into the brook. The selected interim remedy for Area D Groundwater is a groundwater extraction and treatment system (GETS) which includes the following components:

- Extraction of contaminated groundwater
- Pretreatment system for the removal of metals, solids, etc.
- Air-stripping for removal of VOCs
- Granulated activated carbon (GAC) filtration for removal of VOCs from the air stripper
- GAC filtration for removal of additional VOCs from the air stripper effluent (treated water)
- Discharge of treated water via a holding tank and piping to Green Pond Brook

Status: Remedial action commenced in September 1992 with ongoing operation and maintenance. On July 3, 2001, the pump and treat system was shut down by Picatinny Arsenal due to NJDEP air-permit violations. In the notice of violation, NJDEP requested that the monitoring program be upgraded or the pump and treat system shut down. Although EPA was notified of the air-permit violations and the Army's decision to shut the system down, EPA did not approve of the decision. The Army subsequently restarted the pump and treat system in August 2001 after negotiations with NJDEP.

Status of Other IRP Sites:

As previously mentioned, the 166 sites at Picatinny Arsenal are broken into three Phases each consisting of approximately 55 sites: Phase I, Phase II, and Phase III. The status of the 166 IRP sites will be discussed below by Phase.

1. Phase I

The 57 sites comprising Phase I are considered the highest priority and consequently are further along in the RI/FS process as presented below.

Proposed Plans:

Institutional Control Proposed Plan: 13 sites (19, 28, 44, 49, 86, 106, 124, 135, 141, 143, 163, 182, and 183). The 13 sites addressed in this Proposed Plan range from weapon-production facilities to a golf course maintenance shop to a pyrotechnic-demonstration range. Institutional controls are proposed as the sole remedy for these sites because risk levels were found to be acceptable for the commercial/industrial land-use scenario and also because these sites present negligible risk to ecological receptors. The proposed institutional controls will be enforced by the Army and restrict site use to non-residential use. Contaminated groundwater is being addressed on an area-wide basis (i.e., Area D Groundwater, Area E Groundwater, etc.)

as a separate operable unit. The revised Proposed Plan for 13 Phase I sites has been approved by EPA and NJDEP.

Proposed Plan for Site 20/24: Site 20/24 is 28 acres in size and originally was a wetland area. Landfilling at the site took place between the 1950s to 1972. Since that time, Site 20/24 has been used for pyrotechnic testing. The Army's preferred remedy for Site 20/24 soils is a soil cover for surface soils contaminated with low levels of PCBs suspected to have leaked from transformers staged at the site. Groundwater at Site 20/24 is contaminated with volatile organic compounds (VOCs) and is being addressed as a separate operable unit: Area B Groundwater. The revised proposed plan for Site 20/24 soils has been approved by EPA and NJDEP.

Feasibility Studies (FS):

Area D Groundwater: A revised FS for Area D groundwater (currently addressed by an interim-action pump and treat remedy discussed above) was submitted to EPA in July 2001. The Army indicated that its preferred final remedy for Area D groundwater is a Permeable Reactive Barrier (PRB) with monitored natural attenuation (MNA). Groundwater modeling in the FS indicated that MNA would take 170 years to reach maximum contaminant levels (MCLs). However, the PRB would prevent the continued discharge of VOCs to Green Pond Brook. EPA and NJDEP are currently reviewing the revised FS.

Green Pond Brook and Bear Swamp Brook: A draft FS for Green Pond and Bear Swamp Brooks was submitted to EPA in March 2000. Virtually the entire Arsenal drains into Green Pond and Bear Swamp Brooks and groundwater enters the brooks along most of their reaches. Historically, the industrial operations at Picatinny discharged waste onto the ground and in some cases directly into these drainage ways. Sediment samples taken during the Remedial Investigation (RI) revealed numerous exceedances of potential effect levels (concentrations of constituents which, based on site-specific toxicity tests, are potentially responsible for observed effects) of inorganics, semivolatiles, pesticides, and PCBs. To a lesser extent, surface water is also contaminated with these constituents in addition to VOCs. It is thought that by addressing source areas to surface water (e.g., surface soil, sediment and groundwater) that contamination found in this media will also be addressed. Currently, all discharges to the brooks are by permit only and source-control measures such as removal actions, caps, and groundwater cleanups have taken place or are being planned. The Army's preferred remedial alternative for the brooks includes removal of contaminated sediments from two sediment basins, and biological and chemical monitoring at various locations in the brooks. In addition, institutional controls to be enforced by the Army would restrict human exposure by prohibiting activities such as fishing and swimming. EPA and NJDEP have approved the FS with minor conditions.

Post Farm Landfill: A draft FS for the Post Farm Landfill was submitted to EPA in April 2000. The Post Farm Landfill is 10.3 acres in size and, from the 1940s to the 1970s, received industrial waste and also served as a borrow pit. Drummed waste included caustic-paint stripper, used hydraulic oils, wastewater from oil reservoirs, and tank-cleaning wastes. In addition, solid waste and bulk fly ash from the steam-generating plant were placed in the landfill. A removal action was carried out at the Post Farm Landfill in 1992 in which 171 buried drums were removed. At the same time, the extent of buried fly ash at the site was investigated and capped with a 6 - 18 inch soil cover. Surface and subsurface soil samples taken during the RI revealed exceedances in levels of concern (LOCs) for inorganics and semivolatiles. Fly ash in the landfill passed the toxicity characteristic leachate procedure (TCLP) and is therefore characterized as non-hazardous. Compounds exceeding LOCs in groundwater included inorganics, dioxin, radionuclides, and VOCs. Remedial alternatives studied in the FS include upgrading the soil cover over the fly ash, removing the fly ash, groundwater monitoring, and institutional controls. EPA and NJDEP have recommended that the existing soil cover over the buried fly ash be upgraded. However, the Army's preferred remedy for the site is to maintain the existing soil cover (without upgrade), groundwater monitoring and institutional controls, enforced by the Army, that would restrict the site to non-residential use and protect the landfill cap. The FS has been approved by EPA and NJDEP.

Burning Ground: A revised FS for the Burning Grounds was submitted to EPA in May 2000. The Burning Grounds encompasses approximately 7 acres. Originally, wetlands landfilling of the area took place from 1960 to 1980. During that period, the burning of explosively-contaminated waste directly on the ground began. Since 1985 to the present, the burning process has occurred in metal pans. The Burning Grounds are scheduled to be closed in the near future when an on-site incinerator will take over the function. Surface soil is contaminated with base neutral acids (BNAs), inorganics, and PCBs. Groundwater is contaminated with BNAs and inorganics. Based on regulator comments, the Army has preliminarily agreed to cap the site with an impermeable cover in 2003. In addition, groundwater monitoring and institutional controls will be included in the proposed remedy. Institutional controls, enforced by the Army, will restrict site use to non-residential and protect the impermeable cover. EPA and NJDEP are currently reviewing the revised FS.

Area E Groundwater: A draft FS for Area E Groundwater was submitted to EPA in November 2000. Impoundment lagoons and underground storage tanks (USTs) associated with the Building 95 Printed Circuit Board Manufacturing Operations Treatment Facility have been identified as the source of VOCs in Area E Groundwater. In 1981, the impoundment lagoons and USTs were removed as part of a Resource Conservation and Recovery Act (RCRA) closure. Associated with the RCRA closure, contaminated groundwater has been monitored. The contaminants of concern in Area E Groundwater are VOCs. Remedial alternatives studied in the FS include MNA, pump and treat, in-situ chemical oxidation, and in-

situ air sparging. The Army's preferred remedial alternative for this operable unit is MNA (45 years to reach MCLs). In addition, the Army will be responsible for enforcing institutional controls that will restrict the use of contaminated groundwater. Revisions are currently being negotiated with the Army on the revised FS.

Area B Groundwater: A draft FS for Area B Groundwater was submitted to EPA in February 2001. Area B Groundwater encompasses Sites 20 and 24 for which a separate Proposed Plan addresses contaminated surface soil (see above). The contaminants of concern in Area B Groundwater are VOCs which are believed to originate from past landfilling operations at the site. Remedial alternatives studied in the FS include MNA, pump and treat, in-situ chemical oxidation, in-situ bioremediation with Hydrogen Release Compound (HRC), and in-situ iron-slurry injection. The Army has indicated that its preferred remedial alternative for this operable unit is in-situ bioremediation with HRC. Institutional controls, enforced by the Army, will restrict the use of contaminated groundwater. Negotiations are underway on EPA comments on the draft FS.

Remaining Phase I Sites:

The remaining 39 Phase I sites are in various stages of investigation and reporting. A portion of the remaining Phase I sites will proceed to a FS while the balance are undergoing additional investigation.

2. Phase II

The draft Phase II RI Report covering 57 sites was submitted April 1999. Currently, the Army is revising the Report based on comments received from EPA and NJDEP.

3. Phase III

The investigation of Phase III sites has been prioritized based on the Army's relative-risk ranking which ranks sites in order of higher to lower risk as 1A, 2A, and 3A. Field sampling has been completed for 17 Phase III 1A sites and the RI Report is scheduled to be submitted July 2001. An additional RI Work Plan has been approved for 35 Phase III sites with relative-risk ranking of 2A and 3A. Field sampling took place in Summer 2000 and it is expected that the RI Report will be submitted in Spring 2002.

IV. Compliance with Remedial Action Objectives

Area D Groundwater:

The Interim Remedial Action Objective (RAO) established in the ROD was to "prevent

deterioration of Green Pond Brook water quality by minimizing movement of contaminated groundwater into the brook.” The first five-year review concluded that interim RAOs were not being met based on groundwater-sampling results and USGS groundwater modeling which indicated that the extraction wells were capturing only 62% of contaminated groundwater as it passed the capture zone. Consequently, the first five-year review recommended that the GETS be upgraded by adding an extraction well, increasing pumping rates, and increasing the capacity of the delivery system to the treatment plant.

V. Progress Since the Last Five-Year Review

The Army responded to the recommendations of the last five-year review by stating that the existing extraction wells would be redeveloped, the delivery system from the extraction wells to the treatment plant would be upgraded, and that pumping rates of the existing extraction wells would be increased. However, an additional extraction well was not installed and pumping rates were not increased to increase the interim system’s capture efficiency. The Army submitted a revised FS for Area D groundwater in July 2001.

EPA has inspected the treatment plant for the GETS on several occasions and found it to be operating satisfactorily and has also reviewed quarterly monitoring and operating reports which have indicated that the GETS has been operating continuously and has been meeting the discharge limitations as established by NJDEP. As previously mentioned, pumping rates of the extraction wells were not increased. In addition, the GETS was shut down in July 2001 pursuant to a NJDEP air-permit violation and restarted in August 2001 after negotiations between the Army and NJDEP.

Groundwater monitoring has continued to show a downward trend in TCE levels. However, groundwater samples taken in 1997 adjacent to and immediately below Green Pond Brook indicated that the TCE plume was continuing to discharge to surface water. This was confirmed by surface water samples taken from the discharge reach of the brook in 1997 that indicated VOC concentrations (TCE and vinyl chloride) above levels of concern. This verified USGS modeling, referenced in the first five-year review, which indicated that the GETS, as configured, was capturing only 62% of the contaminated water as it passed the capture zone. Consequently, the GETS is not meeting its RAO to “prevent deterioration of Green Pond Brook water quality by minimizing movement of contaminated groundwater into the brook.”

VI. Recommendations

Area D Groundwater:

As mentioned above, a revised FS for the final remedy for Area D Groundwater was submitted to EPA in July 2001. The Army indicated in the revised FS that its preferred remedy is a Permeable Reactive Barrier (PRB) to prevent the continued discharge of VOCs to Green

Pond Brook. A bench-scale study will be necessary for design of the PRB and to verify its effectiveness in this particular application. MNA would be relied upon to lower VOC concentrations in groundwater and, as previously mentioned, the revised FS indicates that MNA will take 170 years to reach drinking water standards. Groundwater use will need to be restricted by the Army and monitoring will be required, as will continued 5-year reviews.

Pending the selection and implementation of a final remedy, EPA is requiring, as recommended in the prior 5-year review, that an additional extraction well be installed and pumping rates increased in order to increase the capture efficiency of the GETS, thereby meeting the RAO of preventing the continued discharge of VOCs into Green Pond Brook .

EPA and NJDEP are currently reviewing the revised FS. The Army's schedule (from April '01 Installation Action Plan Meeting) for Area D Groundwater is:

- Submit Proposed Plan and ROD in 2002.
- Initiate Remedial Design and Bench-Scale Study in 2002.
- Complete Remedial Design and initiate Final Remedial Action in 2003.

Other Site Areas:

While final remedies have not been selected for most of the sites identified under the Installation Restoration Program (IRP), the facility does provide some interim protection of human health and the environment. Concerning public health, on-site personnel have been made aware of the existence of contaminated sites and unexploded ordnance (UXO). Although Picatinny is an open base, security forces patrol the facility to ensure that trespassers, employees, or residents are not engaging in inappropriate activities. Many of the sites are located within fenced enclosure areas in which access is restricted. Signs are widely posted throughout the facility which inform personnel about the dangers.

All development at Picatinny is governed by the Base Master Plan. As part of the approval process for new construction, the Environmental Affairs Office reviews all such proposals and determines whether they are compatible with known site contamination or whether an investigation is required. The Safety Office at Picatinny also reviews development proposals to determine whether there is UXO danger at the site. If so, site development must take UXO dangers into account through field screening and clearance. Fishing advisories have also been issued for the on-site water bodies. Drinking water is provided by a treated water supply which meets state MCLs.

Much of the facility area has not been developed and provides a supportive environment to

various plant and animal species. EPA recommends that the Army complete remedial investigations and feasibility studies at all contaminated sites. EPA further recommends that the Army initiate appropriate response actions if any of these sites are found to present an imminent and substantial endangerment to public health or the environment.

VII. Statement of Protectiveness

Based upon the review of Area D Groundwater conducted by the Project Manager, and information provided by Picatinny Arsenal, it has been determined that the interim-action remedy currently in place for this site is not protective of human health and the environment. EPA is in discussions with the Army and NJDEP as to steps necessary to improve its performance by installing the additional extraction well and increase pumping rates, as recommended in the prior five-year review, until a final remedy is selected and implemented.

As previously discussed, the remaining Phase I, II, and III sites are in various stages of the RI/FS process and contamination has been found at various levels at many, but not all, of these sites. As mentioned above, the Army controls the use and access of these sites at Picatinny through existing land-use controls which include but are not limited to base access restrictions and security, clearance requirements from the Environmental Affairs and Safety Office, and Base Master Plan regulations. While further investigations leading to the selection of final remedies for the remaining contaminated areas are being conducted, EPA has determined that there is no immediate danger to the nearby residents or the environment.

VIII. Next Five-Year Review

The next five-year review will be conducted before May 1, 2006.

Kathleen Callahan, Acting Director
Emergency and Remedial Response Division

Date

SEP 10 2001

Colonel Larry C. Newman
Commanding Officer
Building One
U.S. Army Armament Research, Development
and Engineering Center
Picatinny Arsenal, New Jersey 07806-5000

Dear Colonel Newman:

I am writing to bring to your attention a matter of great concern to me regarding the status of environmental cleanup at Picatinny Arsenal. As you know, Picatinny is a site listed on the Environmental Protection Agency's (EPA's) National Priorities List (NPL) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Pursuant to CERCLA Section 121(c) EPA conducted its first Five Year Review of Army environmental response at Picatinny Arsenal in 1996. In that Five Year Review, EPA reviewed the performance of an interim pump and treat remedy for a plume of volatile organic compound (VOC) contaminated ground water associated with former plating operations at Building 24. That pump and treat remedy was selected in a 1989 Record of Decision Based on information provided by the Army, in that Five Year Review, EPA found that the pump and treat remedy, that was designed to intercept VOC ground water contaminants from migrating to Green Pond Brook, was capturing only 62% of the plume as it passed the withdrawal wells (this was supported by subsequent field sampling showing contaminant levels in Green Pond Brook greater than health-based criteria). Consequently, the first Five Year Review recommended that an additional withdrawal well be installed and that pumping rates be increased to improve the capture efficiency of the system to 96%. To date, the Army has not installed the additional withdrawal well nor increased pumping rates and VOC contaminated ground water continues to discharge into Green Pond Brook above health-based criteria. Therefore, the existing pump and treat remedy, as originally configured, remains not fully protective of human health and the environment.

The Army has resisted and deferred the installation of the recommended additional well while it evaluates other final remedial alternatives. It is my understanding that the Army is of the belief that a Permeable Reactive Barrier (PRB) will be a suitable replacement for the current pump and treat system to intercept contaminant migration to the brook. After much delay, a draft Feasibility Study for a final remedy has recently been submitted and among the alternatives evaluated is a PRB. However, PRB treatability tests have yet to be performed and would expect that a final remedy may not actually be in place for several years. Meanwhile, the current unmodified pump and treat system continues to underperform, remains not fully protective of human health and the environment and contaminated ground water continues migrating to the brook.

To compound matters, we have recently been advised by the Army that, following receipt of an administrative order from the New Jersey Department of Environmental Protection (NJDEP) concerning air permit violations, the Building 24 pump and treat action was shut down completely on July 3, 2001 and therefore currently provides no protection of the brook at all.

The Army has not implemented the previous recommendations to install an additional well and increase pumping rates per the conclusions of the prior Five Year Review. Army implementation of these recommendations is required by Section XXV of the Picatinny Federal Facilities Agreement (FFA) between the Army and EPA. I will shortly be issuing the next due Five Year Review for Picatinny and wish to advise you in advance that I will be finding that the Building 24 pump and treat remedy is not protective of human health and the environment. I am requiring that the Army resolve its permit violations with NJDEP, that the system be restarted immediately, and that the additional well and increased pumping rates recommended in the prior Five Year Review be implemented until such time as a final remedy (whether such final remedy be a PRB, continued pump and treat, or other remedy) is in place. Pursuant to Section XI of the FFA the Army shall submit a schedule for implementing this work within 21 days of this written request. Any dispute by the Army of this determination must be made pursuant to Section XVI of the FFA.

If you have any questions regarding the above, please call me at (212) 637-5000.

Sincerely,

/s/ William J. Muszynski

William J. Muszynski, P.E.
Acting Regional Administrator

cc: R. Shinn, NJDEP
S. Boyle, NJDEP
B. Venner, NJDEP
M. Papp, NJDEP
T. Solecki, Picatinny
T. Gabel, Picatinny

**Clarification of the Statement of Protectiveness
Amending the Second Five-Year Review Report for
Picatinny Arsenal
Morris County, New Jersey**

EPA Region 2 conducted a Second Five-Year Review for the Picatinny Arsenal Superfund site pursuant to statutory requirements. The Review was signed on September 26, 2001 and stated that the interim-action remedy to address Area D Groundwater was not protective of human health and the environment. The interim-action remedy, selected in a ROD dated September 28, 1989, called for the construction of a system of wells to prevent Area D-contaminant plume from migrating into Green Pond Brook.

This Clarification of the Statement of Protectiveness finds that:

1. The interim-action remedy is protective of human health and the environment.
2. The Picatinny Arsenal Superfund site, including Area D Groundwater, is protective of human health and the environment based on interim measures taken by the U.S. Army and by the current restricted use and restricted access imposed by the U.S. Army.

As part of the five-year review it was found that the installed remedy was not functioning as intended by the ROD or the approved design. The installed extraction wells capture only a portion of the contaminated groundwater plume and volatile organic compounds (VOCs) trichloroethene and vinyl chloride were found in Green Pond Brook above levels of concern (LOCs). EPA Region 2 recommended that the pump and treat remedy be upgraded by adding an additional extraction well and increasing the pumping rates. This recommendation was made based on studies by USGS, one of the Army's consultants on Area D groundwater. EPA Region 2 also recommended that the Final Remedial Action for Area D Groundwater be selected and implemented within a schedule that would have the final remedy operational in 2003. The U.S. Army has proposed a permeable reactive barrier (PRB) as the final remedy. PRB requires a bench-scale study to verify its effectiveness in this particular application.

Subsequent to the issuance of the Second Five-Year Review, several discussions and meetings ensued between EPA Region 2 and the U.S. Army. The Army has more recently postulated that VOCs in Green Pond Brook may be due to a secondary source of VOCs located in saturated subsurface soils downgradient of the extraction wells. This postulation is forwarded by the Army Environmental Center, also a consultant to Picatinny for Area D groundwater. EPA Region 2 regards the Army's suggestion of a secondary source of VOCs discharging to Green Pond Brook to be plausible. EPA Region 2 also notes that recent sampling of the Green Pond Brook indicates a lowering of VOC levels. There now appears to be only marginal exceedances of LOCs. EPA Region 2 will continue to work with the Army to improve the current interim-action remedy as well as implement a final remedy expeditiously.

EPA Region 2, indicated in the Second Five-Year Review that there is no immediate danger to the nearby residents or the environment. That statement was intended to recognize that measures taken by the Army restricting use of the site and limiting access provides protection for human health and the environment in the interim, including Area D groundwater and Green Pond Brook.

Picatinny Arsenal is an active Army facility with restricted access. The Army also restricts swimming and fishing in this area of Green Pond Brook, which flows through the base golf course in the vicinity of Area D. This means that human exposure to VOCs from this surface water is unlikely. Further, the LOCs exceedances are based on human exposure and the VOC levels found are not of ecological concern. And, lastly, the Army restricts exposure to Area D-contaminated groundwater. Consequently, EPA Region 2 has determined that the Picatinny Arsenal Superfund Site is protective of human health and the environment based on the interim measures taken by the Army and based on the current use of the site and restricted access.