



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III
STATEMENT OF BASIS
BETTIS ATOMIC POWER LABORATORY
WEST MIFFLIN, PENNSYLVANIA
EPA ID NO. PA0 89 009 0004

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I. Introduction

A. Facility Name

The United States Environmental Protection Agency (EPA) has prepared this supplemental Statement of Basis (SB) for the Bettis Atomic Power Laboratory facility located at West Mifflin, Pennsylvania (hereinafter referred to as the Facility).

The Facility is subject to the Corrective Action program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901 to 6992k. The Corrective Action program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and hazardous constituents that have occurred at their property.

Information on the Corrective Action program as well as a fact sheet for the Facility can be found by navigating <http://www.epa.gov/reg3wcmd/correctiveaction.htm>.

EPA has reviewed data regarding the Facility which has become available since the issuance of the FDRTC. Based on this review, EPA has proposed to revise the final remedy for one portion of the Facility and is providing opportunity for public comment and review as described in Section VIII, below.

B. Proposed Decision

This supplemental SB explains EPA's proposed decision to amend the selected remedy for the Facility as described in the original Statement of Basis of September 29, 1995 and outlined in the Final Decision and Response to Comments (FDRTC), issued on August 15, 1997. In particular, this SB proposes to revise the remedy for groundwater which has been impacted by the Inactive Waste Site (IWS) by both adding and deleting a remedy component.

The additional proposed remedy component is monitoring of groundwater use on an off-site property. This proposed monitoring, combined with Allegheny County Health Department Regulations that preclude the use of groundwater as a drinking water supply and West Mifflin zoning ordinances that preclude residential construction in the affected area, will provide assurance that groundwater use on the subject property does not occur without notification to EPA.

The proposed remedy component to be deleted from the original FDRTC is the construction of a system to collect subsurface drainage at the IWS. With the addition of monitoring of groundwater use on an off-site property, the construction of this system should no longer be necessary.

This SB summarizes information which supports this proposed decision. This information can be found in greater detail in documents in the Administrative Record (AR).

C. Importance of Public Input

Before EPA makes a final decision on its proposal for the Facility, the public may participate in the remedy selection process by reviewing this SB and documents contained in the AR for the Facility. The AR contains documentation regarding conditions at the Facility and offsite properties which supports EPA's proposed decision. EPA encourages anyone interested to review the AR. The AR is available for public review at the EPA Region III office, the address of which is provided in Section VIII, below.

EPA will address all significant comments received during the public comment period. If EPA determines that new information or public comments warrant a modification to the proposed decision, EPA will modify the proposed decision or select other corrective measures based on such new information and/or public comments. EPA will approve its amended final decision in a revised Final Decision and Response to Comments.

II. Facility Background

The Facility is located in the Borough of West Mifflin, Allegheny County, Pennsylvania. The Facility covers approximately 208 acres and is bordered by commercial, industrial and residential areas.

The Facility is owned by the U.S. Department of Energy and has been dedicated to the design and support of reactor plants used in U.S. Naval nuclear-powered vessels since 1949. From 1926 to 1948, the Facility was used as an airfield. The IWS covers about 3.5 acres in the northern portion of the facility and was reportedly used until 1964 to dispose of household waste and excavation materials from construction projects. The area of the IWS is currently unused and covered with vegetation.

III. Summary of Environmental History

Initial environmental investigations from 1983 to 1989 found that environmental impacts at the Facility included contamination of soils and groundwater with volatile organic compounds (VOCs). In response, on September 28, 1990, the Facility entered into an Administrative Order on Consent with the EPA which required the Facility to conduct a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) to address releases of hazardous wastes and/or constituents.

An RFI report was approved by EPA on August 2, 1994, and described environmental conditions at multiple areas at the Facility, including groundwater impacted by the IWS. The area immediately downgradient of the IWS includes property currently owned by the U.S. Department of Energy that was previously owned by Duquesne Light and Valley National Gases [(VNG - previously operated as Valley Welding Supply Company (VWSC)]. Residential and commercial properties are located downgradient of the IWS between VNG and Thompson Run, a perennial stream. The RFI investigated groundwater conditions downgradient of the IWS on Facility property and, to a lesser extent, VNG and former Duquesne Light property. A CMS was approved by EPA on March 16, 1995. EPA issued a Statement of Basis proposing Corrective Measures for the Facility on September 29, 1995 and the FDRTC on August 15, 1997. The

FDRTC selected corrective measures for the entire Facility and included the following measures for groundwater impacted by the IWS:

- Follow health and safety procedures contained in 29 CFR Sec. 1910.120 for any work around the IWS and when handling groundwater during any excavations at the Facility
- Place restrictions on the deed to Facility property to prevent the installation of on-site drinking water wells
- Maintain vegetative cover and warning signs at the IWS
- Notify EPA of all designs and/or plans for changes to the Facility involving soil disturbances (i.e., excavation) for the IWS
- Conduct periodic environmental monitoring of on-site and offsite wells, and water and sediments in runoff from the Facility to VWSC (now U.S. Department of Energy) property to detect changes in the concentration of specific contaminants
- Construct a subsurface drainage system at the northern portion of the facility to collect groundwater before it discharges to the surface through seeps and natural springs

On April 11, 2001, the Facility and EPA signed a Consent Order and Agreement (COA) which provided for Facility implementation of the corrective measures identified in the FDRTC. Since then, the Facility has implemented all but two of the corrective measures selected in the FDRTC. First, deed restrictions to prevent the installation of drinking water wells on Facility property are not necessary at this time due to other administrative controls which are being implemented while the Facility maintains ownership of the impacted property. Deed restrictions will be implemented in the event that the Facility sells the subject property. The second measure not implemented to date is the construction of a subsurface drainage system at the IWS.

At the time of the FDRTC, groundwater impacted by the IWS periodically discharged to the ground surface within an area known as the wet-weather ditch. The wet-weather ditch initiated on Facility property, crossed DL property, and dissipated on VWSC property such that seepage would, at times, flow onto VWSC property. The FDRTC found that subsurface drainage at the wet-weather ditch should be collected before it discharges to the ground surface because VWSC property may be developed as a residential area in the future and that groundwater may be used by VWSC or a future owner of the property.

For this particular corrective measure, the Facility has, per the COA, conducted further work to determine if the measure is appropriate under current and anticipated groundwater flow conditions in this area. On April 2, 2001, EPA approved a Groundwater Regime Study Plan prepared by the Facility to further characterize the subject conditions. In conjunction with this work, in 2002, the Facility purchased parcels of property downgradient of the IWS from both Duquesne Light and VNG (formerly VWSC) that encompassed the wet weather ditch and the area where the seepage occurred. On September 25, 2003, the Facility issued a Report of the Investigation of Surface Seepage at the IWS which reported the results of this study. This report included a characterization of the volume and extent of groundwater seepage in the wet-weather ditch and evaluated the sources of this seepage. In response to this report, on December 3, 2004, EPA requested the Facility to install an additional monitoring well downgradient of the IWS to further monitor groundwater above the Pittsburgh Coal Zone which underlies the IWS. On March 10, 2005, the Facility submitted a plan to install the requested well and subsequently submitted monitoring information for this well to EPA on April 14, 2006, and April 13, 2007.

Based on the results of the monitoring of this additional well, on June 27, 2008, EPA notified the Facility that any groundwater discharges and seeps between VNG property and Thompson Run Creek should also be characterized. These discharges and seeps were sampled by PADEP in July 2008 and further characterized by the Facility as reported to EPA on October 13, 2009.

Based on the additional investigations summarized above, the following new, pertinent information has become available regarding groundwater impacted (or potentially impacted) by the IWS since the issuance of the FDRTC:

- While groundwater seepage was observed within the wet-weather ditch on 165 days over a monitoring period of 33 months, no migration of seepage onto offsite (i.e., current VNG) property was observed during this period. Groundwater seepage from the wet-weather ditch is now expected to flow offsite only if it occurs concurrently with runoff during a significant storm event.
- Monitoring of a new well installed on Facility property downgradient of the wet-weather ditch indicates the IWS has impacted a water-bearing zone within the Pittsburgh Sandstone formation. This information suggests that water-bearing zones within the Pittsburgh Sandstone under VNG property may also be impacted by the IWS.
- Monitoring of a well and groundwater seeps/discharges between VNG property and Thompson Run indicates that groundwater downgradient of VNG property has not been impacted by the IWS. (The RFI had previously found that Thompson Run is not impacted by the IWS.)
- Based on predictive modeling, any intrusion of sub-surface VOC vapors into buildings on VNG property should not present an unacceptable risk under the current industrial use of this property. In addition, VNG property is currently zoned for industrial use only.

Based on this new information, the following additional corrective measure is proposed to ensure that groundwater impacted by the IWS does not present an unacceptable risk:

The Facility shall monitor the use of VNG property on an annual basis to confirm the absence or presence of water supply wells and/or plans for installation of such wells. If use (or plans for such use) of groundwater are confirmed, this use shall be reported by the Facility to the EPA. This requirement shall continue for 20 years or until such time as an equally protective control is implemented or until EPA determines that it is no longer necessary.

With the implementation of this additional corrective measure, the construction of a subsurface drainage collection system at the base of the IWS should no longer be necessary to mitigate groundwater impacted by the IWS. As a result, EPA proposes to delete this remedy component. If the Facility implements its plan to construct a flow separator over the wet-weather ditch to prevent both off-site migration of sediment and mixing of groundwater seepage and surface water from the affected area, EPA also proposes to delete the requirement to conduct periodic environmental monitoring of water and sediments in runoff from the Facility to VNG property after the flow separator has been installed.

IV. Evaluation of EPA's Proposed Decision

This section provides a description of the criteria EPA uses to evaluate a remedy under the Corrective Action Program. The criteria are applied in two phases. In the first phase, EPA evaluates three criteria, known as Threshold Criteria. In the second phase, EPA sometimes uses seven balancing criteria to select among alternative solutions, if more than one is proposed. The Facility has demonstrated that the current conditions meet the threshold criteria established by EPA. Because EPA is not selecting among alternatives, a complete evaluation of the balancing criteria is not necessary.

The following is a summary of EPA's evaluation of the Threshold Criteria:

1. **Protect Human Health and the Environment** - This proposed revised remedy protects human health and the environment from exposure to contamination. EPA's proposed revised decision meets this standard for current and anticipated land use. Impacted groundwater under Facility and VNG property is not currently used. The proposed revised remedy requires that future use of VNG be monitored to identify any known or planned use of groundwater under VNG property and that this information be reported to the EPA. In addition, intrusion of vapors from groundwater to existing buildings on VNG property is not expected to present an unacceptable risk under the current industrial use.

2. **Achieve Media Cleanup Objectives** - EPA's proposed remedy meets the appropriate cleanup objectives based on the current and reasonably anticipated use of Facility and VNG property. Both properties are currently used for industrial purposes and do not use groundwater. Use of groundwater on VNG property is not reasonably anticipated.

3. **Remediating the Source of Releases** - In all remedy decisions, EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. Sources of the releases at the Facility have been addressed by remedy components selected in the FDRTC of August 15, 1997. This proposed amendment addresses the migration of contaminants rather than the source of a release.

V. Institutional Controls

Under this proposed decision, some concentrations of contaminants will remain in groundwater under both Facility property and adjacent property which is used for industrial purposes. These concentrations may present an unacceptable risk if groundwater is used. In response, the proposed revised remedy includes a requirement that the Facility monitor the use (and/or potential use) of groundwater on the subject adjacent industrial property. ICs are generally non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use. The proposed IC is:

The facility shall monitor the use of VNG property on an annual basis to confirm the absence or presence of water supply wells and/or plans for installation of such wells. If use (or plans for such use) of groundwater are confirmed, this use will be reported by the Facility to the EPA. This requirement shall continue for 20 years or until such time as an

equally protective control is implemented or until EPA determines that it is no longer necessary.

This IC is enforceable through an amendment to an Administrative Order on Consent between EPA and the Facility dated April 11, 2001. If the Facility fails to meet its obligations under the Administrative Order or EPA, in its sole discretion, deems that additional ICs are necessary to protect human health or the environment, EPA has the authority to require and enforce additional ICs.

VI. Environmental Indicators

Under the Government Performance and Results Act (GPRA), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met these indicators on September 23, 2002.

VII. Financial Assurance

Due to the minimal cost of post-remedial activities (e.g., annual monitoring of an off-site property for groundwater use) that must be performed as part of the final remedy of the Facility, no financial assurance is required.

VIII. Public Participation

Interested persons are invited to comment on EPA's proposed decision. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, or e-mail to Mr. Griff Miller at the address listed below.

A public meeting will be held upon request. Requests for a public meeting should be made to Mr. Griff Miller at the address listed below. A meeting will not be scheduled unless one is requested.

The Administrative Record contains all the information considered by EPA for the proposed decision at this Facility. The Administrative Record is available at the following location:

U.S. EPA Region III
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Philadelphia, PA 19103
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