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DOCKET NO. D-2025-003-1

DELAWARE RIVER BASIN COMMISSION

**Southeastern Pennsylvania
Groundwater Protected Area**

**BAE Systems Information & Electronic Systems Integration, Inc.
North Penn Area 5 Superfund Site – OU1
Groundwater Treatment Plant Discharge and Groundwater Withdrawal
Montgomery Township, Montgomery County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on May 20, 2025 (Application) for approval of a groundwater treatment plant (GWTP) and its related discharge and the approval of an allocation of groundwater and review of a groundwater withdrawal project. The project discharge was most recently approved by the Pennsylvania Department of Environmental Protection (PADEP) National Pollutant Discharge Elimination System (NPDES) Permit No. PA0052868 on January 27, 2025, effective on February 1, 2025.

The Application was reviewed for approval under Section 3.8 and for a withdrawal permit under Section 10.3 of the *Delaware River Basin Compact*. The Montgomery County Planning Department has been notified of the application for this permit. A public hearing on this project was held by the DRBC on August 6, 2025.

A. DESCRIPTION

1. **Purpose.** The purpose of this project is to approve a groundwater withdrawal associated with the remediation of groundwater contaminated with chlorinated volatile organic compounds (VOCs) with an allocation of 4.054 million gallons per month (mgm) from existing Wells PW-19, RW-1, RI-20S, EW-1, EW-2 and EW-3. This docket also approves a discharge of up to 0.13 million gallons per day (mgd) of the remediated groundwater and its associated treatment. The site is defined as the OU1 portion of the North Penn Area 5 Superfund site (CERCLIS ID: PAD980692693). The docket holder was issued a Unilateral Administrative Order (UAO) by the United States Environmental Protection Agency Region III (EPA) that was filed on July 20, 2023 (Docket No. CERCLA-03-2023-0043DC) for Remedial Design and Remedial Action at the site.

2. **Location.** The project wells are completed in the Brunswick and Lockatong Formations in the West Branch Neshaminy Creek Watershed in Montgomery Township, Montgomery County, Pennsylvania. The West Branch Neshaminy Creek near the project site is designated by the PADEP as supporting Warm Water Fishes (WWF) and Migratory Fishes (MF).

The GWTP will discharge treated groundwater to an Unnamed Tributary of the West Branch Neshaminy Creek via Outfall No. 001 located at River Mile 115.51 – 35.0 - 3.35 - 0.49 (Delaware River – Neshaminy Creek - West Branch Neshaminy Creek - Unnamed tributary of the West Branch Neshaminy Creek).

The project outfall will be located in the West Branch Neshaminy Creek Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001 (Current)	40° 16' 5.85"	75° 14' 41.43"
001 (Proposed)	40° 16' 7.9"	75° 14' 45"

The current Outfall 001 is currently approximately 300 feet upslope in the tributary of proposed new outfall location. The proposed Outfall will replace the current Outfall when the new remediation system goes into operation.

3. **Area Served.** The existing project wells will be used only for the purpose of groundwater remediation at the docket holder's former manufacturing facility. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in Section C. DECISION of this docket.

4. **Design Criteria.** The project wells will be pumped simultaneously at a combined rate of approximately 91 gallons per minute (gpm) to induce a capture zone for the groundwater purge system. The docket holder's groundwater treatment facility will process up to 0.13 mgd of groundwater containing chlorinated volatile organic compounds (VOCs) by air stripping followed by a secondary treatment through media absorption to remove per- and polyfluoroalkyl substances (PFAS) prior to discharging to an Unnamed tributary of the West Branch Neshaminy Creek through existing Outfall No. 001.

The daily water withdrawal demand is 0.131 mgd. The docket holder does not project an increase in demand over the next 10 years. The allocation of 4.054 mgm should be sufficient to meet the future demands of the docket holder's treatment plant.

5. **Facilities.** Treatment of the extracted groundwater consists of combining inflow from six (6) extraction wells at a design combined flow rate of 91 gallons per minute (gpm) to an equalization tank. The feed pump will transfer water through a duplex basket strainer and a 4-tray air stripper where VOCs will be removed and discharged to the atmosphere. The effluent will be pumped through another duplex basket strainer and granular activated carbon (GAC) vessel to remove the remaining particles. The water will then pass through lead-lag vessels of ionic exchange (IX) resin to remove PFAS contaminants. The effluent will then be pumped

below the ground surface to a surface discharge (rip rap apron) to allow for infiltration and/or surface flow discharge to the Unnamed Tributary of the West Branch Neshaminy Creek.

The existing project recovery wells have the following characteristics:

WELL NO.	DEPTH (FEET)	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
PW-19	81	18' / 6"	2.5	2018
RW-1	70	23' / 6"	12	1980
RI-20S	80	70' / 2"	9	1998
EW-1	154	87' / 6"	34.65	2020
EW-2	154	16' / 10"	49.5	2020
EW-3	153	15' / 10"	39.6	2020

All wells will be metered.

The groundwater treatment system and project recovery wells are above the 100-year flood elevation.

Groundwater will be treated by as it enters through the top of the air stripper trays. Air is forced by the blower pressure up through the perforated trays, aerating the water to a froth and removing VOCs as gravity pulls the water down through each tray.

6. NPDES Permit / DRBC Docket. NPDES Permit No. PA0052868 issued by the PADEP includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting Warm Water Fishes (WWF) and Migratory Fishes (MF). EFFLUENT TABLE C-1 included in this docket contains effluent requirements for DRBC parameters that must be met as a condition of this approval (See C. DECISION Condition C.1.). A modified permit will be issued prior to final operation of the proposed treatment system with the current effluent requirements.

B. FINDINGS

The facility is principally located on a property that began operation under American Electronic Laboratories Inc. circa 1953 and was later operated by numerous entities including: AEL Industries Inc. (AEL), Tracor Aerospace Electronic Systems Inc. (Tracor), Marconi Aerospace Electronic Systems Inc. (Marconi), BAE Systems Aerospace Electronic Systems Inc., and then BAE Systems. The current property owner is Cobham Advance Electronic Solutions, Inc.

Initial response actions began in what would later become the North Penn Area 5 site in 1979 when the North Penn Water Authority (NPWA) identified the presence of chlorinated solvents in various public water supply wells. In August 1979, Trichloroethylene (TCE) was reported in NPWA Well NP-21. NPWA contacted AEL and working with their consultant Betz Commerce and Murdock (BCM), they voluntarily completed various initial investigations on their property to search for potential sources of TCE. AEL began investigations and sampling activity in September 1979. This work included sampling of a surface discharge from Building 2, sampling of various sanitary sewer discharges, sampling of their own production well, sampling of a pond on their property, and sampling of various other process waters.

In 1983, AEL installed a Recovery Well (formerly well A-10) screened from approximately 4 to 104 feet below grade and in April of 1986, AEL initiated a groundwater recovery and treatment program. This consisted of pumping groundwater with dissolved phase TCE from Recovery Well, treating this water with an air stripper, and discharging the treated water under a NPDES permit issued by PADEP. Due to the shallow open screen interval, Recovery Well pumping treated overburden groundwater, in addition to groundwater from the bedrock aquifer. This groundwater pumping and treatment system was operated essentially continually from 1986 until 2010, and included enhancements made in December 2004 by initiating pump and treat at the two wells with the highest TCE concentrations at that time, Wells RI-20S and RW-1.

In March 1989, North Penn Area 5 was formally listed on the National Priorities List. EPA subsequently completed a Remedial Investigation (RI), which described certain potential source areas on the former BAE Systems Property for assessment through the RI. These potential source areas included the former Drum Area, former Pond Area, Sewer Area, and Former UST Area.

Following the 2004 ROD, EPA required BAE Systems to perform a Pre-Design Investigation (PDI). During the PDI (completed in 2007/2008), BAE Systems completed soil sampling, geologic and hydrogeological characterization activities and pilot testing of select potential remedial alternatives. Some activities included bedrock coring (rock core samples submitted for geotechnical analysis of horizontal and vertical permeability), geophysical logging, packer testing, slug testing, pump testing and conventional groundwater elevation gauging and sampling at various wells within OU1. Additionally, during the PDI, dual phase extraction pilot tests were conducted on several of the newly installed wells in potential source areas (PW-1, PW-5 and PW-10A) to evaluate the effectiveness of this technology and to determine if any recoverable source materials were present in the vicinity of the tested locations. The PDI concluded that recoverable sources of VOCs are not present in the areas tested.

Following the PDI, BAE Systems voluntarily initiated an MNA Pilot Study in 2010. This study was conducted by shutting down the pump and treat system and performing quarterly and annual groundwater sampling events, along with annual reporting to EPA, to monitor groundwater quality as the facility returned to non-pumping conditions. Select OU2 wells were sampled as part of this monitoring plan.

The July 2016 RODA for NP5 OU1 selected optimized pump and treat as the primary remedy for the Site and provides contingent remedies that could include In Situ Chemical Oxidation (ISCO) & Bioaugmentation. The PRDI was implemented to support design of this remedy beginning in October 2017 and has led to the installation of an additional 32 wells, with related testing completed.

1. Ground Water Protected Area

The project is located within the Southeastern Pennsylvania Ground Water Protected Area delineated by the DRBC pursuant to *Compact* Section 10.2. Aquifer testing conducted by the docket holder indicates the operation of this project will not create a local water shortage.

Review and analysis of the application pursuant to Section 6.D. of the *Ground Water Protected Area Regulations (GWPAR)* result in the following:

1. The withdrawal is consistent with the Commission's Comprehensive Plan and the policies and purposes of these regulations.
2. Opportunities to satisfy water requirements on a timely basis from existing available supplies and facilities have been explored and are being utilized.
3. The withdrawal, in conjunction with other withdrawals in the applicable ground water basin, should not exceed withdrawal limits of the ground water basin, aquifer or aquifer system.
4. The withdrawal should not significantly impair or reduce the flow of perennial streams in the area.
5. Existing ground and surface water withdrawals should not be adversely impacted, or will be otherwise assured of adequate supplies in accordance with the requirements of Section 10 of the *GWPAR*. No adverse impact is anticipated due to continued operation of this project.
6. The withdrawal should not cause substantial, permanent adverse impact to the overlying environment.
7. The docket holder adopted and will implement conservation and management programs as required by Section 7 of the *GWPAR*.

The docket holder's wells are located in the West Branch Neshaminy Creek subbasin (Subbasin No. 53), where total net annual groundwater withdrawals (15.016 mgy) are less than the withdrawal limits set in Section 6.I of the *GWPAR* (1,402 mgy). The docket holder is requesting an annual allocation of 48.75 mgy, a fraction of which will be returned to groundwater. However, even if no water from this project were returned to groundwater, the total net annual groundwater withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the docket holder's

wells, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

2. Other Findings

At the project site, the Unnamed Tributary of the West Branch Neshaminy Creek has an estimated seven-day low flow with a recurrence interval of ten years of 1.94 mgd (3.6 cfs). The flow was calculated using U.S. Geological Survey, 2012, The StreamStats Program for Pennsylvania, online at <http://water.usgs.gov/osw/streamstats/pennsylvania.html>. The ratio of this low flow to the average design wastewater discharge from the 0.13 mgd GWTP is 14.9 to 1.

The nearest surface water intake of record for public water supply is located approximately 4 river miles on Pine Run and is operated by North Penn & North Wales Water Authority.

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

The DRBC estimates that the project withdrawals, used for the purpose of groundwater remediation, result in negligible consumptive use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

C. DECISION

Effective on the approval date for Docket No. D-2025-003-1 below, the project and appurtenant facilities as described in Section A.4. (Design Criteria) and A.5. (Facilities) are approved subject to the following conditions, pursuant to Section 3.8 of the *Compact*:

Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email aemr@drbc.gov on the **Annual Effluent Monitoring Report Form** located at this web address: <https://www.nj.gov/drbc/programs/project/docket-app-info.html#3>. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the

violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit

Outfall 001 (Unnamed Tributary of the West Branch Neshaminy Creek)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30.0 mg/l	As required by NPDES Permit

2. The docket holder shall provide written confirmation to the Commission that it has registered and reported with PADEP all surface and groundwater sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning) once the groundwater treatment system is in operation.
3. The project withdrawals shall be metered by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within 5 percent of actual flow. Meters or other methods of measurement shall be subject to approval and inspection by the PADEP as to the type, method, installation, maintenance, calibration, reading and accuracy. A record of biweekly withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.
4. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date. Within 30 days of the date of project completion, the docket holder shall notify the DRBC of the project completion date.
5. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement ("Statement") signed by the docket holder's professional engineer for the project. The Statement must (1) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; and (2) indicate the date on which the project was (or is to be) placed in operation.
6. This approval of the construction related to the facilities described in this docket shall expire three five years from the approval date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

Other Conditions

7. During any month, the withdrawal from all well sources shall not exceed 4.054 million gallons. No well shall not be pumped above the maximum rate and monthly allocation as indicated below:

WELL NO.	MAXIMUM RATE (GPM)*	MONTHLY ALLOCATION (MGM)
PW-19	1.9	0.084
RW-1	9.1	0.406
RI-20S	8.8	0.393
EW-1	26	1.16
EW-2	38	1.696
EW-3	30	1.339

*Based on a 24-Hour Average

5. This approval shall expire on the expiration date set forth below unless prior thereto the docket holder has applied to the Commission to renew or extend this approval.

6. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 C.F.R. 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application whether DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. If a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable pending the grant or denial of the application for docket approval.

7. The wells and operational records shall be available at all times for inspection by the DRBC.

8. The wells shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

9. The wells shall be equipped so that water levels may be measured under all conditions. Existing wells are to be similarly equipped, where possible.

10. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

11. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served section of this docket, which incorporates by reference the Type of Discharge and Service Area sections of the docket holder's Application to the extent consistent with all other conditions of this DECISION section.

12. The docket holder shall implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.
13. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.
14. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.
15. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations. (see 18 CFR 401.43).
16. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.35).
17. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.35).
18. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder to ensure the proper control, use and management of the water resources of the Basin.
19. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the docket holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the docket holder shall provide written notice to all potentially affected water users of the docket holder's responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the docket holder's project withdrawal shall be repaired, replaced or mitigated at the docket holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An

investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the docket holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement or mitigation.

20. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

21. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the *Rules of Practice and Procedure*. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE:

EXPIRATION DATE: September 10, 2025