



DEPARTMENT OF THE ARMY  
US ARMY INSTALLATION MANAGEMENT COMMAND  
US ARMY ENVIRONMENTAL COMMAND  
2455 REYNOLDS ROAD  
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

25 November 2024

SUBJECT: Army Response to WDNR Comments on Proposed Plan for Site-Wide Groundwater at the Former Badger Army Ammunition Plant, Baraboo, WI (DNR BRRTS Activity #02-57-001002, 02-57-562629, 02-57-526445)

Luke Lampo  
Wisconsin Department of Natural Resources  
South Central Region, Remediation & Redevelopment Program  
3911 Fish Hatchery Road  
Fitchburg, WI 53711-5397

Dear Mr. Lampo:

U.S Army Environmental Command (USAEC) has reviewed the Wisconsin Department of Natural Resources (WDNR) letter dated October 17, 2024, with comments on the Proposed Plan for Site-Wide Groundwater at the former Badger Army Ammunition Plant (BAAP). The Proposed Plan for Site-Wide Groundwater at Former Badger Army Ammunition Plant was sent to WDNR in July 2024.

The Proposed Plan uses a  $1 \times 10^{-4}$  cancer risk threshold for on-site groundwater monitoring wells where property transfer documents restrict groundwater access within the boundaries of BAAP and a  $1 \times 10^{-6}$  cancer risk threshold for off-site residential and groundwater monitoring wells where the Army has no control over the land/groundwater. In cases where specific contaminants are present on and off-site, the cancer risk for those contaminants were evaluated at the more conservative  $1 \times 10^{-6}$  risk level. This approach is consistent with the guidance set forth in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which governs response actions at this site. This approach was also stated in the June 2021 Final RI/FS report.

In the Army's implementation of the Defense Environmental Restoration Program (Title 10, United States Code Ch 160) at CERCLA sites, state requirements are considered only after unacceptable risk has been identified. CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; Part 300 of title 40, Code of Federal Regulations), do not provide for considering or applying state regulations in the evaluation of risk. Risk was evaluated at the Nitrocellulose (NC), Propellant Burning Ground (PBG), Deterrent Burning Ground (DBG), and Central Plumes to understand both on and off-site risks. The RI report found risk and identified numerous COCs for the PBG, DBG, and Central Plumes that are addressed in the Proposed Plan and will be targeted in the subsequent remedial action. The NCP identifies acceptable exposure levels to known or suspected carcinogens as "...generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between  $10^{-4}$  and  $10^{-6}$ ..." (40 CFR §300.430(e)(2)(i)(A)). United States Environmental Protection Agency (EPA) guidance further explains that where the cumulative carcinogenic risk to an individual based on reasonable maximum exposure for both current and future land use is less than  $10^{-4}$  and the non-carcinogenic hazard quotient is less than 1, action generally is not warranted, (*Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions*, pages 4-5, EPA, Office of Solid Waste and Emergency Response (OSWER) Directive 9355.0-30, April 22, 1991 and *Rule of Thumb for Superfund Remedy*

AMIM-AEC-M

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*Selection*, page 7, EPA, OSWER Directive 9355.0-69, August 1997). The maximum of the most recent observed concentration of each contaminant was used for the risk screening. This results in a conservative calculation that overestimates the actual risk to human health and the environment. A state human health risk regulation does not modify the risk range generally defined as acceptable in the NCP. The contaminants that were not included in the list of COCs for PBG, DBG, and Central Plumes that WDNR has requested the Army to reevaluate were found entirely within the boundary of the former BAAP and below the  $1 \times 10^{-4}$  risk level. However, the preferred remedy for the COCs of anerobic bioremediation will remediate the additional contaminants that WDNR is requesting in addition to the targeted COCs.

Under the NCP, potential ARARs are first identified during the Remedial Investigation then clarified in the Feasibility Study and Proposed Plan (40 CFR §300.430(d)(3)). However, compliance with ARARs only arises under CERCLA when there is a determination that unacceptable risk is present, and an onsite remedial action is required. There were no risk-based COCs identified within the NC Plume, which is contained entirely within the former BAAP boundary and is not migrating off-site. Therefore, a risk screening value of  $1 \times 10^{-4}$  was used for the entirety of the NC Plume. Where site conditions are determined to be protective of human health and the environment and no response action is required to reduce, control or mitigate exposure, compliance with ARARs is not required, (*ARAR's Q's & A's: General Policy, RCRA, CWA, SDWA, Post-ROD Information, and Contingent Waivers*, page 2, EPA OSWER Directive 9234.2-01/FS-A, June 1991). The Army is legally unable to conduct further analysis or remedial action where there is no unacceptable risk to human health or the environment under CERCLA. Therefore, while WDNR utilizes a  $1 \times 10^{-6}$  cancer risk threshold for all groundwater, the Army is not utilizing these requirements in determining risk, and therefore COCs, for site-wide groundwater within the boundary of the former BAAP.

Since this is the only comment received from WDNR on the Proposed Plan, the proposed plan therefore will be considered final and we will move to public comment.

USAEC appreciates the WDNR's continued support and collaboration at the former BAAP. If there are any additional questions following receipt of this letter feel free to contact Ms. Laura Powell, Environmental Support Manager for BAAP, (520) 684-6058 or [laura.z.powell2.civ@army.mil](mailto:laura.z.powell2.civ@army.mil).

Scott Benson  
Environmental Support Manager  
Midwest and Central America Division