6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[EPA-HQ-SFUND-1983-0002 FRL-9996-98-Region 5]

National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List: Partial Deletion of the New Brighton/Arden Hills/Twin Cities Army Ammunition Plant (TCAAP) Superfund Site

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: The Environmental Protection Agency (EPA) Region 5 is publishing a direct final Notice of Partial Deletion of all soil and five aquatic sites in Operable Unit 2 (OU2) of the New Brighton/Arden Hills/TCAAP Superfund Site in Minnesota from the National Priorities List (NPL). The NPL, promulgated pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, is an appendix of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This direct final partial deletion is being published by EPA with the concurrence of the State of Minnesota, through the Minnesota Pollution Control Agency, because all appropriate response actions for soil

and these five aquatic sites under CERCLA, other than maintenance, monitoring and five-year reviews, have been completed. However, this partial deletion does not preclude future actions under Superfund.

DATES: This direct final partial deletion is effective [insert date 60 days after date of publication in the *Federal Register*] unless EPA receives adverse comments by [insert date 30 days after date of publication in the *Federal Register*]. If adverse comments are received, EPA will publish a timely withdrawal of the direct final partial deletion in the **Federal Register** informing the public that the partial deletion will not take effect.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-SFUND-1983-0002 by one of the following methods:

https://www.regulations.gov. Follow the on-line instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and

should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www2.epa.gov/dockets/commenting-epa-dockets.*

Email: *cano.randolph@epa.gov*

Mail: Randolph Cano, NPL Deletion Coordinator, U.S. Environmental Protection Agency Region 5 (ST-6J), 77 West Jackson Boulevard, Chicago, IL 60604, (312) 886-6036

Hand deliver: Superfund Records Center, U.S. Environmental Protection Agency Region 5, 77 West Jackson Boulevard, 7th Floor South, Chicago, IL 60604, Phone: (312)886-0900. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information. The normal business hours are Monday through Friday, 8 a.m. to 4 p.m., excluding Federal holidays.

Instructions: Direct your comments to Docket ID no. EPA-HQ-SFUND-1983-0002. EPA's policy is that all comments received will be included in the public docket without

change and may be made available online at *https://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *https://www.regulations.gov* or e-mail. The *https://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *https://www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *https://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically at *https://www.regulations.gov* or electronically or in hard copy at:

U.S. Environmental Protection Agency, Region 5, Superfund Records Center, 77 West Jackson Boulevard, 7th Floor South, Chicago, IL 60604, Phone: (312) 886-0900, Hours: Monday through Friday, 8 a.m. to 4 p.m., excluding Federal holidays.

Minnesota National Guard, 4761 Hamline Avenue North, Arden Hills, MN 55112, Contact: Mary Lee, Arden Hills Army Training Site, Phone: (651) 282-4420. Hours: Monday through Friday, 8 a.m. to 3:30 p.m., excluding State holidays.

FOR FURTHER INFORMATION CONTACT: Randolph Cano, NPL Deletion Coordinator, U.S. Environmental Protection Agency Region 5 (ST-6J), 77 West Jackson Boulevard, Chicago, IL 60604, Phone: (312)886-6036, or via email at *cano.randolph@epa.gov.*

SUPPLEMENTARY INFORMATION:

Table of Contents:

I. Introduction

EPA Region 5 is publishing this direct final Notice of Partial Deletion for the New Brighton/Arden Hills/Twin Cities Army Ammunition Plant Site (NB/AH/TCAAP Site), from the NPL. This partial deletion pertains to all soil (shallow and deep) located within the boundary of OU2 of the NB/AH/TCAAP Site and to the surface water and sediment (not groundwater) of the five aquatic sites located within the OU2 boundary: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G (see Figures 2-2 and 11-1 in the Docket). The remaining areas at the NB/AH/TCAAP Site, including OU1, OU3, groundwater in OU2 and a sixth aquatic site, Round Lake located southwest of the OU2 boundary, will remain on the NPL and are not being considered for deletion as part of this action.

The NPL constitutes Appendix B of the NCP, which EPA promulgated pursuant to CERCLA. EPA maintains the NPL as

the list of sites that appear to present a significant risk to public health, welfare, or the environment. Sites on the NPL may be the subject of remedial actions financed by the Hazardous Substance Superfund (Fund). This partial deletion of the NB/AH/TCAAP Site is proposed in accordance with 40 CFR 300.425(e) and is consistent with the Notice of Policy Change: Partial Deletion of Sites Listed on the National Priorities List. 60 FR 55466 (Nov. 1, 1995). As described in 40 CFR 300.425(e)(3) of the NCP, a portion of a site deleted from the NPL remains eligible for Fund-financed remedial actions if future conditions warrant such actions.

Section II of this document explains the criteria for deleting sites from the NPL. Section III discusses procedures that EPA is using for this action. Section IV discusses the shallow and deep soil and the five aquatic sites located within OU2 of the NB/AH/TCAAP Site and demonstrates how they meet the deletion criteria. Section V discusses EPA's action to partially delete the soil and five aquatic sites located within the OU2 boundary of the NB/AH/TCAAP Site from the NPL unless adverse comments are received during the public comment period.

II. NPL Deletion Criteria

The NCP establishes the criteria that EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites, or portions thereof, may be deleted from the NPL where no further response is appropriate. In making such a determination pursuant to 40 CFR 300.425(e), EPA will consider, in consultation with the state, whether any of the following criteria have been met:

i. Responsible parties or other persons have implemented all appropriate response actions required;

ii. all appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or

iii. the remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, the taking of remedial measures is not appropriate.

Pursuant to CERCLA Section 121(c) and the NCP, EPA conducts five-year reviews to ensure the continued protectiveness of remedial actions where hazardous substances, pollutants, or contaminants remain at a site above levels that allow for unlimited use and unrestricted exposure. EPA conducts such five-year reviews even if a site or a portion of a site is deleted from the NPL. EPA may initiate further action to ensure continued

protectiveness at a deleted site if new information becomes available that indicates it is appropriate. Whenever there is a significant release from a site deleted from the NPL, the deleted site may be restored to the NPL without application of the hazard ranking system.

III. Deletion Procedures

The following procedures apply to the deletion of the soil portion of OU2 and to the five aquatic sites located within the OU2 boundary of the NB/AH/TCAAP Site:

(1) EPA consulted with the State of Minnesota prior to developing this direct final Notice of Partial Deletion and the Notice of Intent for Partial Deletion co-published today in the "Proposed Rules" section of the **Federal Register**.

(2) EPA has provided the State 30 working days for review of this notice and the parallel Notice of Intent for Partial Deletion prior to their publication today, and the State, through the MPCA, has concurred on the partial deletion of the NB/AH/TCAAP Site from the NPL.

(3) Concurrent with the publication of this direct final Notice of Partial Deletion, an announcement of the availability of the parallel Notice of Intent for Partial Deletion is being published in three major local newspapers, the Minneapolis Star Tribune, The Mounds

View/New Brighton Sun Focus and the Shoreview Press. The newspaper notices announce the 30-day public comment period concerning the Notice of Intent for Partial Deletion of the NB/AH/TCAAP Site from the NPL.

(4) The EPA placed copies of documents supporting the partial deletion in the deletion docket and made these items available for public inspection and copying at the NB/AH/TCAAP Site information repositories identified above.

(5) If adverse comments are received within the 30-day public comment period on this partial deletion action, EPA will publish a timely notice of withdrawal of this direct final Notice of Partial Deletion before its effective date and will prepare a response to comments and continue with the deletion process on the basis of the Notice of Intent for Partial Deletion and the comments already received.

Deletion of a portion of a site from the NPL does not itself create, alter, or revoke any individual's rights or obligations. Deletion of a portion of a site from the NPL does not in any way alter EPA's right to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist EPA management. Section 300.425(e)(3) of the NCP states that the deletion of a site from the NPL does not preclude eligibility for

further response actions, should future conditions warrant such actions.

IV. Basis for Partial Site Deletion

The following information provides EPA's rationale for deleting the soil portion of OU2 and the five aquatic sites located within the OU2 boundary (Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G) of the NB/AH/TCAAP Site from the NPL:

Site Background and History

The NB/AH/TCAAP Site (CERCLIS ID: MN7213820908) consists of a 25-square mile area located in Ramsey County, Minnesota. The NB/AH/TCAAP Site includes the 4-square mile area of the original TCAAP facility (about 2,370 acres) operated by the U.S Army (Army), located east of U.S. Interstate Highway 35W and north of Ramsey County Highway 96 at the time of NPL listing in 1983 (OU2) and portions of seven nearby communities with Site-related groundwater contamination (OU1 and OU3). These communities include: New Brighton, Arden Hills, St. Anthony, Shoreview, Mounds View, Columbia Heights and Minneapolis. See Figure 2-1 in in the Docket.

The TCAAP facility manufactured, stored and tested small-caliber ammunition and related materials for the United States military and handled and stored strategic and

critical materials for other government agencies from 1941 to 2005. Between 1941 and 1981, the facility disposed of waste materials including volatile organic compounds (VOCs), heavy metals, corrosive materials and explosives at several locations on the TCAAP property. Alliant Techsystems Inc. (Alliant) was the Army's installation services contractor for TCAAP and also operated manufacturing facilities at the TCAAP property.

The U.S. Army Toxic Hazardous Materials Agency issued a report on waste disposal activities at TCAAP in 1978. In 1981, MPCA and the Minnesota Department of Health (MDH) began sampling water supply wells in the TCAAP area. The sampling found that municipal and private drinking water wells near the TCAAP facility and wells at TCAAP were contaminated with VOCs.

Due to the contamination, the City of New Brighton shut down six municipal wells, deepened two municipal wells and constructed three new municipal wells from 1982 to 1984. One of the City of St. Anthony's municipal wells was also contaminated and this well was closed.

In 1983 EPA installed carbon treatment filters on two of the City of New Brighton wells that were reopened to meet summertime peak demand. EPA also provided New

Brighton with an additional deep well and carbon treatment for two of St. Anthony's municipal wells in the late 1980s.

In 1983, MPCA connected several private well users adjacent to the TCAAP facility to New Brighton's and Arden Hills' water mains. In 1984, MPCA constructed a temporary water connection from the City of St. Anthony to the City of Roseville to alleviate a water shortage due to the shutdown of one of St. Anthony's wells.

EPA proposed the NB/AH/TCAAP Site to the NPL on December 30, 1982 (47 FR 58476). EPA finalized the NB/AH/TCAAP Site on the NPL on September 8, 1983 (48 FR 40658).

The Army began a Phase I investigation at the TCAAP facility in 1981. The Army installed and sampled a significant number of monitoring wells at TCAAP to identify the overall contribution of the facility to the groundwater contamination identified by MPCA and MDH.

Site records and investigations conducted at TCAAP subsequent to the Army's 1978 waste disposal report identified 14 source areas of contamination at TCAAP. These areas were used for the burial or open-burning of waste or were industrial sources of contamination. The Army designated the source areas as Sites A, B, C, D, E, F,

G, H, I, J, K, 129-3, 129-5 and 129-15. See Figure 3 in the Docket.

The Army entered into a Federal Facilities Agreement (FFA) with EPA and the State of Minnesota in 1987. The FFA establishes the framework, schedule and requirements for the Army to conduct a remedial investigation (RI) and feasibility study (FS) at the TCAAP facility and to implement the selected cleanup actions.

The Army implemented several interim remedial actions (IRAs) at the TCAAP facility (i.e., OU2 of the NB/AH/TCAAP Site) under the Army's Installation Restoration Program (IRP). The Army conducted the IRAs in the 1980s and 1990s before an overall remedy was selected for OU2 in the OU2 Record of Decision (ROD) in 1997. These actions included unilateral actions by the Army, actions with EPA and State concurrence, and other actions initiated by the Army/Alliant. The IRAs were coordinated with the State and Federal regulatory agencies.

The Army implemented unilateral removal actions at TCAAP using its own delegated removal authorities under CERCLA Section 104. These actions included installing in-situ soil vapor extraction (SVE) systems at Sites D and G to remediate VOC-contaminated soils in 1986 and installing

groundwater pump-and-treat systems at Sites A and K to treat VOC-contaminated groundwater in 1988.

Army IRAs at TCAAP undertaken with EPA and State concurrence included: 1) installing a Boundary Groundwater Recovery System (BGRS) in 1987 to prevent additional groundwater contaminants from flowing off of the TCAAP property pursuant to a 1987 ROD; 2) expanding the BGRS into the TCAAP Groundwater Recovery System (TGRS) with source control wells installed downgradient of Sites D, G and I; 3) thermally treating 1,400 cubic yards of soil contaminated with polychlorinated biphenyls (PCBs) at Site D in 1989 pursuant to a 1989 ROD on Removal Action for PCB-Contaminated Soils Near Site D; 4) remediating heavy metal soil contamination through soil washing/leaching technologies at Site F from 1993-1997 under the Resource Conservation and Recovery Act (RCRA); and 5) modifying the Site A groundwater remediation system installed in 1983 to include eight boundary extraction wells in 1994.

Other IRAs the Army implemented at TCAAP included: cleaning of the sanitary sewer system lines (Site J) from 1984 to 1986 and closing Site J in accordance with the EPA and MPCA-approved Final Site J Closure Report issued in 1994; and excavation by Alliant of the PCB-contaminated

soils around Building 502 in 1985 and disposing of the soils at a permitted off-site facility in 1996.

Several property ownership transfers and reassignments of control have occurred at the TCAAP property since the NB/AH/TCCAP Site was listed on the NPL. See Figure 4 in the Docket. Since 1983, control of over 1,500 acres of TCAAP has been reassigned to the National Guard Bureau which licenses the use of the property to the Minnesota Army National Guard for the operation of the Arden Hills Army Training Site (AHATS) and to the U.S. Army Reserve. The National Guard Bureau and Army Reserve property is still federally-owned and is controlled by the Army, but it is no longer controlled by TCAAP, which reports to a different division.

Prior to 2010, the Army also transferred more than 270 acres of TCAAP that did not require land or groundwater use restrictions to Ramsey County and the City of Arden. This property consists of: Parcels 093023320001 and 093023240003 owned by Ramsey County (the unlabeled OU2 area in the northwest corner of OU2 on Figure 4 in the Docket); Parcel 153023340001 located at 1425 Paul Kirkwold Drive owned by Ramsey County; and Parcel ID 153023430001 located at 1245 Highway 96W owned by the City of Arden Hills (shown

as the unlabeled OU2 areas along the southern boundary of OU2 on Figure 4).

In 2013, the Army transferred another 397 acres of TCAAP to Ramsey County and leased another 30 acres of TCAAP to the County. In 2017, the Army transferred the ownership of the 30 acres Ramsey County was leasing from the Army to Ramsey County.

Forty-seven of the 427 acres of property the Army transferred and leased to Ramsey County in 2013 did not require land or groundwater use restrictions (see the **Operation and Maintenance** section of this notice). The other 380 acres were restricted by land use controls (LUCs) for soil and groundwater.

Ramsey County conducted an additional soil investigation at the 380 acres of restricted property they owned or were leasing in 2014. Ramsey County remediated the areas of remaining soil contamination, including the soil contamination at Sites I and K located within the 380-acre area.

Following the additional cleanup, MPCA and EPA approved the soil in the 380-acre area to be suitable for unlimited use/unrestricted exposure (UU/UE). The Army removed the soil LUCs on the 380 acres in Revision 4 of the OU2 Land Use Control Remedial Design (LUCRD) dated August

2016. This property, however, is still subject to the groundwater LUCs (see Figure 5, Area with Groundwater LUCs, in the Docket).

The Army determined that the remaining 160 acres of the TCAAP property are surplus to the needs of the Federal government. This property is in the process of being transferred out of Federal ownership. These 160 acres are controlled by the Base Realignment and Closure (BRAC) Division of the Army, the organization to which TCAAP currently reports.

Ramsey County identified 108 acres of the remaining 160-acre TCAAP property (Parcels A through D) for use as part of the Rice Creek Regional Trail Corridor (RCRTC) (see Attachment B, Site Boundary – Rice Creek Regional Trail Parcels A-D in the Docket). Ramsey County completed an additional soil investigation and cleanup on the 108 acres to levels that are suitable for recreational use. The Army removed the soil LUCs on the 108-acre property in Revision 5 of the OU2 Land Use Control Remedial Design (LUCRD) dated March 2018.

The Army will transfer title to Parcels A, B, and D of the 108-acre property to Ramsey County. Parcel C will remain under Federal ownership, but the government intends

to grant Ramsey County a perpetual easement to Parcel C for its use as part of the RCRTC.

This partial deletion pertains to all soil (shallow and deep) located within the OU2 boundary of the NB/AH/TCAAP Site (see Figure 2-2 in the Docket). This partial deletion also pertains to surface water and sediment (not groundwater) in the five aquatic sites located within the OU2 boundary of the NB/AH TCAAP Site: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G (see Figure 11-1 in the Docket).

The remaining areas at the NB/AH/TCAAP Site, including OU1, OU3, groundwater in OU2 and a sixth aquatic site, Round Lake located southwest of the OU2 boundary, will remain on the NPL and are not being considered for deletion as part of this action.

Remedial Investigation (RI) and Feasibility Study (FS)

The Army conducted a RI at the TCAPP portion of the NB/AH/TCAAP Site (OU2) from 1988 to 1991. The purpose of the RI was to characterize the nature and extent of soil, sediment, surface water and groundwater contamination within the OU2 boundary. The FS developed and evaluated cleanup alternatives to address the unacceptable risks identified at OU2.

The Army completed the OU2 RI and conducted an OU2 Terrestrial Ecological Risk Assessment in 1991. The Army conducted a Tier II Ecological Risk Assessment for the OU2 aquatic sites in 2004. Due to EPA and MPCA concerns, the Army conducted additional sampling at Marsden Lake and Pond G in 2008. The Army issued a separate FS for the five aquatic sites located within the OU2 site boundary in 2011. The Army is addressing Round Lake, which is still considered part of OU2 but is located outside of the OU2 site boundary, southwest of OU2, separately.

EPA completed a Human Health Risk Assessment (HHRA) addressing OU1, OU2 and OU3 of the NB/AH/TCAAP Site in 1991. In 1992, the Army collected additional data as part of the FS development process to further characterize the nature and extent of OU2. The Army completed the OU2 FS in 1997. The OU2 FS included an updated list of additional contaminants of concern (COCs) and cleanup levels.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a Public Health Assessment of the NB/AH portion of the NB/AH/TCAAP Site (OU1 and OU3) in 1994. Based on the assessment, ATSDR considered the NB/AH portion of the NB/AH/TCAAP Site to be a "public health hazard" because people were exposed to past groundwater

contaminants from TCAAP at concentrations that could result in adverse health effects.

The Army's RI identified all known or suspected sources of contamination at OU2 of the NB/AH/TCAAP Site. The RI separated the OU2 contamination into four categories: shallow soil sites, with soil contamination less than 12 ft-bgs (Sites A, C, E, H, 129-3 and 129-5); deep soil sites, with soil contamination greater than 12 ft-bgs, down to depths between 50 and 170 feet (Sites D and G); shallow (Unit 1) groundwater contamination (Sites A, I and K); and deep (Units 3 and 4) groundwater contamination (groundwater underlying the southwestern portion of OU2, originating primarily from Sites D, G and I). Although Sites D and G were considered deep soil sites, shallow soil contaminants were also present at Site D, and Site G also contains a dump.

The Army addressed Sites F (RCRA) and J (sewer line cleaning) separately and did not include these areas in the OU2 RI. Also, the Army did not find any contamination in Site B other than part of a dump (Site B-3) that would require additional investigation.

The RI and additional FS sampling indicated that the shallow soil sites (Sites A, C, E, H, 129-3 and 129-5) were contaminated by heavy metals, VOCs, polynuclear aromatic

hydrocarbons (PAHs) and PCBs. The contamination was generally present in the upper five to 10 feet of soil. Contaminated soil volumes ranged from as little as 15 cubic yards (CY) at Site 129-5 to as much as 2,600 CY at Site C.

Unpermitted landfills or dumps also existed within the boundaries of shallow soil Sites A, E and H. The estimated material in these dumps ranged from 4,400 CY at Site A to 12,200 CY at Site E. The RI identified two additional dumps in OU2. Dump Site B-3 was estimated to contain 12,400 CY of material. The other dump is Site 129-15 and is estimated to be 53,000 CY.

The RI did not investigate the material at Site B-3 or Site 129-15. The RI indicated that additional characterization would be required before response actions could be selected for these areas. There was no clear indication, however, that either dump was contaminating the groundwater.

The Army updated EPA's 1991 HHRA in the 1997 OU2 FS to incorporate the results of the additional sampling. The updated risk assessment in the FS indicated that the surface soil and debris at Sites A, C, H and 129-3 posed an unacceptable cancer and/or noncancer risk to on-site workers under a current industrial exposure scenario. Subsurface soil and debris at Sites A, C, H and 129-3 and

at Sites D, E, G and 129-5 also posed an unacceptable cancer and/or noncancer risk to future construction workers in these areas. The risks were primarily due to the incidental ingestion of and dermal contact with surface and/or subsurface soil and debris.

According to the updated HHRA, surface soil and debris at Sites A, C, E, H and 129-3 posed an unacceptable cancer and/or noncancer risk to potential future residents living in these areas under a future residential exposure scenario. These risks were primarily due to the incidental ingestion of and dermal contact with surface soil and debris and to the ingestion of home-grown fruits and vegetables.

The Army developed remedial action objectives (RAOs) for the OU2 cleanup in the FS based on the current and most probable future land use for the property, which was industrial. The FS then developed numerical remediation goals for the cleanup based on applicable or relevant and appropriate requirements (ARARs), health-based risk values, background concentrations of metals, contaminant migration potential and technological limitations.

The health-based risk values developed for surface soil were based on the lower of either an excess lifetime cancer risk equal to one in a million or a noncancer hazard

of one, adjusted for exposure to multiple contaminants. The industrial values were calculated based on the primary routes of exposure which were ingestion and dermal contact. The cleanup levels for the deep soil Sites D and G were based primarily on leaching-based goals that are protective of the underlying groundwater for use as residential drinking water. For Site 129-15, a one-time commercial, industrial or utility construction scenario was utilized. The construction scenario assumed that construction workers would be exposed to excavated soils for 40 days (i.e., a two-month construction period) a year for two years. See the **Cleanup Levels** section below for additional information. The FS developed general response actions for the OU2 cleanup based on the technical applicability and the contaminant characteristics of each individual site within OU2. After initial screening, the FS retained a set of final cleanup alternatives for full evaluation. The alternatives evaluated for the shallow soil Sites A, C, E, H, 129-3 and 129-5 were: no action, in-situ fixation/capping, soil washing/soil leaching and excavation/stabilization with off-site disposal. The alternatives evaluated for the deep soil Sites D and G were: no action, continue shallow SVE, or expand the SVE systems vertically.

The only alternative the FS evaluated for the unpermitted landfills in Sites A, E and H was excavation and off-site disposal. The FS indicated that the landfills in Site B and Site 129-15 would require further characterization.

Selected Remedy

EPA, MPCA and the Army selected an industrial cleanup remedy for the OU2 shallow soil sites, dumps and deep soil sites in a 1997 OU2 ROD. The agencies also selected remedies for the five aquatic sites located within the OU2 boundary in OU2 ROD Amendment #4 (Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G).

The selected remedy for the shallow soil Sites A, C, E, H, 129-3 and 129-5 and for the dumps within Sites A, E and H in the 1997 OU2 ROD included the following remedial components (see the 1997 ROD for information about the groundwater components of the OU2 remedy):

(1) Identification/characterization of contaminated soil boundaries, surface and subsurface debris and dump contents;

(2) Excavation and sorting of hazardous and nonhazardous dump materials, debris and ordnance;

(3) Removal and disposal of ordnance, debris and oversized material;

(4) On-site stabilization of hazardous and contaminated soils from Sites A, E, H, 129-3 and 129-5;

(5) Off-site disposal of stabilized materials from Sites A, E, H, 129-3 and 129-5;

(6) Off-site transport, incineration and disposal of soils containing low levels of dioxin-furans from Site C (if required);

(7) Backfill/regrade excavations;

(8) Restrict site access and use during remedy implementation; and

(9) A limited period of monitoring to verify remedy effectiveness.

The selected remedy for the dumps at shallow soil Sites B and 129-15 was characterization to determine the contents of the dumps. If the contents were found to be toxic, hazardous or contaminated, then a remedy for the landfill would be documented through a ROD Amendment. If the contents were not toxic, hazardous or contaminated then a no further action remedy will be selected.

The selected remedy for the shallow and deep soil contamination at Site D and for the deep soil contamination and dump at Site G was to expand the SVE systems vertically. The remedy included:

(1) Groundwater monitoring;

(2) Access and use restrictions;

(3) Installation and operation of deep SVE systems with modified shallow SVE systems, as appropriate;

(4) Evaluation and potential use of enhancements to the SVE systems;

(5) Maintenance of existing soil caps and surface drainage controls; and

(6) Characterization of shallow soils at Site D and the dump at Site G following cessation of SVE system operation to determine appropriate action.

The remedy in the 1997 OU2 ROD also included the characterization of the unsaturated Unit 1 soil at Site K as part of the Site K shallow groundwater remedy.

The 1997 OU2 ROD clarified that Site F, a former disposal area within OU2, was being closed under RCRA and was not addressed in the OU2 ROD. The 1997 OU2 ROD also confirmed that the 1994 Final Site J Closure Report for the sanitary sewer cleaning was approved by the regulatory agencies, documented the absence of contaminants above background levels and recommended no further action for this area.

Between 2007 and 2014, EPA, MPCA and the Army issued five ROD Amendments and an Explanation of Significant Differences (ESD) modifying various components of the

selected remedies for the shallow soil sites, dumps and deep soil sites in the 1997 OU2 ROD and selecting remedies for the five aquatic sites located within the OU2 boundary.

OU2 ROD Amendment #1, issued in 2007, modified the requirements for Site C-2 shallow soil and sediment contamination discovered in 2004 in two Site C-2 ditches. Because the depth to groundwater is shallow at Site C-2, it was not feasible to remove all of the contaminated soil and sediment from this area. The OU2 ROD Amendment #1 modified the remedy to allow the placement of a 4-foot thick soil cover over the Site C-2 areas where the contamination remains in-place above the cleanup levels instead of excavating the material. The OU2 ROD Amendment #1 also specified LUCs to maintain the integrity of the soil cover, prohibit unauthorized disturbance to the underlying soil and sediment and to restrict the Site C area outside the soil cover to site-specific industrial use. The OU2 ROD Amendment #1 also included the creation of a new wetland within the TCAAP facility to replace the loss of existing wetland.

OU2 ROD Amendment #3 was issued in 2009 and modified the remedies for the shallow soil and dump sites as follows:

(1) Documented, as a final remedy, the additional actions performed for shallow soil at Site D (soil cover for residual PCB-contaminated soil following the 1985 interim remedial action and 1989 thermal treatment selected in the 1989 ROD for Removal Action for PCB-Contaminated Soils Near Site D, and excavation, stabilization and off-site disposal of other contaminated Site D soil) after completing the deep soil cleanup at Site D.

(2) Documented, as a final remedy, the additional action (capping) implemented for the dump at Site G after completing the Site G deep soil cleanup.

(3) Documented the use of soil covers as part of the final remedies, in addition to excavation and off-site disposal, at Sites E and H and as the primary remedy for the dump at Site 129-15.

(4) Documented that three OU2 areas not addressed in the 1997 OU2 ROD were acceptable for unrestricted use: 135 Primer/Tracer Area (PTA) Stormwater Ditch, Trap Range Site and Water Tower Area. The OU2 ROD Amendment #3 determined that the previous soil removals at the 135 PTA Stormwater Ditch in 2005 and at the Water Tower Area in 1993 reduced soil contamination to levels that allow for unrestricted use. ROD Amendment #3 also determined that, based on the

1999 preliminary assessment of the Trap Range Site, that the Trap Range Site is acceptable for unrestricted use.

(5) Documented the final remedies for two OU2 areas not addressed in the 1997 ROD: Grenade Range and Outdoor Firing Range. The OU2 ROD Amendment #3 determined that the 1993 and 1999 soil and unexploded ordnance removal actions at the Grenade Range and at the Outdoor Firing Range, and the construction of a soil cover at the Outdoor Firing Range in 2003-2004, cleaned up these areas to levels that are acceptable for industrial use.

(6) Requires long-term LUCs as an additional remedy component for shallow soil and dump Sites: D, E, G, H, 129-15, Grenade Range, and Outdoor Firing Range. The LUCs restrict these areas to site-specific industrial use, require the integrity of the soil covers to be maintained, and prohibit the unauthorized disturbance of materials underlying the soil covers. The exact details of the LUCs were to be specified and maintained in accordance with a LUCRD document approved by EPA and MPCA. ROD Amendment #3 concluded that LUCs are not needed for the 135 PTA Stormwater Ditch or Trap Range because contamination levels in these areas are suitable for UU/UE. The Amendment also concluded the Water Tower Area is suitable for UU/UE; however, it is located within the area of "blanket LUCs"

the Army implemented as specified in the 2010 LUCRD so it is restricted.

ESD #2, issued in 2009, modified the 1997 OU2 ROD by requiring long-term LUCs as an additional remedy component for Sites A, C-1, 129-3 and 129-5 restricting these areas to industrial use. ESD #2 also documented that based on an additional investigation, the Site B dump is cleared for unrestricted use and no further action is the final remedy for Site B.

OU2 ROD Amendment #4 was signed in 2012. The OU2 ROD Amendment #4 documented remedy decisions for the five aquatic sites located within the OU2 boundary and the 535 PTA Site, which were not addressed in the 1997 OU2 ROD. OU2 ROD Amendment #4 also documented the remedy decision for the Site K unsaturated Unit 1 soil characterized as part of the Site K shallow groundwater remedy.

OU2 ROD Amendment #4 determined:

(1) No action is needed for Rice Creek, Sunfish Lake, Marsden Lake North or Marsden Lake South. The 2011 FS, which the Army prepared following the 2004 Tier II Ecological Risk Assessment, documented that there are no human health risks associated with these areas and that the ecological risks are considered to be acceptable. These aquatic areas are acceptable for unrestricted use.

(2) In-situ treatment to raise hardness is the selected cleanup remedy for Pond G. No human health risks were associated with Pond G, however, Pond G surface water contains lead above the State water quality standard and may not be protective of the entire aquatic ecosystem. Pond G surface water was to be chemically altered and monitored to verify that the adjusted level of hardness increases to the minimum required level to comply with the Class 2Bd Minnesota chronic surface water quality standard for lead.

(3) The 2009 removal actions at the 535 PTA Site and for the VOC-contaminated soil at Site K, which involved the excavation and off-site disposal of contaminated soil, cleaned up the soils for unrestricted use. No further action is necessary for the soil in these areas and LUCs are not required.

OU2 ROD Amendment #5 was signed in 2014. The OU2 ROD Amendment #5 documented remedy decisions for three additional areas of soil contamination not addressed in the 1997 OU2 ROD. The Army remediated these areas as a 2013 removal action and addressed: (1) additional metal contamination at Site A, (2) PAH-contamination at Site 135 PTA, and (3) PAH and/or metals contamination discovered in two areas during an environmental baseline survey (EBS

Areas) conducted by the Minnesota National Guard before the property was transferred to the National Guard Bureau.

The 2013 soil removal action involved excavating the soil that was contaminated above industrial use cleanup levels in these areas and disposing of the contaminated materials off-site. OU2 ROD Amendment #5 documented that the completed 2013 removal action constitutes the final remedy for these soil areas of concern. OU2 ROD Amendment #5 also added the requirement that these areas be covered by a LUC restricting the areas to industrial use.

Decision documents that address the groundwater components of the OU2 remedy (groundwater not included in this partial deletion) include: OU2 ROD (1997), OU2 ROD Amendment #2 (2009), OU2 ESD #1 (2009), OU2 ROD Amendment #4 (2012) and OU2 ROD Amendment #6 (2017).

Response Actions

The Army constructed a corrective action management unit (CAMU) to aid in the OU2 cleanup and initiated shallow soil site remediation in 1998 beginning with Site A. The CAMU was a bermed, asphalt pad with lined ponds to store rainwater runoff from the pad. The CAMU was to be a central staging area where soils from each site would be brought for treatment before loading for off-site disposal at a permitted landfill. In 1999, however, the Army

discovered asbestos-containing material (ACM) at the shallow soil sites which made further use of the CAMU impractical. The safeguards needed to control the asbestos during handling defeated the cost savings of the central processing pad. The Army determined that it was more convenient and cost-effective to treat the soil at each site instead of moving the contaminated material to a central location for treatment.

The Army removed the CAMU in 2002. The Army decontaminated and removed the storage and storm water holding ponds, tested for contamination under the pad and ponds, and monitored the groundwater. EPA and MPCA approved the Army's CAMU Closeout Report in 2004. The CAMU Closeout Report states that there were no adverse impacts to soil or groundwater due to CAMU operations and that no LUCs are required for this area.

The Army completed the remedial actions at the shallow soil Sites A, C, E, H, 129-3, 129-5 and the Outdoor Firing Range from 1999 to 2010. The Army excavated debris and contaminated soil above industrial cleanup levels, stabilized the material and disposed of it at an off-site landfill. The Army excavated approximately: 16,300 CY from Site A; 21,450 CY from Site C; 20,900 CY from Site E;

8,620 CY from Site H; 3,470 CY from Site 129-3; 100 CY from Site 129-5 and 100 CY from the Outdoor Firing Range.

The Army also constructed a 2-foot thick protective soil cover over a portion of Site E and a 30-inch thick soil cover over a portion of Site H where ACM remains in-place; a 4-foot thick soil cover over portions of Site C where metals-contaminated soils and sediment from the former ditches remain in-place; and a 2-foot thick soil cover at the 1900 Yard Range of the Outdoor Firing Range where PAH-contaminated soils remain in place.

The Army investigated the Site 129-5 dump then constructed a protective soil cover over the materials. The Army also constructed a new wetland at Site C to replace the loss of existing wetlands when the Site C ditches were backfilled.

The Army completed the remediation work (shallow and deep soils) at the deep soil Sites D and G in 2004. The Army dismantled the SVE systems in 2000 after the deep soil cleanups were complete. At Site D, the Army then excavated 1,300 CY of shallow soils contaminated with non-VOCs and disposed of them at an off-site landfill. The Army also constructed a four to six foot soil cover over residual PCB-contaminated soils remaining at Site D after the 1985 interim remedial action. At Site G, the Army characterized

the dump then constructed a 2-foot thick protective soil cover over the material.

The Army conducted five years of groundwater monitoring at the shallow soil sites and Site D from 2003 through 2007. The Army conducted three years of groundwater monitoring at the Grenade Range from 1999 to 2004. The Army conducted the monitoring to verify that the groundwater beneath these areas was not impacted by remediation activities.

The Army conducted the groundwater monitoring in accordance with groundwater monitoring plans that were reviewed and updated annually as part of the Army's Annual Performance Report (APR). Based on the monitoring data, the Army extended the monitoring at Site H. The groundwater sampling is now complete at all shallow soils sites and confirms that there are no adverse remedy impacts to groundwater in these areas. Groundwater monitoring for VOCs, however, continues as part of OU2 deep groundwater monitoring in the vicinity of Sites D and G.

The Army treated the Pond G surface water in 2012 in accordance with the Pond G RD/RA Work Plan. The Army monitored the Pond G surface water in 2012 and 2013. The monitoring results verified that the surface water in Pond G was in compliance with the surface water standard for

lead. Since the Pond G remedy does not result in hazardous substances remaining in the Pond above levels that allow for UU/UE, long-term maintenance, monitoring, and LUCs are not required.

Reports documenting the completion of remedial activities for the shallow soil Sites A, C, E, H, 129-3, 129-5, 129-15, the shallow and deep soil in deep soil Site D and the deep soil and dump in deep soil Site G are in the Docket in the following reports: Final Remedial Action Completion and Shallow Soil Sites Close Out, Volumes I through VIII; Final Site 129-15 Dump Investigation, Characterization and Remedial Action Completion and Close Out Report; Final Site D Shallow and Deep Soil Volatile Organic Compound Investigation and Close Out Report; Final Site G Volatile Organic Compound Investigation and Dump Close Out Report; and Outdoor Firing Range 1900 Yard Range Cover Construction: Addendum to the Final Close Out Report, Outdoor Firing Range and #150 Reservoir Site Removal. The completed Pond G remedial action work and surface water monitoring results are documented in the 2013 Remedial Action Completion and Close Out Report, Pond G.

No action or no further action (other than LUCs) was required for shallow soil Site B, Site J, the Unit 1 soil in Site K, Grenade Range, Site 135 PTA, Site 135 PTA

Stormwater Ditch, Site 535 PTA, the EBS areas, Water Tower Area, the Trap Range Site, Former Building 576, Rice Creek, Sunfish Lake, Marsden Lake North or Marsden Lake South. Also, Site F was closed under RCRA. Additional information about these areas is documented in the 1997 OU2 ROD, 2009 OU2 ROD Amendment #3, 2009 ESD #2, 2012 OU2 ROD Amendment #4 and 2014 ROD Amendment #5 and the following reports in the Docket: Final Site B Dump Investigation, Characterization, and Close Out Report; Final Close Out Report, Outdoor Firing Range and #150 Reservoir Site Soil Removal Action, Completion of Soil Removal; Remedial Action Report, Site K; Lead-Impacted Soil Cleanup documentation, TCAAP Former Building 576; Close Out Report: Removal of Contaminated Sediment at the 135 Primer/Tracer Area Stormwater Outfall; Removal Action Completion Report, Site K; Final Close Out Report for Soil Removal Action at 535 Primer/Tracer Area; and Removal Action Completion Report for Soil Areas of Concern – Site A, 135 Primer/Tracer Area, EBS Areas.

Cleanup Levels

The cleanup levels for shallow soils in the 1997 OU2 ROD were derived specifically for each shallow soil site because MPCA did not have published rules or guidance values for soil at the time. The ROD selected cleanup

levels for shallow soils based on background levels, ARARs and the more stringent of either the site-specific industrial health-based value or leaching-based goal (see Table 8 in the 1997 OU2 ROD in the Docket). The health-based values were the lower of either an excess lifetime cancer risk equal to one in a million or a noncancer hazard of one, adjusted for exposure to multiple contaminants. The cleanup levels for the deep soil Sites D and G were based primarily on leaching-based goals that are protective of the underlying groundwater.

The site-specific health-based values calculated for the shallow soils sites assumed that adult industrial workers at TCAAP would be exposed to contaminated soil through dermal contact and ingestion for 250 days a year for 25 years. The calculations assumed an adult body weight of 70 kilograms, a soil ingestion rate of 50 milligrams/day and a dermal exposure over 0.31 square meters of body surface.

For Site 129-15, a one-time commercial, industrial or utility construction scenario was utilized. The construction scenario assumed that construction workers would be exposed to excavated soils for 40 days (i.e., a two-month construction period) a year for two years. The construction exposure assumes that the excavated soils are

managed to eliminate or greatly reduce exposure to fugitive dusts; all other parameters were assumed to be the same as the industrial exposure scenario.

The leaching-based goals for shallow and deep soils were calculated by MPCA using a soil model for chemicals that were found at the site in groundwater above drinking water or health-based standards. The industrial soil cleanup level for lead of 1,200 milligrams per kilogram (mg/Kg) was calculated by EPA using the Exposure Model for Assessing Risks Associated with Adult Exposure to Lead in Soil. Additional information concerning the soil cleanup standards is in Appendix C of the 1997 OU2 ROD.

Additional soil cleanup standards were later added based on subsequent investigations for Site A (tetrachloroethene and TCE), Site D (antimony, lead, and nitroglycerine) and Site 129-15 (lead). PCBs were not specifically listed as COCs for Site D in the OU2 ROD; however, the PCBs that were "secured in-place" exist at concentrations that exceed the ARAR of 10 mg/Kg cited in the OU2 ROD, so the cleanup standard for PCBs is considered to be 10 mg/Kg. Nitroglycerine was listed as a COC for Site 129-3 in the OU2 ROD; however, no cleanup level was established. The current cleanup level for nitroglycerine

was calculated at the time of soil remediation work at Site 129-3.

In 1999, the background number for arsenic in the TCAAP soils increased from 4 mg/Kg to 10 mg/Kg, as documented in a June 14, 1999 MPCA letter to the Army. This resulted in the cleanup level for arsenic increasing to 10 mg/Kg at Sites C and H. At Site 129-15 the highest arsenic concentration detected in soils was 5 mg/Kg and arsenic was dropped as a COC.

In 2002, the soil cleanup level for TCE at Site G increased to 36.1 mg/Kg. This revised cleanup standard is based on an updated soil leaching analysis that specifically accounted for the lower permeability of the Site G cover. EPA and MPCA agreed with this change on July 24, 2002. For cleanup levels that were established subsequent to the OU2 ROD, the health risk calculations are noted to be based on the same methodology and input parameters that were documented in Appendix C of the OU2 ROD.

The current cleanup standards for the OU2 shallow and deep soils sites are provided in Table 1 of the 2018 LUCRD Revision 5. A copy of Table 1 and the complete 2018 LUCRD document are available in the Docket.

The cleanup level for lead in Pond G is the Minnesota Class 2Bd surface water quality standard for lead, as promulgated in Minnesota Rule 7050.0222. The lead standard is calculated based on the hardness value of the surface water. At Pond G, the calculated lead standard ranged from a concentration of 11.4 micrograms per liter (µg/L) after initial treatment with lime and calcium to 1.6 to 2.0 µg/L approximately one year later.

The Army confirmed that the soil cleanup levels were attained at each of the shallow and deep soils sites through extensive soil verification sampling around each of the excavated areas, and by soil sampling below the shallow and deep vents at the SVE systems at Sites D and G. The Army conducted the verification sampling at the shallow soil Sites A, C, E, H, 129-3, 129-5, 129-15, the shallow soil at deep soil Site D and the dump at deep soil Site G through field and laboratory sampling and analysis at gridded locations in accordance with the 2000 Final Comprehensive Work Plan, Final Sampling and Analysis Plan and Final Site Safety and Health Plan, Shallow Soil Sites RD/RA Activities and associated Work Plan Clarifications. The Army conducted the verification sampling for deep soil at deep soil Sites D and G in accordance with the 1997 Final Work Plan, Sites D and G Pilot Study and the 1999

Addendum 1, Final Work Plan Sites D and G Pilot Study. The Army conducted the verification sampling at the other sites in accordance with the Removal Action Work Plan or other work plan for each area.

The Army confirmed that the cleanup level for lead in the Pond G surface water was met through four rounds of post-treatment monitoring. The Army detected lead during the second monitoring event at an average concentration of 0.61 µg/L. This concentration was well below the calculated standard for lead of 10.6 µg/L based on the average surface water hardness of 255 mg/L for that event. The Army did not detect lead in any of the other rounds of post-treatment monitoring.

Complete documentation of the verification of the cleanup levels for Pond G and the shallow and deep OU2 soils is available in the Remedial Action Completion Reports, Removal Action Completion Reports and Final Close Out Reports referenced in the **Response Actions** section above which are available in the Docket.

Operation and Maintenance

Operation and maintenance (O&M) for the soil portion of OU2 (shallow and deep) is limited to inspecting and maintaining the cautionary warning signs and the thicknesses of the soil covers at Sites C, D, E, G, H, 129-

15 and the Outdoor Firing Range; annually removing woody vegetation from the Site G soil cover to prevent deep rooting that could cause increased infiltration by any VOCs remaining below the cover; and to maintain, monitor and enforce the ESD and ROD Amendment-required LUCs, which are in the form of the Army's OU2 LUCRD document approved by EPA and MPCA. No O&M or LUCs are required for the five aquatic sites within the OU2 boundary: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South or Pond G.

The Army issued the initial EPA and MPCA-approved OU2 LUCRD (Revision 1) in 2010. The Army updated the LUCRD in 2011, 2015, 2016 and 2018 as portions of OU2 were further characterized, remediated as needed, and transferred for reuse and redevelopment. The current LUCRD is LUCRD Revision 5 issued in 2018.

The LUCRD documents that since 1997, the working presumption is that the OU2 property outside of the individual areas of concern (i.e., the OU2 property beyond Site A, Site C, Site D, etc.) does not have soil contamination above the typical "industrial use" cleanup levels derived for the areas of contamination within OU2. Ongoing and future uses of the OU2 property outside of the areas of concern would be compatible with past uses. Land used for manufacturing could continue to be used for

manufacturing; open space could continue to be used for open space. As such, the mostly open space along Rice Creek and the former OU2 staff housing area the Army previously transferred to Ramsey County and other OU2 property the Army transferred to the City of Arden Hills without any use restrictions (approximately 270 acres total) would remain acceptable for UU/UE.

LUCRD Revision 1 and subsequent revisions formalize the Army's decision to implement "blanket LUCs" limiting the OU2 property to industrial land use and restricting groundwater use across the remaining federally-owned OU2 property at the time LUCRD Revision 1 was issued in 2010 (except for Site F which the Army cleaned up to unrestricted use under RCRA). A map showing the initial federally-owned property with LUCs at the time of the 2010 LUCRD is in the September 2010 Figure 4 in the Docket.

The "blanket LUCs" resolved the outstanding LUC issues for the OU2 property outside of the individual areas of concern (i.e., OU2 property beyond Site A, Site C, Site D, etc.,) because the remedy-required LUCs in the OU2 ESDs and ROD Amendments only apply to each individual area of concern, not to the OU2 property outside of those areas. The Army's "blanket LUCs" also address the uncertainty associated with not having soil data to characterize the

entire OU2 property outside of the areas of concern. The 2010 LUCRD and subsequent revisions include additional restrictions for OU2 areas with soil covers and components of the OU2 groundwater extraction and treatment systems to protect the integrity of these remedies.

The 2010 LUCRD and subsequent revisions allow and formalize a process for the Army to demonstrate to EPA and MPCA that less restrictive uses of OU2 property are acceptable in anticipation of future redevelopment and property transfers at the NB/AH/TCAAP site.

The Army issued Revisions 2, 3, 4 and 5 to the LUCRD from 2011 to 2018. These revisions: (1) cleared the Watchable Wildlife Area of AHATS for unrestricted public use and revised the LUCs for a portion of the AHATS Cantonment Area to allow uses compatible with a restricted commercial exposure scenario (Revision 2, 2011); (2) revised the LUCs for the remainder of the Cantonment Area and the Army Reserve Center to restricted commercial use and documented the transfer/lease of 427 acres of Army/BRAC controlled property to Ramsey County (Revision 3, 2015); (3) revised the LUCs to eliminate soil LUCs from the 380-acre "California-Shaped Area" of the 427 acres transferred to Ramsey County in 2013 following the County's additional investigation and soil cleanup to levels consistent with

UU/UE (Revision 4, 2016); and (4) revised the LUCs to allow recreational use on 108 acres in the western portion of OU2 to be used as part of the Rice Creek Regional Trail Corridor (Revision 5, 2018).

The specific details of the current OU2 soil and groundwater use restrictions and the provisions for long-term stewardship of the LUCs are contained in the 2018 OU2 LUCRD Revision 5 which is available in the Docket. The technical basis and supporting documentation for the LUC revisions are included in Appendices B through E of LUCRD Revision 5. Maps showing the areas covered by the current soil and groundwater LUCs for OU2 are in Figures 4 and 5 in the Docket.

The Army is the lead agency for the NB/AH/TAACP Site and is responsible for conducting routine inspections to ensure that the LUCs are maintained and enforced. The Army is responsible for reporting the results of the inspections and any breach of the LUCs to the MPCA and EPA.

Five-Year Review

The Army is required to conduct statutory five-year reviews (FYR) at the NB/AH/TCAAP Site because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for UU/UE. The Army completed the

last FYR of the NB/AH/TCAAP Site in 2014. The FYR was approved by MPCA and by EPA on August 19, 2014.

The Army's 2014 FYR concluded that the remedy has been completed for the OU2 soils sites: Sites A, C, D, E, G, H, 129-3, 129-5, 129-15, the Grenade Range and the Outdoor Firing Range. The FYR also determined that the protective soil covers at Sites C, D, E, G, H, 129-15 and the Outdoor Firing Range, in conjunction with the implemented LUCs, effectively prevent exposure to contaminated soils/debris remaining at OU2 above industrial exposure levels. The protective soil cover at Site G also minimizes infiltration and reduces the leaching of any remaining VOCs below the cover.

The 2014 FYR concluded that OU2 has been restored for industrial use. The Army also reviewed the toxicity data that the 1991 and 1997 health risk assessments for the soil sites were based on and determined that no changes have occurred that could potentially affect the protectiveness of the soil remedies. The 2014 FYR did not identify any issues or recommendations for the OU2 soils sites.

For OU2 groundwater, the FYR concluded that the OU2 groundwater remedies are protective in the short term. The groundwater containment systems are meeting the containment objectives and the treatment systems are meeting their

discharge requirements. The alternate water supply and well abandonment program, along with Ramsey County's Special Well Construction Area permitting system, mitigate potential risks associated with private wells. At Site A, monitored natural attenuation is adequately controlling plume migration and water quality trends indicate that aquifer restoration continues to occur in both shallow and deep groundwater. A vapor intrusion investigation the Army conducted north of County Road I in 2014 indicates that there are no significant soil vapor risks and no further vapor intrusion investigation work is warranted (see the 2014 Site A Vapor Intrusion Investigation Report in the Docket).

The Army must complete the next FYR of the NB/AH/TCAAP Site and have it approved by EPA and MPCA on or before August 19, 2019.

Community Involvement

The Army satisfied public participation activities for the NB/AH/TCAAP Site as required by Sections 113(k)(2)(B)(i-v) and 117 of CERCLA, 42 U.S.C. 9613(k)(2)(B)(i-v) and 9617. The communities near the NB/AH/TCAAP Site have been involved in NB/AH/TCAAP Site activities since the environmental problems were initially identified. The Army developed a Community Involvement

Plan for the NB/AH/TCAAP Site in 1991 to establish processes for sharing knowledge and encouraging community participation concerning the hazardous waste remediation activities underway and planned at the NB/AH/TCAAP Site. The Community Relations Plan outlines specific community relations strategies for addressing these goals and for updating the plan as needed to adjust to evolving community needs and concerns. The Army updated the Community Involvement Plan in 1997.

Over the years the Army has prepared and distributed numerous fact sheets to a large number of local and interested residents to keep the community apprised of the remedial activities at the NB/AH/TCAAP Site. The Army sponsored tours of the facility and accompanying wildlife areas, in addition to providing monthly Technical Review Committee (TRC) meetings open to the public to review the status of restoration activities at the NB/AH/TCAAP Site.

The TCAAP Restoration Advisory Board (RAB) was established in 1996 to provide citizen input into the cleanup of the NB/AH/TCAAP Site. The RAB provides an opportunity for community representatives to review and analyze issues concerning the contamination and remediation of the NB/AH/TCAAP soils and groundwater; provide comments and recommendations regarding the remediation of

contaminated areas at the site; and to provide advice on decisions that affect the quality of the environment of the communities that are impacted by the contamination.

The Army met the public participation requirements for selecting cleanup remedies and the amended cleanup remedies for the NB/AH/TCAAP Site required by CERCLA Sections 113(k)(a)(B)(i-v) and 117. The Army met these requirements by issuing fact sheets and Proposed Plans, notifying the public of the availability of the Proposed Plans in newspaper advertisements, holding public meetings and holding 30-day public comment periods.

The Army involves project stakeholders in the FYR process by notifying them at the start of each FYR. Project stakeholders notified at the start of the 2014 FYR include EPA, MPCA, Alliant Techsystems, Army National Guard, U.S. Army Environmental Command, U.S. Army Corp of Engineers, City of New Brighton, and the RAB.

The Army published a notice indicating that the 2014 FYR for the NB/AH/TCAAP Site was starting during the week of November 18, 2013 in the following newspapers: Minneapolis Star Tribune, Mounds View/New Brighton Sun Focus, and the Shoreview Press. The notice invited anyone interested in the FYR process to contact the Army TCAAP

representative. The City of New Brighton was interested in participating in the FYR process.

The Army published a notice indicating that the FYR was complete and included contact information and the location of the public repository for the report (470 West Hwy 96, Suite 100, Shoreview, MN 55126) in the newspapers after the FYR was finalized.

EPA has satisfied public participation activities for this partial deletion of the NB/AH/TCAAP Site as required by CERCLA section 113(k), 42 U.S.C. 9613(k), and CERCLA section 117, 42 U.S.C. 9617. EPA arranged to publish advertisements announcing this proposed direct final Partial Deletion and the 30-day public comment period in the Minneapolis Star Tribune, the Mounds View/New Brighton Sun Focus, and the Shoreview Press concurrent with publishing this partial deletion in the Federal Register. Documents in the deletion docket, which EPA relied on for recommending the partial deletion of the NB/AH/TCAAP Site from the NPL, are available to the public in the information repositories and at *https://www.regulations.gov*. Documents in the Docket include maps which identify the NB/AH/TCAAP Site, the locations of the OU2 areas of contamination/sites, the OU2

area included with this proposed direct final Partial Deletion, and the LUCs implemented for OU2.

Determination that the Criteria for Partial Deletion have been Met

The soil (shallow and deep) portion of OU2 and the five aquatic sites located within the OU2 boundary of the NB/AH/TCAAP Site: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G, meet all of the site completion requirements specified in Office of Solid Waste and Emergency Response (OSWER) Directive 9320.2-22, Close-Out Procedures for National Priorities List Sites. All cleanup actions and remedial action objectives for OU2 shallow and deep soil and these five aquatic sites set forth in the 1997 ROD, 2007 ROD Amendment #1, 2009 ROD Amendment #3, 2009 ESD #2, 2012 ROD Amendment #4 and 2014 ROD Amendment #5 have been implemented for all pathways of exposure. The selected remedial actions, RAOs, and associated cleanup levels for OU2 soil and the five aquatic sites located within the OU2 boundary are consistent with EPA policy and guidance. No further Superfund response is necessary to protect human health or the environment from the soil portion of OU2 (shallow and deep) or from the five aquatic sites located within the OU2 boundary.

Section 300.425(e) of the NCP states that a Superfund site or a portion of a site may be deleted from the NPL when no further response action is appropriate. EPA, in consultation with the State of Minnesota, has determined that all required response actions have been implemented for all soil (shallow and deep) located within the OU2 boundary of the NB/AH/TCAAP Site and for the five aquatic sites located within the OU2 boundary: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G, and that no further response action by the Army is appropriate for these media/areas.

V. Deletion Action

EPA, with concurrence of the State of Minnesota, through the MPCA, has determined that all appropriate response actions under CERCLA, other than maintenance, monitoring and five-year reviews, have been completed for all soil (shallow and deep) located within the OU2 boundary and for the five aquatic sites located within the OU2 boundary: Rice Creek, Sunfish Lake, Marsden Lake North, Marsden Lake South and Pond G. Therefore, EPA is deleting all soil (shallow and deep) located within OU2 and these five aquatic sites located within the OU2 boundary from the NPL.

Because EPA considers this action to be noncontroversial and routine, EPA is taking it without prior publication. This action will be effective [insert date 60 days after date of publication in the *Federal Register*] unless EPA receives adverse comments by [insert date 30 days after date of publication in the *Federal Register*]. If adverse comments are received within the 30-day public comment period, EPA will publish a timely notice of withdrawal of this direct final Notice of Partial Deletion before its effective date and the partial deletion will not take effect. EPA will prepare a response to comments and continue with the deletion process on the basis of the notice of intent to partially delete and the comments already received. There will be no additional opportunity to comment.

List of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous waste, Hazardous substances, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Superfund, Water pollution control, Water supply.

Dated: July 8, 2019.

Cathy Stepp,
Regional Administrator,
Region 5.

For the reasons set out in this document, 40 CFR Part 300 is amended as follows:

PART 300—NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

1. The authority citation for part 300 continues to read as follows:

Authority: 33 U.S.C. 1321(d); 42 U.S.C. 9601–9657; E.O. 13626, 77 FR 56749, 3 CFR, 2013 Comp., p. 306; E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp., p. 351; E.O. 12580, 52 FR 2923, 3 CFR, 1987 Comp., p. 193.

2. Table 2 of Appendix B to part 300 is amended by revising the entry for "MN, New Brighton/Arden Hills/Twin Cities Army Ammunition Plant, New Brighton" to read as follows:

Appendix B to Part 300—[Amended]

TABLE 2--General Superfund Section

State	Site name	City/County	Notes (a)
MN	* * * * * * * * * New Brighton/Arden Hills/TCAAP (USARMY) * * * * * * * * *	New Brighton	P

(a) * * *

*P = Sites with partial deletion(s).

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