

EPA Region 5 Records Ctr.



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Explanation of Significant Differences

National Presto Industries Superfund Site
Eau Claire, Wisconsin

December 2009

Introduction to the Site and Statement of Purpose

This Explanation of Significant Differences (ESD) describes a difference between the groundwater cleanup goals originally selected in the 1996 Record of Decision (ROD) by the United States Environmental Protection Agency (U.S. EPA or the Agency) to address groundwater contamination at the National Presto Industries (NPI) Superfund site in Eau Claire, Wisconsin, and the current groundwater quality standards as promulgated by the State of Wisconsin Administrative Code in NR 140. As a result of this ESD, U.S. EPA and the Wisconsin Department of Natural Resources (WDNR) will assess whether groundwater remediation has occurred at the NPI site based on NR 140. U.S. EPA is the lead agency for CERCLA activities at the NPI site; the WDNR is the support agency. U.S. EPA takes the action described in this document pursuant to Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §§ 9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

When U.S. EPA determines that a remedial action, as ultimately implemented, differs significantly in scope, performance or cost from the remedy originally selected for a Superfund site, but also determines that the change does not fundamentally alter the remedy originally selected, the Agency must publish an ESD. *See* CERCLA Section 117(c) and 40 C.F.R. § 300.435(c)(2)(i). The purpose of an ESD is to explain the differences between the selected remedy and the implemented remedy, and state the reasons for the change. (More fundamental changes to a selected remedy would require the preparation and publication of a proposed amendment to the remedial decision, and a public comment period of at least 30 days. *See* 40 C.F.R. § 300.435(c)(2)(ii).)

U.S. EPA selected a remedial action for the NPI site in a 1996 ROD. The decision required: (1) the construction of a soil vapor extraction system; (2) consolidation of wastes at the Melby Road Disposal Site (MRDS); (3) a multi-layer cap at the MRDS; (3) excavation and off-site disposal of contaminated soils and sediments at Dry Wells 2 and 5; and (4) groundwater and surface water monitoring. This ESD focuses on the groundwater monitoring component. The 1996 ROD identified State of Wisconsin Preventive Action Limits (PALs) as the groundwater cleanup goals, and identified the State of Wisconsin Enforcement Standards (ESs) as alternative groundwater cleanup goals if U.S. EPA determined that it was technically impracticable to meet PALs in the groundwater in a reasonable timeframe (30 years). This ESD documents U.S. EPA's decision to make the Wisconsin groundwater quality ESs the groundwater cleanup goals for the NPI site. A technical impracticability waiver for this change is not needed. Wisconsin Administrative Code NR 140 establishes two groundwater quality standards that are to be followed. One is the Preventive Action Limits (PALs) and the other is the Enforcement Standards (ESs). Wisconsin NR 140 provides that the PALs are to be used as an indicator of potential groundwater contamination problems. NR 140 provides that the ES is the groundwater cleanup level for human health and welfare concern. The ES is the relevant and appropriate groundwater cleanup level for contaminated groundwater at the NPI site.

This ESD will become part of the administrative record file for the site, as provided by the NCP at 40 C.F.R. § 300.825(a)(2).

The site administrative record file and site repositories may be found at:

L.E. Phillips Memorial Public Library
400 Eau Claire Street
Eau Claire, Wisconsin 54701

U.S. EPA Region 5
Region 5 Records Center-7th Floor
77 West Jackson Boulevard
Chicago, Illinois 60604

Site History, Contamination, and Selected Remedy

The NPI property is located at 3925 North Hastings Way in Eau Claire, Wisconsin. The property lies within the City of Eau Claire, with the exception of approximately 9 acres in the extreme eastern part of the property that are located in the Town of Hallie and approximately 4 acres in the extreme southern part of the property that are located in the Town of Seymour. Most of the NPI property, comprising approximately 320 acres, is situated in Chippewa County; a portion is located along the northern border of Eau Claire County. The village of Lake Hallie (formerly the unincorporated Town of Hallie) is located north and east of the NPI property, while the City of Eau Claire is located south and west of the site.

The site is relatively flat and abuts a sandstone ridge at the south of the site. The areas to the east, north, and west are also relatively level, generally sloping gradually toward the Chippewa River, which is located approximately 2 miles north and west of the site. Lake Hallie, an impounded remnant of a former channel of the Chippewa River, lies approximately 1 mile north of the site.

Extending northward from the northwestern portion of the site to Lake Hallie and westerly from the site to the Chippewa River are buried pre-glacial valleys whose sand and gravel deposits serve as a primary drinking water aquifer in the Eau Claire area. Many private wells immediately north of the site were finished in the sand and gravel deposits within one of these buried valleys. Approximately 2 miles west of NPI, the Eau Claire Municipal Well Field (ECMWF) draws groundwater from more of these buried deposits. The direction of groundwater flow is controlled by the bedrock valleys beneath the sand and gravel, which carry groundwater to the northwest towards Lake Hallie and to the west towards the Chippewa River and the ECMWF.

Early waste-handling practices related to the manufacturing activities on the site included the use of dry wells and seepage lagoons. Manufacturing wastes were also discharged to a former sand and gravel pit. The major waste stream was waste forge compound, which was composed of mineral oil, graphite, and asphalt. NPI discharged waste water containing significant amounts of waste forge compound to Lagoon #1. From 1966 to 1969, waste forge compound was landfilled on site in an area referred to as the Melby Road Disposal Site (MRDS).

In March 1981, routine groundwater sampling by the State of Wisconsin detected volatile organic compounds (VOCs) in the City of Eau Claire's municipal water supply. Contaminants of concern included VOCs such as trichloroethylene (TCE), 1,1-dichloroethene (DCE), 1,1-dichloroethane (DCA), and 1,1,1-trichloroethane (TCA). In addition to monitoring the municipal production wells, the City began testing private residential wells located immediately northeast of the municipal well field. VOCs were detected in several of the residential wells at concentrations above drinking water standards. TCE was the main constituent of concern. The contaminants observed in the source areas on the NPI property appear to have migrated vertically through the unconsolidated soils to the groundwater and have then traveled within the aquifer following the buried valleys. There is a direct relationship between the contaminants at the NPI site and those found at the ECMWF. The ECMWF is where groundwater contamination was first detected.

The final site-wide remedy was identified as Operable Unit 3 (OU3) in the May 15, 1996 ROD. In addition to those response actions previously completed and then underway at the NPI site as OU1 and OU2, U.S. EPA determined that the following additional measures should be implemented in order to fully address all threats to human health and the environment posed by contamination at the site:

- Melby Road Disposal Site (MRDS) and Eastern Disposal Site (EDS): Installation of an SVE system at the MRDS. Removal of identified concentrated wastes, if any, identified by the SVE at the MRDS. Excavation and consolidation of EDS wastes with MRDS wastes and installation of a multi-layer cap compliant with Wisconsin Administrative Code Chapter NR 660 over the combined wastes at the MRDS. The ROD also stated that U.S. EPA would seek deed restrictions limiting land use in the future development of the capped area.
- Drainage Ditch #3: Removal of soils contaminated with waste forge compound and their consolidation with wastes at the MRDS.
- Dry Wells #2 and #5: Removal of contaminated soils and disposal in an off-site landfill.
- Plume 1/2: Continued operation of the two-column air stripper at the ECMWF at the leading edge of the groundwater contaminant plume; continued operation of the on-site Southwest Corner pump-and-treat system to prevent the off-site migration of contaminated groundwater; and long-term groundwater monitoring of Plume 1/2.
- Plume 3/4: Continued operation of the MRDS groundwater pump-and-treat system to prevent the off-site migration of contaminated groundwater, long-term groundwater monitoring of Plume 3/4, and surface water sampling in Lake Hallie.
- Plume 5: Long-term groundwater monitoring of Plume 5 and surface water sampling in Lake Hallie.

The final ROD for the NPI site served as U.S. EPA's final remedy with regard to those plumes. It also provided for long-term operation, maintenance, and repair of the ECMWF air stripper and the installation and operation of on-site groundwater extraction wells at the MRDS and Southwest Corner downgradient of Lagoon #1 and Drainage Ditch #3.

Monitoring of specified groundwater monitoring wells and private wells has continued at regularly scheduled intervals. Annual reports are prepared and submitted to the U.S. EPA and WDNR documenting this activity, summarizing the results, and providing recommendations, as appropriate, for modifications to the groundwater monitoring program.

Five Year Reviews were completed for the NPI site in 1997, 2002 and 2007. The 2007 Five Year Review found that the remedies were implemented in accordance with the requirements of the RODs, with the exception that the deed instrument called for in the ROD for OU3 has not been recorded. All engineered remedies are functioning as designed. Immediate threats to human health and the environment have been addressed.

The 1996 ROD required that groundwater contamination should be remediated to meet the State of Wisconsin PALs. Wisconsin Administrative Code NR 140 establishes two groundwater quality standards that are to be followed. One is the Preventive Action Limits (PALs) and the other is the Enforcement Standards (ESs). Wisconsin NR 140 provides that the PALs are to be used as an indicator of potential groundwater contamination problems. NR 140 provides that the ES is the groundwater cleanup level for human health and welfare concern. The ES is the relevant and appropriate groundwater cleanup level for contaminated groundwater at the NPI site.

A summary of the data review from the 2007 Five Year Review follows.

Plume 1/2 Groundwater

A review of the laboratory analytical results for groundwater from monitoring wells in and around Plume 1/2 indicates that of the 51 wells sampled at least once from 2002 to 2006 inclusive, 21 wells had no detects for VOCs in the last four samples collected from each well. Many wells have not had detects for at least five years. There have been no regulatory exceedences for TCA in any well during the period of this review.

Twenty-one wells had TCE at concentrations greater than the NR140 PAL, but less than the ES. Two wells, MW-38B and RW-3B have TCE at concentrations just over the ES of five micrograms/Liter (ug/L). Wells that have shown decreases in concentrations of TCE during 2002-06 are MW-34A and MW-70A. These two wells are in close proximity to the recently identified TCE parts cleaner disposal area. The decreasing concentrations most likely relate to the effectiveness of the SVE system constructed in July 2003 in the TCE disposal area. However, wells in this area that might have been expected to show decreases in TCE, but have not, are MW-4B, MW-23B, MW-23B and MW-68B. This may be indicative of an additional source area not yet identified.

A number of wells have had steady concentrations of TCE from 2001 to 2006, following a period of decreasing concentrations from the early 1990s until 2000. Examples include (but are not limited to) RW-3 nest, EC-1, MW-43-A, and RW-16. The two wells with ES exceedences do not show an upward or downward trend during the period of this review. Concentrations of TCE in MW-53A have increased from below detection limit in 2002 to greater than PAL in 2006. Future results from this well should be evaluated carefully.

Plume 3/4 Groundwater

In Plume 3/4, which originates at the MRDS and travels north to Lake Hallie, 25 monitoring wells were sampled at least one time during the 2002-2006 review period. Eighteen of those wells have had no detects of VOCs during the review period. Wells MW-64B and MW-64C, located about 360 feet north of groundwater extraction well EW-1R, have had concentrations of TCE above the PAL during each sampling event this review period. These concentrations have not significantly increased or decreased from 2002 to 2006. Wells MW-29B, immediately south of Lake Hallie, and MW-65B, about 350 feet northwest of EW-1R, have had occasional PAL exceedences for TCE. There are no exceedences of the ES in any monitoring wells in Plume 3/4.

Plume 5 Groundwater

Plume 5 which historically migrated from the EDS to Lake Hallie was monitored from 2002 to 2006 by sampling at least one time eight monitoring wells and former supply wells. There have been no detects of any VOCs in any of the wells sampled, except for MW-72 which exceeded the PAL for TCE in July 2002 and October 2004. Since the inception of groundwater sampling the trend for TCE in MW-72 has been downward. There have been no exceedences of the ES in Plume 5. The groundwater data provides evidence for the success of the 1995 removal of contaminated materials from the EDS.

The TCE data for 2007-08 was reviewed and compared to the ES of 5.0 ppb. The plume 1/2 monitoring wells showed that the ES was exceeded minimally (range of contamination provided) in the following wells: MW-52B, 5.01 ppb; RW-3B, 3.91 – 5.03 ppb; RW-3C, 4.29 – 5.59; and RW-16B, 3.88 – 5.29 ppb. There were no exceedences of the TCE ES in plume 3/4 and plume 5.

An IC study was submitted to U.S. EPA by the PRPs on December 27, 2007. The IC Study included an evaluation of the effectiveness of all current ICs to prevent the use of private wells for drinking water purposes. Maps which depict the current conditions of the site and identify those areas which do not allow for Unrestricted Use/Unlimited Exposure (UU/UE) have been developed as part of the IC Study. The PRPs are in the process of completing the deed instrument for OU3.

Basis for the Document

The Wisconsin PALs are used as an indicator parameter for potential groundwater contamination problems. NR 140.02(3) states,

Preventive action limits serve to inform the department of potential groundwater contamination problems, establish the level of groundwater contamination at which the department is required to commence efforts to control the contamination and provide a basis for design and management practice criteria in administrative rules. Preventive action limits are applicable both to controlling new releases of contamination as well as to restoring groundwater quality contaminated by past releases of contaminants. Although a preventive action limit is not intended to always require remedial action, activities affecting groundwater must be regulated to minimize the level of substances to the extent technically and economically feasible, and to maintain compliance with the preventive action limits unless compliance is not technically and economically feasible.

Table 5 of NR 140 provides a range of responses that may be taken or required if a PAL is exceeded. This range of responses includes 'No Action'.

The ES is a groundwater compliance standard (see NR 140.10 and NR 140.26), for substances of health or welfare concern in the groundwater and this standard is not to be exceeded. At this site, the ESs are generally numerically equivalent to the Federal MCL; however, 1,1-dichloroethane does not have an MCL. Table 6 of NR 140 provides a range of responses that may be taken or required if an ES is exceeded. This range of responses does not include 'No Action'.

WDNR has, since the mid-1990s, used the ES of NR 140 as the basis of site closure. Justification can be found in section NR 140.22, which specifies compliance with PALs only to the extent that this compliance is technically and economically feasible. WDNR has concluded since the mid-1990s that groundwater quality compliance with PALs at contaminant discharge sites in the State is in many cases not technically or economically feasible. Cases involving contaminated soil and/or groundwater are closed by the WDNR's Remediation and Redevelopment Program on a consistent, State-wide basis using ESs as the basis of closure. A common exception to this use of ESs is for those cases at which natural attenuation can be justified as a remedial approach, in which case groundwater contaminant levels above ESs are an acceptable basis for closure of the site, although groundwater quality must be anticipated to reach ESs within a reasonable period of time, as demonstrated by a stable or receding groundwater plume.

Both PALs and ESs apply to the NPI Superfund site in order to comply with the State of Wisconsin's Groundwater Quality Standards. The ROD's intention was for the groundwater at the NPI site to meet PALs. However, NR 140 provides that the ES is the groundwater quality cleanup level for human health and welfare concern. For this reason, a Technical Impracticability ARAR waiver under CERCLA is not necessary for this site.

Description of Significant Differences

The significant difference between the remedy selected in the 1996 NPI final ROD and the remedy as ultimately implemented at the site, is that NR 140 Groundwater Quality Enforcement

Standards should be used to monitor and determine compliance with groundwater quality at NPI. Previously PALs were identified as the groundwater cleanup goals. The ESs are the groundwater cleanup goals for the site and are as follows:

Contaminant	ES (ppb)
Trichloroethene (TCE)	5
1,1,1-trichloroethane (TCA)	200
Tetrachloroethene (PCE)	5
1,1-dichloroethene (1,1 DCE)	7
1,1-dichloroethane (1,1 DCA)	850

Support Agency Comments

The Wisconsin Department of Natural Resources supports this significant change at the NPI Superfund site. WDNR indicated approval of the ESD content and direction in a December 4, 2009 letter to U.S. EPA.

Statutory Determinations

The revised remedy complies satisfies the requirements of Section 121 of CERCLA, which are to protect human health and the environment; comply with ARARs; be cost effective; utilize permanent solutions and alternate treatment technologies to the maximum extent practicable; and satisfy the preference for treatment as a principal element of the remedy.

Public Participation Compliance

U.S. EPA, working in coordination with WDNR, has issued this ESD to the NPI site remedial work, and is making this explanation and supporting information available to the public via the administrative record and the information repositories (noted elsewhere in this document). In coordination with WDNR, U.S. EPA will ensure that a notice that briefly summarizes the explanation of significant differences, and provides a basic reason for such differences, is published in a newspaper of local circulation. By so doing, U.S. EPA will meet the public participation requirements of Section 300.435(c)(2)(i) of the NCP and Section 117(c) of CERCLA.

U.S. EPA has allocated funds for placing an enhanced display advertisement in an Eau Claire newspaper of general circulation following signature of this document. In coordination with WDNR, U.S. EPA will observe community reaction to the notice placed in the newspaper. If numerous questions or significant reaction from the public is forthcoming, U.S. EPA is prepared to offer to meet with the public to discuss these changes.

Approved by:

Date:

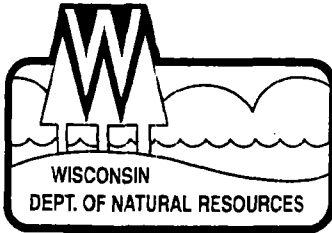
Donald J. Bruce

12/23/09

for

Richard C. Karl, Director
Superfund Division

Attachment-WDNR ESD Concurrence Letter



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Scott Humrickhouse, Regional Director

West Central Region Headquarters
1300 W. Clairemont Avenue
PO Box 4001
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December 4, 2009

Mr. Richard C. Karl, Director
Superfund Division
U.S. EPA - Region 5
77 West Jackson Street
Chicago, IL 60604

Subject: Concurrence on the Explanation of Significant Differences, National Presto Industries Superfund Site, FID No. 609038320, Eau Claire, Wisconsin

Dear Mr. Karl:

This letter is provided by the Wisconsin Department of Natural Resources (WDNR) to document the State's concurrence with an Explanation of Significant Differences (ESD) to the May 15, 1996 Record of Decision (ROD), Operable Unit 3 (OU3), for the National Presto Industries (NPI) Superfund site. We believe the modification described in the December, 2009, ESD to the proposed remedy in the May, 1996 ROD (OU3) is consistent with the requirements of Wisconsin statutes and administrative rules.

In addition to those response actions previously completed and currently underway at the NPI site, the final site-wide remedy selected with State concurrence in the May, 1996 ROD (OU3) includes:

- Installation and monitoring of a soil vapor extraction system at the Melby Road Disposal Site (MRDS) and removal of identified concentrated wastes, if any, identified by the SVE;
- Excavation and consolidation of East Disposal Site wastes with MRDS wastes and installation of a multi-layer cap at the MRDS, compliant with Wisconsin Chapter NR 660, and deed restrictions limiting land use in the future development of the capped area;
- Removal of contaminated soils from Drainage Ditch #3 and their consolidation with wastes at the MRDS;
- Excavation and off-site disposal of contaminated soils and sediments at Dry Wells 2 and 5;
- Continued operation of the two-column air stripper at the leading edge of Plume 1/2 (Eau Claire Municipal Well Field), continued operation of the on-site Southwest Corner pump-and-treat system, and long-term groundwater monitoring of Plume 1/2; and
- Continued operation of the MRDS groundwater pump-and-treat system, long-term groundwater monitoring of Plume 3/4 and Plume 5, and surface water sampling in Lake Hallie.

The 2007 Five Year Review found that the remedies were implemented in accordance with the requirements of the RODs, with the exception that the deed instrument called for in the ROD for OU3 has not yet been recorded. All engineered remedies are functioning as designed. Immediate threats to human health and the environment have been addressed.

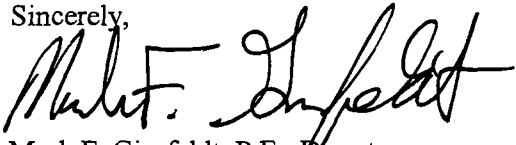
Mr. Richard C. Karl, Director
Superfund Division, U.S. EPA – Region 5
December 4, 2009
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Chapter NR 140, Wisconsin Administrative Code, provides that a Preventive Action Limit (PAL) is to be used as an indicator of potential groundwater contamination problems, and that the Enforcement Standard (ES) is the groundwater cleanup level for human health and welfare concern. The 1996 ROD required that groundwater contamination should be remediated to meet the PALs. The significant difference between the remedy selected in the NPI final ROD and the remedy as ultimately implemented at the site is that NR 140 Groundwater Quality Standards should be used to monitor and determine compliance with groundwater quality at NPI.

The Department concurs with this modification to the selected remedy at the ECMWF, as described above and in the December, 2009 ESD for this site.

Thank you for your support and cooperation in addressing the contamination at the ECMWF Superfund site. Should you have any questions regarding this matter please contact Mark Gordon at 608-266-7278.

Sincerely,



Mark F. Giesfeldt, P.E., Director
Bureau for Remediation and Redevelopment

Cc Mae Willkom/Bill Evans, WCR
Howard Caine, U.S. EPA Region 5