



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096


1090242 - R8 SDMS

EXPLANATION OF SIGNIFICANT DIFFERENCES

Idaho Pole Company Site
Bozeman, Montana

United States Environmental Protection Agency
May 1996

I. INTRODUCTION

This Explanation of Significant Differences (ESD) is being issued by the U.S. Environmental Protection Agency (EPA) in consultation with the Montana Department of Environmental Quality (MDEQ) to explain modifications to the remedy at the Idaho Pole Company Superfund Site (hereby referred to as "IPC" or the "Site") contained in the Record of Decision (ROD) issued on September 28, 1992 and identifies the documents that serve as the basis for the determination.

The ROD for the IPC Site contains descriptions of the soil and ground water components of the remedy. The Remedial Design process for the soil and ground water components of the remedy, which began after EPA issued the ROD, has identified the following changes to the remedies:

Soil Remedy

- o Hot Water/Steam will not be used for flushing the inaccessible areas under the pole plant facility and I-90. Ambient temperature water will be used for flushing inaccessible areas.
- o Additional excavation and treatment of soils from under Cedar Street and from the pole plant facility to the levels required in the ROD will take place.
- o Sediments in the Substation Ditch will not be excavated because they do not exceed cleanup levels.
- o The Land Treatment Unit (LTU) will be located in the southeast corner of the Plant and will receive all of the excavated soil. Soil will be treated in one foot lifts and will be used for backfill on-site when pentachlorophenol (PCP) and polycyclic aromatic hydrocarbon (PAH) cleanup levels have been reached.

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Ground Water Remedy

- o The soil flushing component for the inaccessible areas of the site will be designed with the ground water remedy.
- o Granular Activated Carbon (GAC) treatment will be used in place of biological treatment.
- o The ground water treatment system will be designed to enhance *in-situ* biological degradation and to control contaminant migration in a phased manner. The first phase will be installed in the Plant and areas south of I-90. Phase II will consist of an evaluation of Phase I and adjustments to the system to optimize ground water remediation. Possible adjustments could include additional wells for extraction and injection on either side of I-90. The cleanup objectives identified in the ROD will not change.

In accordance with Sections 117(c) and 121 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund), as amended, 42 U.S.C. Section 9601, et seq. ("CERCLA"), and the regulations at 40 C.F.R. Section 300.435(c)(2)(i), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), this ESD has been prepared for the following reasons:

- to provide the public with an explanation of the nature of the changes to the remedy;
- to summarize the circumstances that led to the changes to the remedy; and
- to affirm that the revised remedy complies with all statutory requirements.

This document presents only a summary of the changes to the selected remedy and a synopsis of information on the Site. The Administrative Record, which contains this ESD and its supporting documentation, is available for public review at the locations indicated at the end of this report.

II. SITE HISTORY AND BACKGROUND

The IPC wood treating facility began operation in 1945 using creosote to preserve wood. In 1952, the company switched to pentachlorophenol in carrier oil (similar to fuel oil) for the wood treating solution. IPC wood treating equipment has included butt and pole length treating vats.

In 1975, a pressurized heated retort was added for treating full length poles. The pole length vats were removed in the early 1980's. There is also a drying area where treated poles are stored prior to shipment. IPC continues wood treating with a pressurized heated retort and butt dipping vat.

In 1978, the Montana Department of Fish, Wildlife and Parks notified Montana Department of Health & Environmental Sciences (MDHES) of a suspected release of oily wood treating fluid from the plant. MDHES found evidence of a release in ditches near the facility and near Rocky Creek. Consequently, MDHES issued a compliance order on September 29, 1978, notifying IPC of statutory violations and directing the company to stop uncontrolled releases and to clean up spilled treating fluid.

In an attempt to slow or eliminate movement of the oily wood treating fluid through ground and surface water and into private wells, IPC installed and operated an interceptor drain with a sump and an interceptor trench adjacent to I-90. Absorbent pads were also used in the culverts and ditches to intercept and collect oily wood treating fluid. Culverts under I-90 have been dammed to prevent runoff of contaminated surface water to Rocky Creek. However, during high runoff periods, discharge through the culverts has occurred.

In 1984, IPC conducted a remedial investigation without MDHES or EPA oversight to identify the sources and extent of contamination at the Site. IPC drilled monitoring wells to collect ground water samples and also collected soil and surface water samples. MDHES and EPA concluded that IPC's remedial investigation report was not sufficient to identify contaminant sources and to characterize the nature and extent of contamination.

EPA proposed the facility for the National Priorities List of Superfund sites in 1984. The listing was final in 1986, making the site eligible for federal funds for enforcement, investigation and remediation.

In 1989, MDHES assumed the lead agency role through a cooperative agreement with EPA and began the remedial investigation and feasibility study (RI/FS) following the EPA approved Work Plan and EPA guidance. The RI defined the nature and extent of contamination and provided data to complete the baseline health and ecological risk assessments. The FS included the development, screening and evaluation of potential site remedies. The ROD was issued by EPA on September 28, 1992.

III. SUMMARY OF THE 1992 RECORD OF DECISION

The contaminants of concern at the Site are pentachlorophenol (PCP), polynuclear aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins and polychlorinated

dibenzofurans. The Record of Decision established cleanup levels for those contaminants of concern at the Site. The major components of the selected remedy include:

Soils Component

- Excavation and surface land biological treatment of approximately 19,000 cubic yards of contaminated soils from the pasture area and the area between Cedar Street and U.S. Interstate Highway 90 (I-90) including ditch sediments or bottoms, and the former roundhouse area;
- Hot water and steam flushing of soils underlying the pole plant facility and I-90 in order to recover hazardous substances;
- Separation and disposal of oily wood treating fluid extracted from soils;
- Closure of onsite treatment units in compliance with RCRA Subtitle C requirements;

Ground Water Component

- Ground water cleanup using extraction and biological treatment and return of water to the ground water aquifer to enhance *in situ* biological degradation and to control potential migration of contaminants;
- Treatment of contaminated residential wells exceeding maximum contaminant levels (MCLs) or risk based concentrations of the contaminants of concern at the distribution point in addition to institutional controls preventing new access to contaminated ground water; and
- Continued residential and ground water monitoring to determine movement of contaminants and compliance with remedial action requirements.

The ROD states:

Both soils and ground water will be remediated as one operable unit at the Site. Soils will be excavated from three general areas: the area between Cedar Street and I-90 (includes Cedar Street ditch) and the pasture (includes the substation ditch) and the former roundhouse area. Biological treatment will take place in land treatment units located to the East of the IPC office. Soil will be treated in one foot lifts added to the units one lift at a time. When the soil cleanup levels

are reached, the units will be closed by covering them with an engineered Resource Conservation and Recovery Act (RCRA) "cap". The former roundhouse area soils are predominantly PAH contaminated while the other soils are predominantly PCP contaminated.

Ground water treatment will focus in the area underneath the oily wood treating fluid plume. Extraction wells will be centrally located within the contaminated ground water and injection wells will be placed along the perimeter of the oily wood treating fluid plume. Extracted ground water will be biologically treated. Treated ground water will be injected in order to deliver oxygen and nutrients back to the aquifer. Ideally this will create a hydraulic barrier to reduce or eliminate continued transfer of hazardous substances from the oily wood treating fluid plume to ground water. Additionally, nutrients will diffuse downgradient, providing for biodegradation of the downgradient contaminated ground water plume. If it is not possible to reinject all of the treated ground water, discharge to the publicly owned treatment works or treatment and discharge to surface water under a Montana Pollutant Discharge Elimination System (MPDES) permit may be required.

IV. DESCRIPTION OF SIGNIFICANT DIFFERENCES TO THE REMEDY

The significant differences between the remedy described in the 1992 ROD and in this ESD are:

Soils Component

1. EPA and the Montana Department of Environmental Quality (MDEQ), formerly the Montana Department of Health and Environmental Sciences (MDHES), approved an RD/RA Work Plan for the IPC site that included additional studies for both soils and ground water. The results of the additional studies for the soils component of the remedy are contained in the *Additional Studies and Design Basis Report I* and were used in the design process for the Hot Water/Steam Flushing system. The determination was made that the system as envisioned in the ROD could not be designed. The *Hot Water/Steam Flushing Technical Memorandum* contains the design discussion.

2. The agencies have approved an alternative plan that increases the area within which soils were excavated by adding the accessible plant area soils and Cedar Street soils that exceeded the PCP cleanup level of 48 mg/kg. Soil flushing with ambient temperature water underneath the plant structures and I-90 will be designed as part of the ground water remedy as will the in-situ component.

3. Because closer evaluation of the existing and additional data indicated that the ROD cleanup levels were not exceeded in the Substation ditch, no ditch sediments were excavated.

4. A land treatment unit (LTU) of approximately 4 acres (4.25 acres) has been constructed in the southeast corner of the pole storage yard and the excavated soil from all targeted areas of the site were screened to remove rocks and were placed directly on the LTU. The total soil depth on the LTU is less than two feet. The LTU will be operated to treat the surface soils to approximately one foot in depth and the soils will be removed when the cleanup levels for PCP and PAHs are met. The RCRA Subtitle C closure of the LTU identified in the ROD will not be implemented.

5. The treated soils may be used for fill material on the plant site. If the soil contains other contaminants that exceed the ROD levels, the soil will be isolated from ground water, will be covered at the surface to prevent direct contact and institutional controls on future land use will be required. A detailed closure plan for the LTU will be developed when soil monitoring results indicate that the cleanup levels for PCP and PAHs have been achieved. The closure plan will identify the areas to be backfilled with the treated soil and will specify separation from ground water and the depth of cover required. The plan will also identify the specific institutional controls to be implemented on the pole plant facility.

Ground Water Component

Although the design process for the ground water component of the remedy has just begun, several modifications to the system described in the ROD have been made.

1. The primary change to the ROD remedy has been the selection of a granulated activated carbon (GAC) system instead of a biological reactor to treat extracted ground water. There are several reasons why the change was made: 1) carbon is now less expensive to use and regenerate than it was when the ROD was written, 2) a GAC system is less prone to upset than a biological system and 3) much lower contaminant concentrations in the discharge (in many cases non-detect) are possible with GAC .

The Feasibility Study (FS) indicated a concern with carbon management because the contaminants are transferred from the water column to the GAC media. This concern was unfounded because the regeneration process for the carbon destroys the contaminants through incineration.

2. The ground water extraction system will be designed in at least two phases rather than in one phase as contemplated in the ROD. The first phase will include the extraction and treatment of ground water on the south side of I-90 in the bark-fill and pole plant areas and *in-situ* treatment of the dissolved plume by injection of treated ground water. The second phase of the design will evaluate the results of the first phase and may include modifications to the treatment system as necessary to achieve the ROD goals.

3. Phase I of the ground water design/remedy will include flushing of contaminants from under the plant structures and I-90. Ambient temperature water rather than hot water or steam will be used for flushing. A detailed discussion can be found in the *Additional Studies and Design Basis Report II*.

Only those changes described above are being made to the selected remedy described in the 1992 ROD. All other aspects of the selected remedy documented in the 1992 ROD, as described above, remain the same.

V. **IV. SUMMARY OF STATE COMMENTS AND AVAILABILITY OF ADMINISTRATIVE RECORD**

As stated above, MDEQ has reviewed the documents that serve as the basis for this determination and has provided comments to EPA on the documents. MDEQ's comments were incorporated into the final reports. MDEQ has been provided with the opportunity to review and comment on this ESD.

Documents referenced within this ESD are part of the Administrative Record for the Idaho Pole Company Site. The Administrative Record will also contain any written public comments that may be received regarding this ESD. The complete Administrative Record is available for public review at the following location:

U.S. EPA Montana Office	Bozeman Public Library
Federal Building, Room 192	220 East Lamme Street
301 South Park, Box 10096	Bozeman, Montana 59717
Helena, Montana 59626-0096	(406) 582-2400
(406) 441-1150	(Library hours vary.)
Mon-Fri, 8:00 a.m. to 5:00 p.m.	

VI. AFFIRMATION OF STATUTORY REQUIREMENTS

Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA, in consultation with MDEQ, believes that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are both applicable or relevant and appropriate to this remedial action or involves appropriate waivers of these requirements, and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for the Site.

VII. APPROVAL

Patricia D. Hux

for Jack W. McGraw
Acting Regional Administrator

May 21, 1996
Date