

**EPA Superfund
Explanation of Significant Differences:**

**MCCOLL
EPA ID: CAD980498695
OU 04
FULLERTON, CA
09/01/2005**

SDMS Doc ID#



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MCCOLL SUPERFUND SITE EXPLANATION OF SIGNIFICANT DIFFERENCES

Part I - Declaration

1.1 Site Name and Location

The McColl Superfund Site (CERCLIS ID No. CAD980498695) (the Site) is located in Fullerton, California. The Site is fenced and is located entirely within the boundaries of the Los Coyotes Country Club. The northeast corner of the Site is located at the intersection of Rosecrans Boulevard and Sunny Ridge Drive.

1.2 Statement of Basis and Purpose

This decision document presents an Explanation of Significant Differences (ESD) pertaining to the Groundwater Operable Unit of the Site. The ESD amends the Groundwater Operable Unit Record of Decision (ROD) dated May 9, 1996. The ESD was developed in accordance with EPA guidance and conforms with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and to the extent practicable, the National Contingency Plan (NCP). The State of California concurs with the ESD.

1.3 Assessment of the Site

The response action selected in the Groundwater Operable Unit ROD, as amended by the ESD, is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

1.4 Description of the ESD

The McColl Superfund Site served from 1942-1946 as a petroleum refinery waste disposal area. Approximately 72,600 cubic yards of waste were deposited in twelve pits or sumps at the Site and covered with fill. Waste seeps which developed at the surface of the Site in the late 1970s resulted in complaints from nearby residents about odors and potential health impacts. The Site was listed on the EPA National Priorities List in September 1982. The Source Operable Unit ROD was signed in 1993 which resulted in the implementation of a contingency remedy: closure through placement of a RCRA-equivalent cap and

installation of a gas collection and treatment system. The Groundwater Operable Unit ROD was signed on May 9, 1996. This ESD updates the Groundwater Operable Unit ROD.

The Groundwater Operable Unit ROD selected the following remedy:

- 1) Manage surface water running onto the Site property.
- 2) Line existing drainage channels with low permeability materials.
- 3) Grade or modify (through placement of low-permeability soils) areas adjacent to the Source Operable Unit closure containment system.
- 4) Monitor groundwater to evaluate the effectiveness of the selected remedy.
- 5) Implement institutional controls if the regional aquifer beyond the Site boundary is found to contain Site-specific contaminants above Maximum Contaminant Levels (MCLs) or, in the case of Tetrahydrothiophenes (THTs), the recommended or revised Preliminary Remediation Goal.

This ESD changes element (5) above of the selected remedy to the following:

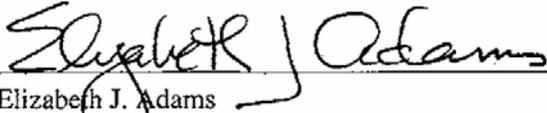
- 5) Immediately initiate a revised risk assessment should benzene be determined to be present at levels at or above the MCL in one or more of the McColl Superfund Site's offsite monitoring wells (specifically in the C and/or D zone as defined in the Groundwater Operable Unit ROD). Should the revised risk assessment indicate that cancer or non-cancer risks fall outside of acceptable exposure levels as defined in the NCP, 40 C.F.R. Section 300.430(e)(2)(i), EPA may require additional remedial measures, including institutional controls.

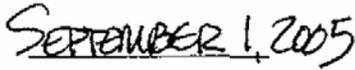
Reasons for the change are as follows:

- a) It was one of the findings of EPA's First Five-Year Review that the use of THTs as a chemical trigger for groundwater institutional controls (or other forms of remedial action) is no longer optimal.
- b) Benzene is a more appropriate chemical trigger for a revised risk assessment and/or further remedial actions. Benzene is a known human carcinogen. There is a well-established Applicable or Relevant and Appropriate Requirement (ARAR) for benzene, which is the MCL set under the Safe Drinking Water Act. Benzene appears to predict more accurately than THTs the behavior, as a class, of the most toxic Site-related contaminants in groundwater.

1.5 Statutory Determination

The Selected Remedy, as amended by the ESD, remains protective of human health and the environment. Because the Selected Remedy results in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for unlimited use and unrestricted exposure, statutory reviews will be conducted at five year intervals to ensure that the remedy is, or will be, protective of human health and the environment. The First Five Year Review was completed in September 2002, and the next such review is scheduled for completion by September 2007.


Elizabeth J. Adams
Chief, Site Cleanup Branch
Superfund Division


Date

Part II - Explanation of Significant Differences

2.1 Introduction to the Site and Statement of Purpose

The McColl Superfund Site (CERCLIS ID No. CAD980498695) (the Site) is located in Fullerton, California. The Site is fenced and is located entirely within the boundaries of the Los Coyotes Country Club. The northeast corner of the Site is located at the intersection of Rosecrans Boulevard and Sunny Ridge Drive.

This Explanation of Significant Differences (ESD) documents a change to the Superfund remedial action selected for the Site in the Groundwater Operable Unit Record of Decision (ROD) dated May 9, 1996. This ESD was developed in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Section 300.435(c)(2)(i) of the National Contingency Plan (NCP) (which addresses changes to Superfund remedial actions). The United States Environmental Protection Agency (EPA) is the lead agency for this project, and the California State Department of Toxic Substances Control (DTSC) is the support agency. DTSC has concurred with the ESD.

This ESD results from procedures established under CERCLA for the periodic review of remedial actions. When EPA completed its First Five Year Review of the Site in September 2002, it determined that the use of the chemical class of compounds known as Tetrahydrothiophenes (THTs) to predict the movement of groundwater contamination at the Site was no longer optimal. This ESD updates the remedial action to select benzene as the new chemical to be used as a predictor of groundwater contaminant movement. It also adopts a process by which further remedial actions are to be undertaken should risks to human health prove unacceptable in groundwater offsite.

This ESD will become part of the Site Administrative Record. The Site Administrative Record may be reviewed at EPA's Superfund Record Center located at 95 Hawthorne Street in San Francisco, or at the Fullerton Public Library located at 353 West Commonwealth Avenue. Contact information is provided below.

2.2 Site History, Contamination, and Selected Remedy

The McColl Superfund Site served from 1942-1946 as a petroleum refinery waste disposal area. Approximately 72,600 cubic yards of waste were deposited in twelve pits or sumps at the Site and covered with fill. Waste seeps which developed at the surface of the Site in the late 1970s resulted in complaints from nearby residents about odors and potential health impacts. The Site was listed on the EPA National Priorities List in September 1982. The Source Operable Unit ROD was signed in 1993 which resulted in the implementation of a contingency remedy: closure through placement of a RCRA- equivalent cap and installation of a gas collection and treatment system. The Groundwater Operable Unit ROD was signed on May 9, 1996. This ESD amends the Groundwater Operable Unit ROD.

The Groundwater Operable Unit ROD selected the following remedy:

- (1) Manage surface water running onto the Site property.
- (2) Line existing drainage channels with low permeability materials.
- (3) Grade or modify (through placement of low-permeability soils) areas adjacent to the Source Operable Unit closure containment system.
- (4) Monitor groundwater to evaluate the effectiveness of the selected remedy.
- (5) Implement institutional controls if the regional aquifer beyond the Site boundary is found to contain Site-specific contaminants above Maximum Contaminant Levels (MCLs) or, in the case of Tetrahydrothiophenes (THTs), the recommended or revised Preliminary Remediation Goal. L

This ESD changes element (5) of the remedial action as described in Section 2.4.

2.3 Basis for the ESD

EPA's First Five Year Review for the Site, dated September 2002, determined that the use of the chemical class of compounds known as THTs to predict the movement of groundwater contamination was no longer optimal. It further determined the process set by the ROD under which institutional controls are immediately triggered upon exceedance of the Preliminary Remediation Goal for THTs should be replaced by a two-tier process. Under the new process risks to human health are reassessed and further remedial actions are triggered should risks fall outside of an acceptable range as defined below. Remedial actions which may be required are broadened under this ESD to potentially include not only institutional controls, but also other remedial measures. The relevant findings of the Five Year Review were based on the following factors:

- There is not an established ARAR for THTs. In contrast, there are established ARARs for other Site-related contaminants.
- Although the ROD states that exceedance of the Preliminary Remediation Goal for THTs will trigger institutional controls, it does not specify what controls are envisioned. Since the toxicology of THTs has not been sufficiently well established to result in the establishment of an MCL or other ARAR, using this class of compounds to trigger further remedial action without updating the risk assessment is not recommended.

As part of the process of preparing this ESD, EPA conducted a review of existing institutional controls and determined that the following controls currently exist:

- Existing land use on the McColl Superfund Site is restricted (through a deed restriction) such that groundwater production wells are not allowed to be installed.

- The Orange County Water District (OCWD) manages the groundwater basin underlying north and central Orange County. This area includes the McColl Superfund Site and surrounding areas. OCWD has implemented a permitting process through which applications are required for all proposed groundwater wells. The permitting process includes a review of the quantity and quality of water to be extracted and includes consideration of existing and potential sources of groundwater contamination.

This ESD keeps open the option of implementing additional institutional controls, or improving upon existing controls.

The ESD establishes benzene as the new chemical constituent to be used as a predictor of groundwater movement for the following reasons:

- Benzene is a more appropriate chemical trigger for a revised risk assessment and/or further remedial actions because it is more directly tied to the potential health impacts from groundwater contamination. Benzene is a known human carcinogen. Risks from benzene were the most significant risks cited in the groundwater risk assessment and Groundwater ROD.
- There is a well-established ARAR for benzene (the MCL).
- Data collected during implementation of the remedial action has demonstrated that benzene predicts more accurately than THTs the behavior, as a class, of the most toxic Site-related contaminants in groundwater.

2.4 Description of Significant Differences

This ESD changes element (5) above of the selected remedy to the following:

- 5) Immediately initiate a revised risk assessment should benzene be determined to be present at levels at or above the MCL in one or more of the McColl Superfund Site's off site monitoring wells (specifically in the C and/or D zone as defined in the Groundwater Operable Unit ROD). Should the revised risk assessment indicate that cancer or non-cancer risks fall outside of acceptable exposure levels as defined in the NCP, 40 C. F. R. Section 300.430(e)(2)(i), EPA may require additional remedial measures, including institutional controls.

2.5 Statutory Determination

The Selected Remedy, as amended by the ESD, remains protective of human health and the environment. Because the Selected Remedy results in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for unlimited use and unrestricted exposure, statutory reviews will be conducted at five year intervals to ensure that the remedy is, or will be, protective of human health and the environment. The First Five Year Review was completed in

September 2002, and the next such review is scheduled for completion by September 2007.

2.6 Public Participation

Pursuant to CERCLA and the NCP (Section 300.435(c)(2)), EPA has consulted with the support agency (DTSC), is making this ESD available to the public, is publishing a notice of availability and a brief description of the ESD in a newspaper of general circulation, and is including the ESD in the Site Administrative Record. As stated above, DTSC has concurred with this ESD.

2.7 Contact Information

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Information Repositories (where the Site Administrative Record is available for review):

EPA Superfund Record Center
95 Hawthorne Street
Suite 403S
San Francisco, CA 94105
415-536-2000

Fullerton Public Library
Local History Room
353 W. Commonwealth Ave.
Fullerton, CA 92633
714-738-6326