EXPLANATION OF SIGNIFICANT DIFFERENCES
IN THE RECORD OF DECISION
McGRAW-EDISON SITE
CENTERVILLE, IOWA

Prepared by:
U.S. Environmental Protection Agency
Region VII
Kansas City, Kansas
June 1994
EXPLANATION OF SIGNIFICANT DIFFERENCES

INTRODUCTION

This Explanation of Significant Differences (ESD) presents the rationale for modifying the remedial technology identified in the Record of Decision (ROD) for the McGraw-Edison Facility ("Site"). This ESD was prepared in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and section 300.435(c)(2)(i) of the National Contingency Plan (NCP).

A supplemental Remedial Investigation (RI) was performed after the ROD was signed. As a result of that investigation it became apparent that the method of extracting the ground water selected in the ROD was not feasible. Due to this circumstance, an alternate method of extracting the ground water has been identified. The supplemental RI report, the post-ROD technology evaluation and the ESD will become part of the Administrative Record pursuant to section 300.825(a)(2) of the NCP. The Administrative Record for the Site is located at the Drake Public Library, Centerville, Iowa and the EPA offices at 726 Minnesota Avenue, Kansas City, Kansas.

SITE HISTORY

McGraw-Edison manufactured chrome-plated toasters and toaster ovens at the Site from 1965 to 1978. The manufacturing processes included chromium and nickel plating operations. Rinse water associated with the manufacturing operations was collected and treated in an on-site wastewater treatment plant. The resultant chromium and nickel plating sludges were discharged to two on-site drying beds, the treated wastewater was discharged to the Centerville sanitary sewer system. A 5,000 gallon above-ground solvent storage tank, containing trichloroethene (TCE), was housed in the manufacturing building. The TCE was used for cleaning and degreasing operations, consistent with the manufacturing activities.

As a result of the manufacturing operations, spills, leaks and discharges occurred. This resulted in contamination of the soils and ground water at the Site. The soils contaminated with nickel and chromium were removed from the Site during two response actions conducted during 1989 and 1991-1992. The TCE
contamination of soils and ground water was investigated during a Remedial Investigation/Feasibility Study (RI/FS). The ROD based on that RI/FS for the TCE contamination was signed on September 24, 1993.

The selected remedy identified in the September 24, 1993, ROD consisted of a soil vapor extraction (VES) system to remove and treat the TCE within the soil above the water table and extraction of the contaminated ground water (using conventional extraction wells and submersible pumps) followed by treatment using ultraviolet catalyzed oxidation to destroy the TCE.

DESCRIPTION OF SIGNIFICANT DIFFERENCES

After the ROD was signed, Cooper Industries performed a supplemental RI to gather additional site-specific information to be used in conjunction with treatability testing. As part of that investigation, pump tests were performed to evaluate the rate at which ground water could be removed by pumping. During these pumping tests, it was determined that sustained pumping of ground water could not be achieved using conventional pumping equipment, even at a rate of less than 1 gallon per minute. Higher pumping rates were not possible because the intermediate sand unit, identified beneath the Site, contains more fine-grained materials (sилts and clays) than was originally estimated. The presence of these fine-grained materials generally increases the density of the sand unit because interconnected voids are filled and reduces the ability of the sand unit to produce water. In fact, two pumps were destroyed as a result of overheating, due to insufficient water flow, during the pumping tests.

It became obvious that conventional pumping of the ground water prior to treatment would not accomplish the intended goal. Information on an alternate method of withdrawing ground water was provided by Cooper Industries for EPA consideration. The alternative technology, Vacuum Groundwater Recovery (VGR), removes the ground water by applying a vacuum to enhance the recovery of ground water from dense saturated units such as those present at the McGraw-Edison site (which normally produce very little water). The application of a vacuum to the well increases the size of the underground area that is influenced by the system. The VGR system also includes "transitional fittings" which prevent the vaporization of water as it is withdrawn from depths greater than approximately 20 feet. The VGR will be used to extract the ground water rather than conventional pumps. After the ground water is extracted, treatment will proceed as described in the ROD.
SUPPORT AGENCY COMMENTS

The Iowa Department of Natural Resources (IDNR) has been informed of and concurs with the changes in the McGraw-Edison ROD deemed necessary by the EPA.

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, the EPA believes that the remedy remains protective of human health and the environment, complies with federal and state requirements that were identified in the ROD as applicable or relevant and appropriate to this remedial action (at the time the original ROD was signed), and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

PUBLIC PARTICIPATION ACTIVITIES

Notice of this Explanation of Significant Differences (ESD) has been published in the Daily Iowegian. The documents on which the decision was made to change a component of the selected remedy have been placed in the Administrative Record located in the Drake Library, Centerville, Iowa and in the EPA Regional Office, Kansas City, Kansas. These documents are available for public review and comment. Comments on the contents of the Supplemental RI Report and the Post-ROD Evaluation of Vacuum Groundwater Recovery should be addressed to:

Helen Tinson
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U. S. EPA, Region 7
726 Minnesota Avenue
Kansas City, Kansas 66101
(913) 551-7052
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Dennis Grams, P.E.
Regional Administrator
U.S. EPA, Region 7

Date
June 29, 1994
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