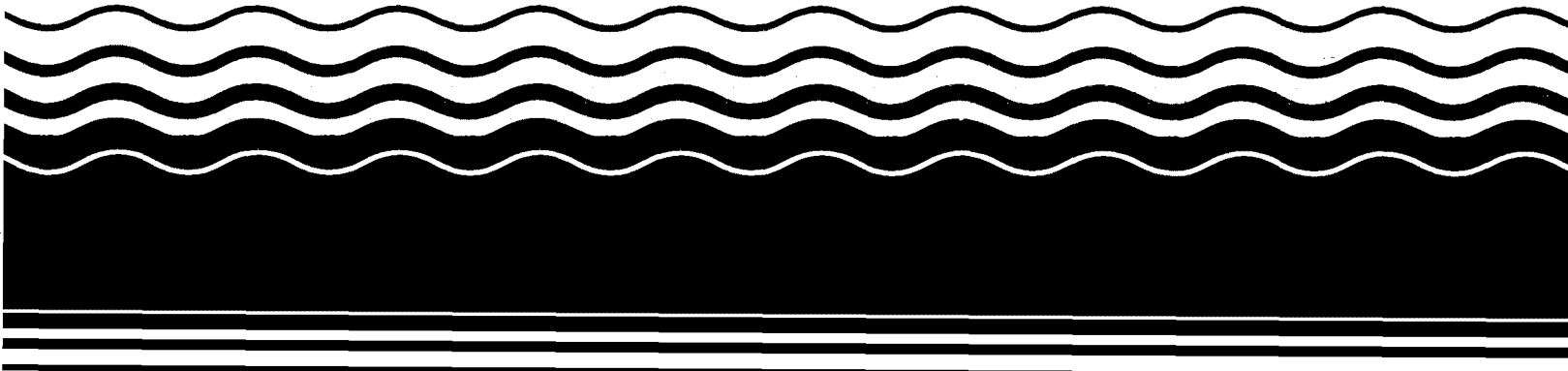


**PB95-963123
EPA/ESD/R09-91/129
March 1995**

**EPA Superfund
Explanation of Significant Difference
for the Record of Decision:**

**Beckman Instruments,
Porterville, CA
3/6/1991**



Beckman Instruments Superfund Site
Porterville, California

EXPLANATION OF SIGNIFICANT DIFFERENCES

I. INTRODUCTION

On September 26, 1989, the United States Environmental Protection Agency (EPA) signed a Record of Decision (ROD) for the final remedy at the Beckman Instruments Inc. Superfund Site ("Beckman Site") in Porterville, California. The purpose of this document is to explain the significant differences between the description of the remedy selected in the ROD signed on September 26, 1989 and the remedy that will be implemented at the Beckman Site. This difference is not a fundamental alteration of the remedy described in the 1989 ROD.

Under Section 117 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, (CERCLA), 42 U.S.C. §§ 9617, and pursuant to 40 C.F.R. Section 300.435(c)(2)(i) (55 Fed.Reg. 8666, 8852 (March 8, 1990)), EPA is required to publish an Explanation of Significant Difference (ESD) whenever a significant (but not fundamental) change is made to a final remedial action plan as described in a ROD.¹

This document provides a brief background of the Beckman Site, a summary of the remedy selected in the ROD, a description of the change to the ROD that EPA is now making (including how the change affects the remedy originally selected by EPA in the 1989 ROD), and an explanation of why EPA is making these changes to the ROD.

Based on the technical data in the administrative record, EPA is changing the ROD to provide that the contaminant-specific numerical levels characterized as "goals" in the 1989 ROD are established as final cleanup "standards" to be achieved by the selected remedy. Specifically, EPA is revising language in the 1989 ROD that states that the remedy for groundwater is "pumping and treating of all three units, to the extent practicable" by deleting the phrase "to the extent practicable." This change is made to clarify and ensure that EPA has selected in the ROD a specific remedial action for groundwater cleanup rather than deferring the selection of cleanup standards to a later date.

¹ If the changes made after the ROD was signed had fundamentally altered the nature of the selected remedy, then a ROD amendment would have been required. 40 C.F.R. § 300.435(c)(2)(ii) (1990) (55 Fed. Reg. 8666, 8852 (March 8, 1990)).

The technical data in the administrative record supports this remedy. There is not sufficient information in the record to indicate that it is currently technically impracticable to implement the remedy selected.

EPA has provided a fifteen (15) day comment period to the State of California (in accordance with 40 C.F.R. § 300.515(h)(3)) and the State has concurred on this ESD. Pursuant to 40 C.F.R. § 300.435(c)(2)(i)(1990), a public comment period is not required for an ESD.

II. BACKGROUND

The following is a brief background of the Beckman Site and a short summary of the remedy selected in the ROD. Additional background information can be found in the September 26, 1989 ROD and in the Beckman Administrative Record.

A. Site Background and Description

The Beckman Site, which includes the Beckman Plant and surrounding study area, is located near the southern limit of the City of Porterville, California. Porterville is located in Tulare County about 25 miles southeast of Visalia on the eastern fringe of California's Central Valley. The Beckman Plant is located at 167 West Poplar Avenue and occupies approximately 12.5 acres of a 30.95 acre parcel of land owned by Beckman Instruments, Inc. The Site study area is generally bounded by the Tule River to the north, plant property to the east, Poplar ditch to the south and Newcombe Drive to the west. Land use within the study area includes residential, field crop, orchard, grazing land, Tule River floodway, commercial, industrial and vacant land.

The Beckman plant has manufactured electronic instrument assemblies, subassemblies and printed circuit boards in Porterville since 1967. Its industrial processes include electroplating and degreasing. The waste streams from these processes have included spent halogenated solvents, inorganic and acid solution, salts, metal-laden solutions and plating bath sludge.

Wastewater from the industrial processes conducted at the Site was discharged to the City of Porterville sewer system between 1967 and 1974. From 1974 until early 1983, various waste streams were discharged to an on-site solar evaporation pond. Wastes also may have been placed in other areas near the plant. Since 1983, waste streams have been treated on-site and treated liquids are discharged to the City of Porterville sewer system.

Beckman initiated groundwater monitoring in the vicinity of the solar pond in 1982. Water samples analyzed in May 1983

revealed the presence of some organic compounds and metals in groundwater below the unlined solar pond and in domestic wells downgradient of the plant. The pond was closed in 1983.

In March 1985, the California Department of Health Services (DHS) placed the Site on California's Superfund State Priority Ranking List. On October 9, 1985 EPA received an official request by DHS to assume the lead role in overseeing remedial studies and cleanup activities at the Site. The Site was added to the Federal Superfund National Priorities List (NPL) by EPA on June 10, 1986, by notice in the Federal Register, Volume 51, No. 111.

Beckman submitted the Remedial Investigation (RI) report to EPA in December 1988. The Feasibility Study (FS) report prepared by Beckman, and as amended by EPA, was released for public comment in March 1988. EPA's Proposed Plan was released for public review in June 1989.

The RI report indicated the existence of a multilayer aquifer system beneath and downgradient of the plant. The aquifer system is comprised of an "upper aquifer", "upper aquitard" and "lower aquifer", based on the order of occurrence of the units below ground surface and the hydraulic characteristics of the units. Five primary contaminants have been identified in groundwater at the Site. These volatile organic compounds (VOCs) include 1,1,1-trichloroethane (TCA), 1,1-dichloroethylene (DCE), freon 113, 1,1-dichloroethane (1,1-DCA), and trichloroethylene (TCE). Other contaminants such as 1,2-dichloroethane and benzene have been sporadically detected in groundwater in and surrounding the Site. Soil samples were identified with lead concentrations above the cleanup level established in the ROD.

Prior to the discovery of chemicals in the groundwater, groundwater below the site area was used for domestic and agricultural purposes. After discovery of chemicals in groundwater, Beckman provided alternate water supplies to approximately 300 residences in the study area. Eight private wells which were completed in the upper and lower aquifers were also sealed or replaced with wells screened in the lower aquifer to prevent further spread of contamination.

Beckman began extraction and treatment via air stripping of groundwater in July 1985 to contain western migration of the plume, control water level gradients in the upper aquifer, and reclaim upper aquifer groundwater. Beckman commenced operation of a second containment and reclamation system in the eastern portion of the Site in July 1987.

B. REMEDY SELECTED IN THE 1989 ROD

1. Groundwater. The selected remedy for groundwater in the upper aquifer, upper aquitard, and lower aquifer is extraction and treatment. Extracted groundwater is to be treated using air stripping towers. The air stripping towers will meet substantive permitting requirements set by the local Air Quality Management District to regulate emissions. Treated groundwater will be discharged to on-site infiltration ponds. These discharges will be regulated by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act.

EPA set groundwater cleanup goals for the upper aquifer, upper aquitard and lower aquifer at federal Maximum Contaminant Limits (MCLs), except where state MCLs are more stringent (as is the case for 1,1-DCA). Where no federal or state MCL exists for a contaminant, state action levels (SALs) were selected as the cleanup goal (this is the case for Freon-113). The specified cleanup goals are as follows:

| <u>Contaminant</u> | <u>Cleanup Goal</u> |
|--------------------|----------------------|
| 1,1,1-TCA | 200 ppb ² |
| 1,1-DCE | 6 ppb |
| Freon-113 | 1,200 ppb |
| 1,1-DCA | 5 ppb |
| TCE | 5 ppb |

2. Soils. This ESD does not affect the soils remediation component of the September 26, 1989 ROD.

III. EXPLANATION OF SIGNIFICANT DIFFERENCES

This ESD is intended to clarify two points relating to EPA's ROD dated September 26, 1989. For the reasons explained below, this ESD amends two sentences in the ROD:

1. The sentence in the ROD (Section IX, page 22) that stated: "The remedy specified in this Record of Decision is pumping and treating of all three units, to the extent practicable," is amended to read:

"The remedy specified in this Record of Decision is pumping and treating of all three units."

2. Language in the ROD (Section IX, page 23) that stated: "This decision will be reviewed after the remedy has been in place five years to determine the feasibility

² ppb = parts per billion

of cleaning up the aquitard to MCLs," is amended to read:

"The remedial action selected in this Record of Decision shall be reviewed pursuant to the requirements of Section 121(c) of CERCLA, 42 U.S.C. § 9621(c)."

A. Cleanup Standards. The amendment to the first sentence, above, is to make clear that the numerical "goals" set forth in the ROD for both groundwater and soil remediation at the Beckman Site constitute "cleanup standards" to be attained at the completion of the remedial action. EPA selected groundwater extraction and treatment to address the groundwater contamination. It specified five cleanup "goals" for groundwater in the upper and lower aquifers and the upper aquitard: 200ppb 1,1,1-TCA; 6ppb 1,1-DCE; 1200 ppb Freon 113; 5ppb TCE; 5ppb 1,1-DCA.

The ROD expressed these numerical levels as "goals", recognizing that it may not be possible to state with certainty the extent to which actual cleanup levels could be achieved in the more impermeable zones of the aquitard. As noted above, the ROD states that the remedy specified therein is "pumping and treating of all three units, to the extent practicable." The qualifying phrase "to the extent practicable" acknowledges the inherent uncertainty (that the remedial action will achieve cleanup levels³) that exists at the time a groundwater extraction treatment remedy or innovative treatment technology is selected.

In the Beckman ROD, Applicable or Relevant and Appropriate Requirements (ARARs) were used to establish the numerical cleanup "goals" (either as federal or state MCLs or State Action Levels). As required by Section 121(d)(2)(A) of CERCLA, these levels, referred to as "cleanup goals", are established as cleanup standards which must be attained by the completion of the remedial action. Accordingly, after re-evaluation of the administrative record and in light of the promulgation of the National Contingency Plan, by this ESD, EPA now unequivocally reaffirms that the groundwater remedy selected in the ROD shall attain all ARARs, i.e., the contamination concentration levels set forth as "cleanup goals" in Table 4 of the ROD.

As was true at the time the ROD was signed, there is still insufficient information to invoke any type of waiver of these

³ Final cleanup levels are established either from ARARs, or by consideration of other factors, in the determination of final Remediation Goals. 40 C.F.R. Section 300.430(e).

statutorily required cleanup levels, pursuant to Section 121(d)(4) of CERCLA. Adequate data for an informed decision about any technical impracticability of the selected groundwater remedial action will not exist until the extraction and treatment system has become fully operational for a significant period of time.

Under Section 121 of CERCLA, 42 U.S.C. § 9621, and the NCP, EPA is required to select a remedy that is protective of human health and the environment and that meets all ARARs. EPA can only select a remedy that does not meet an ARAR if it formally makes a finding based on at least one of the six factors set forth in Section 121(d)(4) of CERCLA, 42 U.S.C. § 9621(d)(4). One of these six factors allows EPA to select a remedy that does not meet an ARAR if the remedy originally selected is found to be "technically impracticable from an engineering perspective" [See Section 121(d)(4)(c) of CERCLA, 42 U.S.C. § 9621(d)(4)(c)].

The authority of EPA to invoke an "ARAR waiver" based on "technical impracticability" is limited under CERCLA. This waiver should be used in cases where: (i) neither existing nor innovative technologies can reliably attain the ARAR in question, or (ii) attainment of the ARAR in question would be illogical or infeasible from an engineering perspective [53 Federal Register 51439 (December 21, 1988)]. While cost may be considered in determining practicability, it should generally play a subordinate role in determining practicability from an engineering perspective [55 Federal Register 8748 (March 8, 1990)]. Accordingly, based on its re-evaluation of the administrative record, EPA has determined that there is presently insufficient information upon which to waive any ARARs at the Beckman Site.

At the time EPA selected the remedial action for the Beckman Site, EPA responded to comments on the Feasibility Study (which are included in the administrative record) that objected to proposed cleanup levels which were more stringent than ARARs (MCLs or SALs). In the ROD, EPA selected ARARs as the cleanup levels for groundwater. Comments to the Feasibility Study indicated satisfaction with ARAR levels and no waiver of these ARARs was sought at that time. While the ROD acknowledged circumstances that could affect the practicability of the selected remedy, through this ESD EPA is clarifying that it will consider technical practicability or impracticability as a factor in evaluating whether, in the future, it should formally invoke a waiver of an ARAR. EPA will make such an evaluation, as required by CERCLA and the NCP, on the basis of information generated during the Remedial Action phase of the remedy.

B. Process for Future Amendments to the ROD. EPA recognizes that new information may be generated during the

ongoing Remedial Design/Remedial Action process that could affect the remedy selected in the ROD. This information, which may be developed by Beckman, support agencies, the general public, or EPA, may form the basis for a proposed amendment to the ROD or an ESD. In determining whether a change to the ROD is appropriate, EPA will consider all legally applicable requirements.

In addition, under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), EPA is required to review every five years all Superfund sites where hazardous substances remain on the site to ensure that human health and the environment are protected. Therefore, it is possible that EPA may determine that a remedy selected in the ROD should be changed to provide for even greater protection to human health and the environment.

If new information is submitted by the general public, Beckman, the support agencies, or developed by EPA during implementation of the remedial action, EPA may reconsider the hazardous substance management approach selected in the ROD. If EPA determines that the ROD should be changed, it will follow all applicable requirements under CERCLA, including those of Section 117 of CERCLA, 42 U.S.C. § 9617, and under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, including those required by 40 C.F.R. Subpart I, Section 300.825(c).

John Wise

Daniel W. McGovern *for*
Regional Administrator

3.6.91

Date