



## Department of Toxic Substances Control

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April 26, 2002

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### COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE CLEANUP AND CLOSURE OF THE ENERGY TECHNOLOGY ENGINEERING CENTER (ETEC), SIMI VALLEY, CALIFORNIA, DATED JANUARY 2002

Dear Mr. Lopez:

The Department of Toxic Substances Control (DTSC) has reviewed the Department of Energy's (DOE) Draft Environmental Assessment (EA) for the Cleanup and Closure of the Energy Technology Engineering Center, Simi Valley, California, dated January 2002. The Draft EA presents specific alternatives for the remediation and closure of the 90 acre ETEC facility. After a very brief discussion of past operations sponsored by the U.S. Department of Energy at ETEC, the EA introduces two alternative radiological remediation goals. Remediation Alternative 1 considers leaving a residual radiological contamination that would result in an annual dose of no more than 15 millirem, which equates to a  $3 \times 10^{-4}$  additional theoretical lifetime cancer risk. Remediation Alternative 2 considers residual contamination that would result in an annual dose of 0.05 millirem, which equates to a  $1 \times 10^{-6}$  additional theoretical lifetime cancer risk. In reviewing the EA, DTSC has identified several issues of concern:

1. The EA does not provide sufficient data to support the assumptions used to estimate waste volumes, which is the basis for selection of the preferred remedial alternative.
2. The EA does not address the need to reevaluate groundwater data or the adequacy of current well locations used for monitoring, in light of recent hydrogeologic characterization work ongoing at the SSFL, nor is the need for additional radiologic investigation of groundwater considered.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*

Mr. Michael Lopez

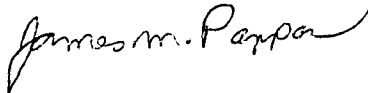
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3. The EA does not provide information on locations and history of radiologic releases at ETEC or the standards applied to the cleanup of past releases. Nor does the EA discuss additional areas at ETEC where residual radiologic contamination may be present or has recently been identified (e.g. the Sodium Reactor Experiment area), or has potentially migrated offsite (Radioactive Materials Handling Facility).
4. Insufficient data is available on contaminant distribution and levels at ETEC to complete an adequate analysis of remedial alternatives.
5. DTSC believes there is a lack of sufficient information to support a Finding of No Significant Impact for ETEC.

DTSC appreciates the opportunity to comment on the Draft Environmental Assessment for ETEC. If you have any questions regarding our comments on the EA, please contact Ms. Pauline Batarseh at (916) 255-3609 or Gerard Abrams at (916) 255-3600.

Sincerely,



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Attachment

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## ATTACHMENT A

### DTSC COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE CLEANUP AND CLOSURE OF THE ENERGY TECHNOLOGY ENGINEERING CENTER, SIMI VALLEY, CALIFORNIA

#### GENERAL COMMENTS

1. The EA proposes to select Alternative 1 as the preferred alternative based on the assessment that remediation of soil to a  $1 \times 10^{-6}$  risk level (Alternative 2) would require excavation of 404,850 cubic meters of soil (70 times the quantity for Alternative 1) from approximately 15% of the 90 acre ETEC facility. This volume estimate is based on 149 surface samples collected across 290 acres of Area IV in 1995 – an average of two surface samples per acre. The EA assumes that the surface samples are representative of contamination down to bedrock. Bedrock is assumed to exist uniformly at a depth of 3 meters in the affected areas. The assumptions do not appear to be supported by sample data collected at depth. The 1995 characterization data used in the EA as a basis for extent of contamination should be reviewed to insure that the data support the assumptions that 70 times more soil would need to be excavated under Alternative 2 as compared to Alternative 1. The calculation of the volume of soil under Alternative 2 cannot be verified since soil sample concentrations, locations, and depths are not presented in the EA. DTSC believes that, at a minimum, soil samples should be collected at depth in the impacted areas to verify the soil volume assumptions before adequate analysis of remedial alternatives and their impacts can be completed for this EA. Additionally, the absence of radiological contaminants in bedrock should be justified if the lower boundary of the excavation is assumed to be bedrock.
2. The EA states that radioactivity concentrations in groundwater at SSFL are below drinking water standards. DTSC is currently overseeing a hydrogeologic investigation at SSFL. As this hydrogeologic characterization proceeds, DTSC recommends that a qualified California licensed hydrogeologist review existing radiologic groundwater data in light of new hydrogeologic data currently being gathered. This is necessary to insure that wells are properly located to evaluate potential release areas and data is representative of groundwater conditions beneath the site. Well sampling methodology and analytical procedures for radioisotopes of concern should also be reevaluated. Evaluation of the existing monitoring well program in Area IV should also take into consideration results of the site assessment review, which will be conducted by the EPA as part of the proposed radiation survey of Area IV soils. Adequacy of well placement and the groundwater monitoring

program in Area IV should be reevaluated following completion of the US EPA radiation survey. The need for additional radiologic groundwater investigation should be reevaluated following completion of the US/EPA's site assessment review and radiation survey.

3. In the EA, reference is made to the existence of more than 200 facilities at ETEC, yet only 64 buildings are subject to the EA. Previous documentation suggests that at one time there were ten nuclear reactors operating at ETEC, yet the EA discusses only one reactor vault in Building 4059. Although the EA makes reference to previous decontamination and decommissioning work and/or closure, it would be appropriate to summarize past removal activities to clarify the level of work (e.g. amount of materials removed, scope of soil samples and radiation surveys, test results and estimates of residuals remaining). Areas with known residual radioactive contamination in soil (e.g. the Sodium Reactor Experiment area) are not discussed. This summary and disclosure of the level of effort would be useful as both a baseline for future remediation work and to provide a comprehensive environmental assessment of the closure of ETEC.

## **SPECIFIC COMMENTS**

1. The sidebar insert, on page 1-3, titled "Exposure to Radiation" states that the radiation dose "...must..." be calculated utilizing both external and internal (i.e., via ingestion or inhalation) exposure pathways. The health impacts are calculated based on the total radiation dose. This EA only considers the soil ingestion pathway, although references are made (page 4-9) to other documents (e.g., Site Environmental Report for Calendar Year 2000) which consider other pathways. Additionally, the sidebar insert on page 1-4 states, in the third paragraph, that the "very stringent public health... standard(s)" of 15 millirem annually applies to exposures "...from all pathways...." Therefore, the EA should consider total exposure from all pathways including the groundwater pathway and dosages from other external sources.
2. Multiple references (pg. 1-3, 2-10, A-1) are made to "ongoing" groundwater treatment activities at the ETEC. The groundwater treatment facilities that are currently active at this site are interim measures, and not intended to be the final remedy. The final remedy chosen for this site will need to be based on adequate groundwater and contaminant characterization.
3. The definition of cancer rate estimates is inconsistent, *i.e.*, there is confusion relative to utilization of estimates of mortality (fatal cancers, page 1-3 and Appendix C) and of morbidity (latent cancers, pages

1-2, 3-13, and 4-9). The terms appear to be used interchangeably. The EA needs to be modified to indicate a single rate estimate.

4. Cumulative impacts are discussed in section 4.14; however, multiple exposures, *i.e.*, chemical and radiological, as well as exposure to multiple radionuclides, is not addressed. The EA must consider total cumulative in risk from all sources and all pathways.
5. The sidebar insert (Potassium-40) on page 4-4 states that no significant differences are found between onsite and offsite samples, but does not reference the study or report the statistical test or the level of significance. The EA must reference the studies.
6. The sidebar insert (page 4-9) titled "Radionuclides of Concern" lists six radionuclides and eliminates five (all but cesium-137) utilizing the criterion of less than 10% of an unspecified release criterion. The text states that "it is highly unlikely..." that a chemical present at levels below 10% of the criterion "would pose any risk..." This assumption may underestimate the risk, since the cumulative potential risk of the six radionuclides may exceed the acceptable level.
7. The EA states (Section 4.6.1, p. 4-14, second full paragraph) that most common species as well as sensitive species of plants and animals are not affected by exposure to low levels of radiological contamination. The EA should include an ecological screening assessment, which documents reference radiation levels or, at the very least, supports (with references) the hypotheses proffered in Section 4.6.1.
8. Section 2.3, Table 2-1. The status of other DOE-owned buildings (*e.g.*, 4020, 4021, 4022, 4023, 4036, 4064, 4065, etc.), which may have contained radioactive materials, is not explained. Section 2.3.1 lists RMHF (nine buildings), Building 4059, and Building 4024 as the three radiological facilities that have not been decontaminated, two that have been "released," and one that is pending. The EA should include a comprehensive inventory of buildings and former use areas and an explanation of why they are not considered as part of the project. A survey of all DOE-owned buildings, as well as all sodium-handling facilities, may be necessary to ensure absence of contamination.
9. The Hazardous Waste Management Facility (HWMF), which consists of Building 4029 and Building 4133, is a RCRA Permitted Facility and is currently undergoing RCRA closure. The RCRA Hazardous Waste Facility Permit for the HWMF shows the U.S. DOE as owner of the facility and Rockwell ETEC (now Boeing) as the Operator. Building 4029 was used to store sodium prior to treatment (thermal/reactive destruction) at

10. Building 4133. At one time, radioactive calibration equipment was housed at Building 4029 which had a spill of a small amount of radioactive material. Because the EA does not address the HWMF, DOE would not be able to apply the EA to the closure of the HWMF and may need additional environmental documentation for that closure.
11. Several releases of contaminants into the environment have been identified at the Radioactive Materials Handling Facility (RMHF). Although storm water generally flows to a spill control pond in the RMHF, there have been a series of releases to offsite areas adjacent to the RMHF that have been documented in the 1994 RCRA Facility Assessment. It is not clear from the EA whether an assessment of releases to the offsite ravine in the buffer zone has been conducted. The EA should include an analysis of areas adjacent to the RMHF in its assessment.