LFR ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

March 27, 2007 001-09301-01

DOCKET
01-AFC-7C
DATE MAR 27 2007
RECD. APR 25 2007

Ms. Jeri Zene Scott
Compliance Project Manager
Systems Assessment and Facility Siting Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, California 95814

Subject: Response to DTSC's Comments to Environmental Documents Related to the Russell City Energy Center Project, Hayward, California

Dear Ms. Scott:

On behalf of Calpine Corporation (Calpine), LFR Inc. (LFR) has reviewed the comments provided by the Department of Toxic Substances Control (DTSC) in a letter dated March 1, 2007, regarding the environmental conditions at the properties located at 3810 Depot Road ("the Aladdin Property"), 3862 and 3878 Depot Road ("the Eash Property"), and 3700 Enterprise Avenue ("the City Property"), located in Hayward, California. The aforementioned properties comprise the Russell City Energy Center Project and are collectively referred to as "the Site." Calpine is responding to DTSC comments even though the comments were addressed to the California Energy Commission.

This letter provides LFR's responses to the DTSC comments, in the order presented in the DTSC letter. Each comment is reproduced here, followed by LFR's response.

DTSC GENERAL COMMENTS

Comment #1

If contaminants will remain at the Site above levels appropriate for unrestricted use of the Site, then appropriate land use restrictions should be recorded for the property to limit future uses to those evaluated in the risk assessment as being safe. If land use restrictions are recorded, steps should be put in place to ensure that the restrictions will be monitored and any required operation, maintenance and/or monitoring activities are performed. This can include a requirement for financial assurance.

Response to Comment #1

Land-use restrictions may be part of the remedial strategy for the Site if hazardous materials, wastes, constituents, or substances will remain at the property after closure of the power plant at levels that are not suitable for unrestricted use of the land. In addition, a Soil Management Plan (SMP) will be developed that will outline guidelines and procedures to be implemented when

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subsurface work is conducted at the Site. The SMP will also stipulate the chemicals of concern that are present at the Site, maximum concentrations detected, and concentrations left in place, and will include a map indicating areas where chemical-affected soil may be encountered.

Comment #2

The Phase II indicates that soil excavation and offsite disposal is appropriate in some areas. However, the Phase II does not provide specific dimensions or the specific location(s) within these areas where this would be appropriate. It would be useful to modify Mitigation Measure 6 to require the review and approval of the Cleanup Plan or Soil Management Plan by an appropriate environmental oversight Agency such as the Alameda County Environmental Health Department, San Francisco Bay Region, Regional Water Quality Control Board, Department of Toxic Substances Control or, if the property is annexed into the City of Hayward, the Hayward Fire Department.

The Cleanup Plan or Soil Management Plan should include the following information:

a. A requirement that land use controls be executed and recorded and an implementation and enforcement plan be approved by the environmental oversight agency if the site is not cleaned up to standards appropriate for unrestricted use;

b. The screening levels used to determine when soil must be removed and/or addressed.

c. The specific locations where soil must be removed based upon existing data;

d. Plans for handling, storing, stockpiling, profiling and disposing of excavated soil.

e. Plans and requirements for confirmation sampling and analysis;

f. Plans for filling existing data gaps in information and in sampling data; and

g. A contingency plan outlining the steps that shall be taken if additional contamination is discovered during the course of implementing the Cleanup Plan or Soil Management Plan and during development of the property.

As was noted during the February 27, 2007 conference call, many properties in urban areas contain environmental impacts of a similar nature as those encountered at this site. For sites such as these, and for sites with far more severe impacts, appropriate steps are developed and outlined in a Cleanup Plan or Soil Management Plan, and then implemented for the type of development to be constructed on the impacted property. The Russell Center site exhibits environmental impacts of various types and magnitudes, but they do not appear to be on a scale that cannot be managed with suitable proper planning, adherence to the plan, and proper implementation. Therefore, the development and implementation of a Cleanup Plan or Soil Management Plan is appropriate for the Russell Center site.

Response to Comment #2

As stated in response to General Comment #1, an SMP will be developed that includes the items listed in General Comment #2.

Comment #3

The Hayward Fire Department, Alameda County Environmental Health Department, San Francisco Bay Region, Regional Water Quality Control Board and/or the local water district should be consulted to determine whether groundwater in this area is naturally high in selenium. If the selenium is not the result of natural processes, then additional investigation and

cleanup would be appropriate under the jurisdiction of the San Francisco Bay Region, Regional Water Quality Control Board as this contaminant has the potential to impact the nearby salt evaporator ponds and other surface water bodies.

Response to Comment #3

LFR is currently conducting research concerning selenium concentrations in groundwater. Based on preliminary results of our research, it appears that selenium is present at relatively elevated concentrations in groundwater. An on-site source is not likely because the distribution of selenium in groundwater is relatively uniform across the Site. Therefore, this area may be naturally high in selenium or the selenium source may be hydraulically upgradient from the Site.

Comment #4

Onsite structures (e.g., greenhouse, office buildings, storage structures) could contain potential recognized environmental conditions. For example, lead-based paint, light ballasts, mercury switches and/or asbestos-containing materials could be present. This should be investigated and addressed prior to demolition of structures. Additionally, there could be residual soil contamination from prior pesticide use around or within onsite structures. Sampling rationale and methodology to determine whether these pesticides are present should be included in the Cleanup Plan or Soil Management Plan, along with plans to address contamination, if found.

Response to Comment #4

Features of environmental concern associated with the existing structures (including lead-based paint, light ballasts, mercury switches, and asbestos-containing materials) will be assessed prior to demolition of structures. A survey for these features will be conducted, plans and specifications for their abatement will be developed, and abatement will be conducted prior to building demolition. Assessment of potential soil contamination from these features will be addressed through implementation of the SMP.

Comment #5

Mr. Lucas Goldstein of LFR Inc. indicated that no floating product was detected at any of the locations where grab groundwater samples were collected. However, it would be useful to collect groundwater samples and analyze them for petroleum hydrocarbons to determine if this contaminant is present and whether it needs to be monitored. Although samples were tested for volatile organic compounds associated with gasoline, these volatile organic compounds are generally not a part of longer carbon chain mixtures of petroleum hydrocarbons such as diesel, motor oil and cutting/lubricating oils.

Response to Comment #5

Soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo). Relatively longer carbon chain mixtures (including TPHmo and TPHd) were detected ubiquitously in surface soils at the Site. However, these compounds were not detected at relatively higher concentrations in the deeper samples (3 feet below ground surface [bgs]). The relatively elevated TPH detections are generally confined to the surface soils (approximately 1 foot bgs and shallower), indicating that the likely source of the contamination is from small incidental surface releases. In addition, these longer carbon chain mixtures are

considered relatively less mobile in the subsurface, and given the absence of TPH in deeper soils, it is unlikely that these compounds reached the groundwater.

Comment #6

Mr. Lucas Goldstein of LFR Inc. clarified that soil sampling locations were selected at the Eash, City, and Aladdin properties to target low points in the topography where visible staining was evident in an effort to collect samples from areas with the greatest potential for the accumulation of chemical compounds in soil. Mr. Lucas Goldstein of LFR Inc. further clarified that samples designated as 0.5 foot samples were collected from the ground surface to 0.5 feet below the ground surface (bgs) and that one foot samples were collected from 0.5 feet bgs to 1 foot bgs. DTSC staff note that in areas where surface soil samples were collected from 0.5 feet bgs to 1 foot bgs, these samples may not represent a reasonable maximum exposure concentration for risk assessment purposes.

Response to Comment #6

The SMP will identify screening levels used to determine when soil must be removed and/or addressed and will reference applicable screening levels, such as the industrial Environmental Screening Levels established by the Regional Water Quality Control Board, San Francisco Bay Region. Furthermore, clean imported soil will be brought in as part of site development activities; therefore, a site-specific risk assessment involving surface soils would not be applicable.

DTSC SPECIFIC COMMENTS – ALADDIN PROPERTY

Comment #1

To meet the general industry standard, the Phase I Environmental Site Assessment, 3810 Depot Road, Hayward, California prepared by LFR Levine-Fricke and dated November 20, 2006 should have been prepared in general conformance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05 for Phase I Environmental Site Assessments. Although this reference is noted on page 2, it is only discussed in the context of providing a reference for the 180 day period of reliance.

Response to Comment #1

An addendum will be prepared to the Phase I report that will include items required in ASTM Standard Practice E 1527-05.

Comment #2

Prior to demolition, the concrete area where automobile dismantling activities occurred should be inspected for cracking or evidence of repairs. If either of these conditions is noted, a soil sample should be collected following removal of the slab below the crack/repaired area(s) and analyzed for chemicals associated with these activities, such as petroleum hydrocarbons, pH and metals. Additionally, if drainage across the concrete area could have resulted in releases to soil, the soil should be sampled in the area where the liquids would have been released.

Response to Comment #2

The concrete area where automobile dismantling activities took place will be inspected for cracks or evidence of repairs prior to demolition. If cracks or evidence of repairs are observed, the underlying soil will be inspected and a sample will be collected. Guidelines, procedures, and appropriate chemical analyses will be included in the SMP.

Comment #3

Once the site structures, vehicles and general debris are removed, the facility should be inspected for visual evidence of a release. If staining is noted, the Cleanup Plan or Soil Management Plan should discuss how this soil will be addressed.

Response to Comment #3

When site features such as structures, vehicles, and general debris are removed, the areas that they resided will be inspected for evidence of potential environmental impacts. If environmental impacts, such as stained or oily soil, are observed or suspected then the guidelines, procedures, and appropriate chemical analyses included in the SMP will be followed.

Comment #4

During demolition activities, if additional hazardous substances storage areas are discovered, the conditions must be evaluated to determine whether soil samples should be collected and analyzed.

Response to Comment #4

If additional hazardous storage areas are encountered during demolition activities, guidelines, procedures, and appropriate chemical analyses that are included in the SMP will be followed.

Comment #5

Surface soil samples should be collected below areas used to store batteries and electrical poles as visual evidence of a release may not be present below these storage areas.

Response to Comment #5

Surface soil samples will be collected from areas that had formerly stored batteries and electrical poles during site demolition activities. These soil samples will be collected using the guidelines, procedures, and appropriate chemical analyses that will be included in the SMP.

Comment #6

The soil stockpile identified in Photograph 17 should be sampled to determine whether this soil can be safely reused onsite or whether it should be disposed of at an appropriate offsite location.

Response to Comment #6

The soil stockpile will be sampled. The soil samples will be collected using the guidelines, procedures, and appropriate chemical analyses that will be included in the SMP.

Comment #7

The hazardous waste storage shed should be inspected following removal of the drums of hazardous waste and closed in accordance with the local Certified Unified Program Agency requirements.

Response to Comment #7

The hazardous waste storage shed will be inspected after the drums are removed. Appropriate sampling will be conducted and the shed will be closed under the appropriate CUPA requirements.

DTSC SPECIFIC COMMENTS – CITY PROPERTY

Comment #1

Mr. Lucas Goldstein and Ms. Barbara McBride clarified that the parcel described to the south of the biosolids drying area is not included in the project area. It may be used as a construction laydown area. Therefore, DTSC has not provided comments relevant to this area.

Response to Comment #1

No response is necessary.

Comment #2

Mr. Lucas Goldstein clarified that the biosolids drying area has been graded over time. Therefore, soil samples collected at 0.5 to one foot below ground surface are believed to be representative of conditions within the zone subject to grading.

Response to Comment #2

No response is necessary.

Comment #3

Soil samples should be collected and analyzed for appropriate chemicals of concern following the removal of the biosolids to verify that all of this material has been removed and that this material did not release hazardous substances into the soil.

Response to Comment #3

Soil samples will be collected from the biosolids drying area after the area is no longer used for biosolids handling and drying and the biosolids have been removed. Confirmation sampling and

analysis will be appropriate to assess the potential impact of the biosolids on the underlying soil. These soil samples will be collected using the guidelines, procedures, and appropriate chemical analyses that will be included in the SMP.

Comment #4

Mr. Lucas Goldstein and Ms. Barbara McBride clarified that the flow equalization basin, sludge distribution basin and associated piping will be retained for use by the City. Therefore, DTSC has not provided comments relevant to these areas.

Response to Comment #4

No response is necessary.

DTSC SPECIFIC COMMENTS – EASH PROPERTY

Comments #1a and b

Polychlorinated biphenyls (PCBs) were detected in several locations. The U.S. Environmental Protection Agency (implementing Agency for the Toxic Substances Control Act) has specific requirements to address releases of PCBs under the Toxic Substances Control Act (TSCA).

a. *TSCA site characterization and verification sampling goals are based upon total PCBs, rather than individual PCB Arochlors. Therefore, additional sampling and analysis will be needed to complete the characterization and cleanup of these areas. Site characterization and waste classification are based upon in-situ sample results.*

b. *PCBs were detected at soil samples collected from 0.5 to 1 foot below the ground surface. Therefore, there is the potential for higher concentrations to be present at the ground surface. Therefore, additional surface soil samples should be collected from sampling location 1, 6, 9 and 13 to determine the lateral and vertical extent of PCB contamination.*

Response to Comments #1a and b

LFR is currently evaluating the required cleanup levels for PCBs and the need to conduct PCB removal. Specifically, LFR is evaluating the applicable cleanup levels set by the Toxic Substances Control Act (TSCA) (40 Code of Federal Regulations, Parts 750 and 761) of 1 milligram per kilogram for "High Occupancy Areas" or 25 mg/kg for "Low Occupancy Areas." This cleanup requirement would also determine the need for additional sampling and analysis. Additional sampling and verification sampling, if necessary, will be conducted in accordance with guidelines, procedures, and appropriate chemical analyses that will be included in the SMP.

Comment #2

Outback Systems. Information regarding the operations of Outback Systems and the condition of their building was not obtained during the site inspection conducted as part of the Phase 1 Environmental Site Assessment due to access constraints. Therefore, this is a data gap in the information provided.

Response to Comment #2

If warranted, following the removal of the building, surface soil samples will be collected from previously inaccessible areas of concern related to the Outback Systems operation. These soil samples will be collected using the guidelines, procedures, and appropriate chemical analyses that will be included in the SMP.

Comment #3a

a. *All Good Pallets. Mr. Lucas Goldstein, LFR Inc., clarified that All Good Pallets received and resold pallets and did not use wood treatment chemicals as part of its operation.*

Response to Comment #3a

No response is necessary.

Comment #3b

b. *All Good Pallets. The painting area and paint storage area (see Phase I, Page 10, Paragraph 5) could be a recognized environmental condition. Therefore, additional information must be provided to clarify why this area is not a recognized environmental condition or this area must be investigated as a recognized environmental condition.*

Response to Comment #3b

LFR sample location SB-13 is located in the painting and paint storage area of All Good Pallets. Additional sampling is not necessary given the relatively small size of this area.

Comment #3c

c. *All Good Pallets. The Phase I (see Page 17, 3862 Depot Road, bullet 5) indicates that a spill was cleaned up. The location of the spill and the evidence used to determine that it had been cleaned up should be provided. If samples were collected and analyzed, this data should be included.*

Response to Comment #3c

To LFR's knowledge, soil samples were not collected. Additional data are not available at this time.

Comment #4

Bay Area Lumber. Please clarify whether wood treatment chemicals could be a potential chemical of concern. If so, please clarify whether samples were tested for these chemicals.

Response to Comment #4

Soil samples will be collected from the wood treatment area. Soil samples will be analyzed for wood treatment chemicals, including phenols, heavy TPH, and metals associated with wood treatment processes such as copper, chromium, and arsenic. These soil samples will be collected using the guidelines, procedures, and the aforementioned chemical analyses that will be included in the SMP.

Comment #5a

a. *Metal Masters. The Phase I Environmental Site Assessment notes that the floor of the Metal Masters building was soaked with cutting and/or lubricating oils. Therefore, this area could be a recognized environmental condition and must be further investigated to determine if cleanup actions are required.*

Response to Comment #5a

After the floor of the Metal Masters building is demolished, the underlying soil will be inspected and soil samples will be collected. Guidelines, procedures, and appropriate chemical analyses will be included in the SMP.

Comment #5b

b. *Metal Masters. The Phase I (see Page 17, 3862 Depot Road, bullet 2) indicates that a spill was cleaned up. The location of the spill and the evidence used to determine that it had been cleaned up should be provided. If samples were collected and analyzed, this data should be included.*

Response to Comment #5b

To LFR's knowledge, soil samples were not collected. Additional data are not available at this time.

Comment #6

Groundwater. As petroleum hydrocarbons were detected in surface soil samples and groundwater was detected at four feet below the ground surface (Location 6), groundwater should be tested for the presence of petroleum hydrocarbons. Only samples collected from the area of the former UST were tested for petroleum hydrocarbons. Although samples were tested for volatile organic compounds associated with gasoline, these volatile organic compounds are generally not a part of heavier mixtures of petroleum hydrocarbons such as diesel, motor oil and cutting/lubricating oils.

Response to Comment #6

As stated in response to General Comment #5, the relatively elevated TPH detections are generally confined to the surface soils (approximately 1 foot bgs and shallower), indicating that the likely source of the TPH contamination is from small incidental surface releases. In addition, the longer carbon chain mixtures such as diesel, motor oil, and cutting/lubricating oils are considered relatively less mobile in the subsurface, and given the absence of TPH in deeper soils, it is unlikely that these compounds reached the groundwater.

Comment #7

Please clarify why the 2006 surface soil samples were collected at 1 to 2 feet below the ground surface (bgs) and the 2004 surface soil samples were collected at 0.5 feet bgs. Additionally, as this site is not paved, the rationale for not collecting surficial samples (ground surface to 0.5 feet bgs) and analyzing these samples for non-volatile constituents of concern should be provided.

Response to Comment #7

Samples collected in 2006 from the Eash property were step-out borings; these samples were intended to access the lateral extent of contaminants in previously identified areas of environmental concern at locations 1, 6, and 9. Post-removal confirmation sampling will include both surface and deeper samples. Confirmation soil sampling guidelines, procedures, and chemical analyses will be included in the SMP.

Comment #8

Mr. Lucas Goldstein, LFR Inc., clarified that no evidence was found for the installation of an underground storage tank following the application for a permit in 1989. As this was a historical cleanup, additional samples were collected to evaluate the potential for releases from this tank.

Response to Comment #8

No response is necessary.

Comment #9

The Phase I indicates that a groundwater monitoring well was present at the 3878 Depot Road property and that this well was installed in 2003. The Alameda County Environmental Health Department should be consulted to determine whether they permitted this well and to determine if they have data reports for this parcel. It would also be useful to sound this well to determine its total depth and to sample the well as it was reportedly installed as part of a groundwater investigation.

Response to Comment #9

The Alameda County Environmental Health Department was contacted at the time of the Phase I and no information regarding this well was available. During a recent site visit, LFR staff inspected the well and observed that the casing was damaged. LFR recommends abandoning this well in accordance with Alameda County Public Works requirements.

Comment #10

If methylene chloride is a component of a product used or produced at the Site, its presence in soil samples can not be attributed to laboratory contamination unless quality assurance/quality control (QA/QC) samples indicate that it was due to laboratory contamination. In that instance, this should be discussed in the text.

LFR

Response to Comment #10

Laboratory analytical reports presented in Attachment 2 of LFR's "Limited Soil and Groundwater Sampling Report, 3862 and 3878 Depot Road, Hayward, California," dated April 8, 2005, state that "methylene chloride is a common laboratory contaminant." In addition, according to verbal communication from John Goyette, laboratory director of Curtis and Tompkins of Berkeley, California (C&T), C&T had historically experienced issues with methylene chloride cross-contamination. According to Mr. Goyette, further internal investigations conducted by C&T since 2004 indicated that the methylene chloride cross-contamination was taking place in the sample storage room, where this compound had been used for repairs and maintenance to the refrigeration system. Furthermore, the methylene chloride would likely not be present in the QA/QC blanks because these samples are prepared in the analytical laboratory, outside the sample storage room. As an additional line of evidence that methylene chloride detections are suspect, this compound was not detected above the laboratory reporting limit in the additional soil samples collected in 2006 and analyzed by Torrent Laboratory of Milpitas, California.

If you have any further questions regarding environmental documents related to the Russell City Energy Center Project, please feel free to call Lucas Goldstein at (510) 596-9535.

Sincerely,

Charles H. Pardini, P.G.
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California Professional Geologist (6444)

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cc: Barbara McBride, Calpine