SANTA CLARA SC-1 DATA CENTER, PHASE 2

Small Power Plant Exemption

Commission Decision

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown, Jr., Governor

MARCH 2012
CEC-800-2012-002-CMF

DOCKET NUMBER 11-SPPE-01

CALIFORNIA
ENERGY COMMISSION

1516 Ninth Street
Sacramento, CA 95814

http://www.energy.ca.gov/sitingcases/santaclara/index.html

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DISCLAIMER

This report was prepared by the California Energy Commission as part of the Santa Clara SC-1 Data Center, Phase 2 SPPE Committee, Docket No. 11-SPPE-01. The views and recommendations contained in this document are not official policy of the Energy Commission until the report is adopted at an Energy Commission Business Meeting.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR SMALL POWER PLANT EXEMPTION FOR THE SANTA CLARA SC-1 DATA CENTER PHASE 2 PROJECT	**DOCKET NO. 11-SPPE-01** **ORDER NO. 12-0328-2**

COMMISSION ADOPTION ORDER

By this **ORDER**, the Commission adopts as its own Decision the March 9, 2012 Proposed Decision, which was issued by the Committee assigned to the above-captioned matter, and the Errata dated March 22, 2012. The Decision addresses the Application for a Small Power Plant Exemption filed by Xeres Ventures, L.L.C. for the Santa Clara SC-1 Data Center Phase 2 project. The Commission Decision is based upon the evidentiary record of these proceedings.

ORDER

Therefore, the California Energy Commission **GRANTS** the Santa Clara SC-1 Data Center Phase 2 project a Small Power Plant Exemption from the Application for Certification provisions of the Commission's power plant licensing process. (Pub. Resources Code § 25541.)

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on March 28, 2012.

AYE: Weisenmiller, Douglas, Peterman
NAY:
ABSENT:
ABSTAIN:

Dated: March 28, 2012, at Sacramento, California.

Original Signed By:
Harriet Kallemeyn
Secretariat
California Energy Commission

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APPLICATION FOR SMALL POWER PLANT EXEMPTION FOR THE SANTA CLARA SC-1 DATA CENTER PHASE 2 PROJECT	**DOCKET NO. 11-SPPE-01**

DECISION

I. INTRODUCTION

On November 18, 2011, Xeres Ventures, L.L.C., (Applicant) submitted an Application for a Small Power Plant Exemption (SPPE) to the California Energy Commission (Exhibit 1). The Commission appointed a Committee composed of Commissioner Karen Douglas, Presiding, and Commissioner Carla Peterman, Associate, to conduct proceedings on the SPPE Application and to prepare a proposed decision for consideration by the full Commission. (Title 20, California Code of Regulations, § 1944 et seq.)

The Commission has exclusive jurisdiction to certify all sites and related facilities for thermal power plants that generate 50 megawatt (MW) or more within California. (Warren-Alquist Act, Pub. Resources Code § 25000 et seq.) Section 25541 of the Warren-Alquist Act allows the Commission to exempt power plants up to 100 MW from the site certification process[1] if it finds that the construction or operation of the proposed facility will not cause a substantial adverse impact on the environment or energy resources. (Pub. Resources Code § 25541.)

Section 25519(c) of the Act provides that the Commission shall serve as the Lead Agency under the California Environmental Quality Act (CEQA; Pub. Resources Code § 21000 et seq.) for projects subject to California Energy Commission jurisdiction. (Pub. Resources Code § 25519(c).) Accordingly, Santa

[1] Although an SPPE exempts the Santa Clara SC-1 Data Center from the Commission's site certification process, the project must comply with the requirements of other permitting agencies. Moreover, the Commission retains jurisdiction over the power plant and any changes in the design and/or operation of the power plant must be submitted to the Commission for approval. (Pub. Resources Code § 25500 et seq.)

Clara SC-1 Data Center Phase 2 must comply with the substantive requirements of CEQA in order to qualify for an SPPE.

II. PROCEDURAL HISTORY

The second phase of the project is an integrated element of the Santa Clara SC-1 Data Center, Phase 1. In February 2008, the city of Santa Clara completed the Initial Study for the Data Center (Exhibit 2). On February 6, 2008, the city published its Notice of Intent to Adopt a Mitigated Negative Declaration for the Data Center (Exhibit 3). On March 5, 2008, the city adopted the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (MND) (Exhibit 4). The city of Santa Clara served as the CEQA Lead Agency in preparing the MND on the first phase of the Santa Clara SC-1 Data Center. Phase 1 was constructed and began commercial operations in September of 2011. (Ex. 1, p. 5.) As a condition of the Bay Area Air Quality Management District's (BAAQMD) Authority to Construct (ATC) for the Santa Clara SC-1 Data Center facility, the Energy Commission must exempt the project, including the addition of the Phase 2 portion of the facility, from its exclusive jurisdiction or certify the project (Ex. 5, p. 5). On November 18, 2011, Xeres Ventures, L.L.C. submitted an application for an SPPE to the California Energy Commission. (Exhibit 1.) The Energy Commission serves as Lead Agency for purposes of evaluating the second phase of the Santa Clara SC-1 Data Center and the California Energy Commission Staff (Staff) serves as an independent party. (Pub. Resources Code § 25519(c); Cal. Code Regs., tit. 20, § 1712.5.)

On January 26, 2012, the Committee conducted a public informational hearing on Phase 2 of the Santa Clara SC-1 Data Center and a public site visit. Members of the public were present at the hearing but none offered public comment at that time. (1/26/12 RT 39:12-13.) On February 1, 2012, Staff issued a proposed Negative Declaration and its Initial Study in accordance with Section 15063 of the CEQA Guidelines. (Cal. Code Regs., tit. 14, § 15000 et seq.) (Exs. 207; 208; 210.) The twenty-day public comment period on the Initial Study ended on February 21, 2012. (Cal. Code Regs., tit. 14, § 15073(a).) No comments were received.

Section 15162(b) of the CEQA Guidelines allows a Lead Agency to use an earlier negative declaration prepared in connection with the project, if the circumstances change after adoption of the negative declaration. (Cal. Codes Regs., tit. 14, § 15162(b).) Additionally, a Lead Agency may incorporate a previously adopted negative declaration by reference and the incorporated language is considered to

be set forth in full as part of the text of the new Environmental Impact Report (EIR) or Negative Declaration. (Cal. Code Regs., tit. 14, § 15150.) After the city of Santa Clara adopted the MND, BAAQMD issued an ATC for the entire project on July 15, 2010, which required either an exemption or certification from the California Energy Commission prior to installation of backup generators. (Ex. 5, p. 5.)

Staff's Initial Study incorporates by reference the environmental analysis from the city of Santa Clara's mitigated negative declaration and the BAAQMD ATC that apply directly to the Santa Clara SC-1 Data Center, Phase 2. (Ex. 208, p. 4.) Although the scope of the Initial Study is limited to the second phase of the Santa Clara SC-1 Data Center, the Initial Study also incorporates sections of the mitigated negative declaration that are relevant to evaluating the potential cumulative impacts of the project. (Ex. 208, p. 5.)

Staff's Initial Study analyzes the Santa Clara SC-1 Data Center's potential environmental impacts and provides an independent basis for determining Phase 2's compliance with Section 25541(a) of the Warren-Alquist Act. Staff concludes that construction and operation of the project will not cause any substantial adverse environmental impacts. The Santa Clara MND and BAAQMD ATC contain a mitigation monitoring program that establishes how mitigation measures for the entire Santa Clara SC-1 Data Center will be implemented and enforced. (Ex. 208, p. 5.)

The Initial Study also includes an energy impacts analysis of the Santa Clara SC-1 Data Center, Phase 2. Staff concludes that the project will have no impacts to energy resources because it will have no transmission system engineering impacts on the local utility and will not have adverse impacts on local or regional energy supplies. (Ex. 208, pp. 90 - 95.)

On February 22, 2012, the Committee conducted a duly noticed evidentiary hearing on the Initial Study and the SPPE Application. At the evidentiary hearing, all parties, participating public agencies and members of the public had an opportunity to present testimony, evidence and comments on the Initial Study and the SPPE Application. The only parties to these proceedings were the Applicant and Energy Commission Staff. There were no intervenors and no evidence submitted to dispute the application or Staff's Initial Study. All evidence was received into the record by stipulation and no live testimony was submitted at the evidentiary hearing. (2/22/12 RT 6-10.) The record suggests that the

parties were in complete agreement. No members of the public offered comment at the evidentiary hearing. (2/22/12 RT 12-13.)

On March 9, 2012, the Committee issued a Proposed Decision expressly incorporating by reference the MND, ATC and Staff's Initial Study. The Committee found that Phase 2 of the Santa Clara SC-1 Data Center will not cause significant environmental or energy impacts. Therefore, the Proposed Decision recommended that the Commission grant an SPPE for Phase 2 of the Santa Clara SC-1 Data Center project.

On March 28, 2012, the full Commission held a public hearing on the Proposed Decision. Based upon our review of the Initial Study, the SPPE Application, the evidence received at the evidentiary hearing and comments submitted by other agencies, the Commission hereby adopts the Decision and grants a Small Power Plant Exemption for the Santa Clara SC-1 Data Center Phase 2 project. A copy of Staff's Initial Study and Mitigated Negative Declaration is attached hereto as Appendix B.

III. PROJECT DESCRIPTION

Ownership

The existing Santa Clara SC-1 Data Center is owned, built and operated by Xeres Ventures, L.L.C., a wholly-owned subsidiary of DuPont Fabros Technologies, LP. (Exs. 1, p. 5; 208, p. 12.) All references in this Decision to Xeres Ventures, L.L.C., also include its assigns and successors as potential project owners.

Location

The Data Center is an approximately 312,000 square foot building on a 16.1-acre site located on the north side of Reed Street, west of De La Cruz Boulevard, in the city and county of Santa Clara, California. (Exs.1, p. 7; 208, p. 19; 210.) The parcels are identified as 535-555 Reed Street and 500-520 Mathew Street. (Ex. 2, p. 6.) The zoning of the entire site is MH – Heavy Industrial. (Exs. 1, p. 53; 208, p. 22.)

Power Plant and Related Facilities

The second phase of the Santa Clara SC-1 Data Center consists of 16 new diesel-fueled backup generators at the Data Center in addition to the existing 16 backup generators installed in Phase 1. Each engine-generator consists of a Detroit Diesel MTU Model 16V4000G83 engine that produces 3353 brake horsepower to produce 2250 kW of electricity from the generator output terminals. Each engine-generator will be equipped with selective catalytic reduction air emission control technology. Phase 2 will also add four additional 2-cell cooling towers, a second 500,000 gallon chilled-water storage tank, chillers and ancillary equipment, and two 1.75 million British thermal unit per hour natural gas-fired boilers for building heat. A 3-bay substation that provides primary clean electrical energy from the Silicon Valley Power (SVP) grid system for the entire data center (Phase 1 and 2) has been constructed. The backup generators for the data center are not connected to feed power to the grid, but have sensors to solely detect potentially damaging fluctuations or electrical power disruptions to the data center, which then triggers a switch reliance on backup generation. The second Phase of the Santa Clara SC-1 Data Center will also require finishing interior construction to the north half of the 312,000 square-foot Data Center located on a 16.1 acre parcel. (Exs. 1, p. 18; 208, pp. 12, 21.)

The backup generators will be allowed to run for short periods for testing and maintenance purposes but, otherwise, will not operate unless there is a disturbance or interruption of the electrical utility supply. Protective functions are installed at the points of interconnection with the SVP which prevent power flowing from the Santa Clara SC-1 Data Center into the SVP system. The project will not utilize the backup emergency generators to dispatch or sell power to any other party. (Ex. 208, pp. 90 - 91.)

The project description contained in section five, beginning at page 16 of Staff's attached Initial Study, is incorporated by reference as if stated verbatim in full herein.

IV. INITIAL STUDY

As stated above, Staff's analysis of the project is contained in the Initial Study which incorporates by reference the city of Santa Clara's MND and the BAAQMD's ATC for the Santa Clara SC-1 Data Center. (Ex. 208, p. 4.) The Initial Study includes the following information in accordance with the requirements of Section 15063(d) of the CEQA Guidelines:

1. A description of the project including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4. A discussion of the ways to mitigate the significant effects identified, if any;
5. An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
6. The name of the person or persons who prepared or participated in the Initial Study.

Staff reviewed all potential environmental effects of the Santa Clara SC-1 Data Center Phase 2 project, including any cumulative impacts resulting from its installation and operation. Based on the information and mitigation measures identified in the SPPE Application, the city of Santa Clara's MND for the Santa Clara SC-1 Data Center and the BAAQMD's ATC, Staff found that no additional mitigation measures for the Santa Clara SC-1 Data Center are necessary. Accordingly, Staff concluded that proper implementation of the mitigation measures described in the city of Santa Clara's MND and BAAQMD's ATC ensure that impacts associated with the project are reduced to insignificance. (Ex. 208, p. 11.)

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Staff's Summary of Conclusions:
Environmental and Energy Resources Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ENVIRONMENTAL				
Aesthetics			X	
Agriculture and Forest				X
Air Quality			X	
Public Health			X	
Biological Resources			X	
Cultural Resources				X
Geology and Soils			X	
Green House Gas Emissions			X	
Transmission Line Safety & Nuisance			X	
Hazardous Materials			X	
Hydrology and Water Quality				X
Land Use and Planning				X
Mineral Resources				X
Noise			X	
Population and Housing			X	
Public Services				X
Recreation			X	
Transportation and Traffic			X	
Utilities and Services				X
Waste Management			X	
Environmental Justice				X
ENGINEERING				
Transmission System Engineering				X
Energy Resources				X
Mandatory Findings of Significance			X	

(Ex. 208, p. 11.)

The city of Santa Clara's MND for the Santa Clara SC-1 Data Center found no significant and unavoidable environmental impacts from the Santa Clara SC-1 Data Center as a whole, but required mitigation in the areas of air quality, biological resources, cultural resources, water resources, hazardous materials management, noise and visual resources to reduce impacts below significance. Since the Commission must find that no substantial adverse impacts will result from the Santa Clara SC-1 Data Center, Phase 2, Staff independently reviewed

whether the power plant could cause or contribute to significant and unavoidable impacts to aesthetics, agriculture and forestry, air quality, public health, biological resources, cultural resources, geology and soils, green house gas emissions, transmission line safety and nuisance, hazardous material, hydrology and water quality, land use, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, utilities and services, waste management or energy resources. Staff concluded that no additional mitigation and Conditions of Exemption should be required because the Santa Clara SC-1 Data Center will not cause or contribute to any significant direct, indirect or cumulative impacts to public health, safety, energy resources or the environment. (Ex. 208, p. 11, et seq.)

Mitigation measures required by the city of Santa Clara's MND include dust suppression measures during project construction (Ex. 2, pp. 20 - 21), measures to avoid possible impacts to tree nesting raptors during construction (Ex. 2, pp. 24 - 25), measures to reduce possible impacts to cultural resources associated with construction grading and excavation (Ex. 2, pp. 32 - 34), measures addressing excavation and proper handling of contaminated soil materials under the site (Ex. 2, pp. 42 - 43), mitigation measures to reduce water quality impacts as well as flooding impacts, drainage impacts, wastewater flows and possible future impacts to sanitary sewer level of service (Ex. 2, pp. 47 - 48, 68). The MND contains mitigation measures to avoid impacts to air quality, including requiring each Detroit Diesel engine generator to be Tier 2 compliant (low-NO_X); have selective catalytic reduction (SCR) units installed; use ultra-low sulfur diesel fuel and be maintained in good condition in compliance with the manufacturer's specifications and all State and Federal requirements. (Ex. 2, p. 19.)

Mitigation measures required by the BAAQMD's ATC include limiting the operation of each engine strictly for the purpose of mitigating emergency conditions, emissions testing (including initial startup testing and commissioning), or reliability-related activities maintenance. The Santa Clara SC-1 Data Center may not operate each engine more than 50 hours for reliability related activities in any consecutive 12-month period and combined reliability-related operation for all 32 engines may not exceed 700 hours in any consecutive 12-month period. No more than 16 engines may be operated at one time for initial startup testing and commissioning purposes, and only one engine may be operated at a time for emissions testing. A totalizing meter that measures and records the hours of operation for each engine must be installed, operated and properly maintained. (Ex. 2, pp. 2 - 6.)

Like the MND, BAAQMD's ATC also requires each engine to be equipped with a properly maintained SCR system to abate nitrogen oxides (NO_X) and limits NO_X emissions to no more than 46 ppmv which ensures emissions will not exceed 93.5 tons per year. The ATC also requires that only California Air Resources Board-certified diesel fuel with sulfur content not exceeding 0.0015 percent by weight (15 ppmw) be used. The BAAQMD's ATC requires the project owner to maintain operating records in a District-approved log for at least 60 months. (Ex. 5, pp. 2 – 6.)

Staff determined that, given the mitigation measures which are already in place, the Santa Clara SC-1 Data Center Phase 2 project will not cause substantial environmental impacts. Accordingly, the initial study concluded that the project complies with the requirements of Public Resources Code section 25541(a). (Ex. 208, p. 95.)

V. POTENTIAL ENVIRONMENTAL IMPACTS

No areas have been identified in the Environmental Checklist portions of the Final Initial Study as having the potential for significant environmental impacts. The undisputed evidence demonstrates that the Santa Clara SC-1 Data Center, Phase 2 will not cause substantial environmental impacts.

VI. POTENTIAL ENERGY IMPACTS

The Initial Study contains a discussion of the Santa Clara SC-1 Data Center Phase 2 project's potential impacts upon the SVP system. The record is clear that the project will not export electricity onto the grid. Staff concluded that the project will have no impacts on transmission system capacity or reliability, nor will it have transmission system engineering impacts on the local utility or adverse impacts on local or regional energy supplies. (Ex. 208, pp. 90 – 93.) The undisputed evidence demonstrates that the Santa Clara SC-1 Data Center, Phase 2 will not cause substantial impacts to energy resources.

VII. FINDINGS AND CONCLUSIONS

This Decision was prepared in accordance with the public review process mandated by the Warren-Alquist Act and Commission regulations which incorporate the requirements of the California Environmental Quality Act. Therefore, the Commission certifies that the Initial Study, the Negative Declaration and the associated environmental documentation that constitutes the evidentiary record in this Small Power Exemption Plant proceeding, meet the

requirements of the Warren-Alquist Act, the California Environmental Quality Act and other applicable laws and regulations.

Based upon the evidence contained in the record and provided Xeres Ventures, L.L.C. (its assigns and successors) complies with the mitigation measures imposed upon the project by the city of Santa Clara and the BAAQMD (incorporated by reference), the California Energy Commission finds:

1. The Santa Clara SC-1 Data Center Phase 2 will cause no significant environmental impacts or adverse impacts to energy resources.
2. The Santa Clara SC-1 Data Center Phase 2 project is eligible for a Small Power Plant Exemption under Public Resources Code section 25541.
3. The Negative Declaration and Final Initial Study were prepared in compliance with the California Environmental Quality Act and all applicable State and Commission Guidelines.

We therefore **GRANT** the Santa Clara SC-1 Data Center Phase 2 project a Small Power Plant Exemption from the Application for Certification provisions of the Commission's power plant licensing process.

SO ORDERED.

APPENDIX A

EXHIBIT LIST

Project Name: **Application for Small Power Plant Exemption for the Santa Clara SC-1 Data Center Phase 2; Docket No. 11-SPPE-01**

EXHIBIT LIST

Exhibit	Brief Description	Offered	Admitted
APPLICANT'S EXHIBITS			
1	Application for Small Power Plant Exemption (Nov. 21, 2011)		
2	Application Appendix A: Initial Study, Santa Clara SC-1 Data Center (Feb. 2008)		
3	Application Appendix B: City of Santa Clara Notice of Mitigated Negative Declaration (Feb. 6, 2008)		
4	Application Appendix C: City of Santa Clara Adoption of Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (Mar. 5, 2008)		
5	Application Appendix D: Bay Area Air Quality Management District Authority to Construct for Permit Application No. 17020, Plant No. 18801 (July 15, 2010)		
6	Application Appendix E: Bay Area Air Quality Management District Authority Addendum to Mitigated Negative Declaration (June 15, 2010)		
7	Application Appendix F: Letter from Arlene L. Ichien & Melissa Jones to Mr. W. Tate Cantrell, Jr. (Apr. 21, 2008)		
8	Application Appendix G: EPA Memorandum re: Guidance Concerning the Implementation of the I-hour N02 NAAQS for the Prevention of Significant Deterioration Program (June 29, 2010)		
9	Application Appendix H: EPA Memorandum re: Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quality Standard (Mar. 1, 2011)		
10	Application Appendix I: Bay Area Air Quality Management District Authority, Engineering Evaluation Report (Jul. 7, 2010)		
11	Application Appendix J: Site Plan of Phase 1 of Xeres Data Center (undated / 2007)		

12	Application Appendix K: Landscape Plans – Xeres Data Center (2010)		
13	Application Appendix L: Geotechnical Observations (2011)		
14	Application Appendix M: Soil Stockpile Testing Results (2010-2011)		
15	Application Appendix N: FAA Height Determination		
16	Application Appendix O: GHG Memorandum		
17	Application Appendix P: Permit Inspection for Refrigeration Units using R123		
18	Application Appendix Q: Silicon Valley Power Interconnection Materials		

COMMISSION STAFF'S EXHIBITS 200-299			
200	Xeres Ventures LLC, Santa Clara SC-1 Application for an SPPE–2 Vols. TN:62957		
201	City of Santa Clara: Initial Study for SC-1– as Appendix A in Vol.2 above		
202	City of Santa Clara: Mitigated Negative Declaration for SC-1– as Appendix B in Vol.2 above		
203	City of Santa Clara: Adoption of Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for SC-1– as Appendix C in Vol.2 above		
204	Bay Area Air Quality Management District Authority to Construct for Permit Application No. 1702, Plant No. 18801 (July 15, 2010). – as Appendix D in Vol.2 above.		
205	Addendum to Mitigatied Negative Declaration for SC-1. June 15, 2010, – as Appendix E in Vol.2 above.		
206	Xeres Ventures, LLC: Supplemental Informal Data Responses-Air Quality, and Visible Plume and Plume Velocity Information. TN:62975		
207	Staff's Notice of Intent to Adopt a Negative Declaration for Santa Clara SC-1. Filed on 2/1/12. TN:63497		
208	Staff's Initial Study and Negative Declaration Recommendation for Santa Clara SC-1. Filed 2/1/12. TN:63496		
209	Email dated 2/1/12: Nora Monette to R. Worl: Supplemental Cooling Tower Information. TN:63602		
210	Staff Errata for the Initial Study and Negative Declaration Recommendation		
211	Declaration of Rick York dated 2/22/12		
212	2/21/12 Memorandum to the Committee from Robert Worl re: suggested findings		

APPENDIX B

STAFF'S INITIAL STUDY

NEGATIVE DECLARATION AND ERRATA

XERES VENTURES LLC, SANTA CLARA SC-1 DATA CENTER

Small Power Plant Exemption

Initial Study and Negative Declaration Recommendation

DOCKET
11-SPPE-01
DATE
RECD. FEB 01 2012

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown Jr., Governor

FEBRUARY 2012
CEC-700-2012-001

DOCKET NUMBER 11-SPPE-1

CALIFORNIA
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DISCLAIMER

Staff members of the California Energy Commission prepared this report. As such, it does not necessarily represent the views of the Energy Commission, its employees, or the State of California. The Energy Commission, the State of California, its employees, contractors and subcontractors make no warrant, express or implied, and assume no legal liability for the information in this report; nor does any part represent that the uses of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Energy Commission nor has the Commission passed upon the accuracy or adequacy of the information in this report

XERES VENTURES LLC, SANTA CLARA SC-1 DATA CENTER
11-SPPE-O1

SMALL POWER PLANT EXEMPTION

INITIAL STUDY AND NEGATIVE DECLARATION RECOMMENDATION

CALIFORNIA ENERGY COMMISSION

SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

1516 NINTH STREET
SACRAMENTO, CALIFORNIA 95814

FEBRUARY 1, 2012

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CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET, MS-4

SACRAMENTO, CALIFORNIA 95814

STAFF PROPOSED

NEGATIVE DECLARATION

FOR

XERES VENTURES LLC, SANTA CLARA SC-1 DATA CENTER

11-SPPE-02

FEBRUARY, 2012

PROPOSED NEGATIVE DECLARATION

PROJECT:

California Energy Commission, Small Power Plant Exemption: Santa Clara SC-1 Data Center Phase 2 (11-SPPE-01); located at 555 Reed Street, Santa Clara, California.

LEAD AGENCY:

California Energy Commission, Siting, Transmission and Environmental Protection Division
1516 9th Street, MS-15, Sacramento, California 95814

AVAILABILITY OF DOCUMENTS:

- The Xeres Ventures, LLC, Small Power Plant Exemption Application (11-SPPE-01) for the Santa Clara SC-1 Data Center-Phase 2— 2 Volumes, November 21, 2011;
- The City of Santa Clara 2008 Initial Study—filed February, 2008--(see Appendix A of the Small Power Plant Exemption (11-SPPE-01) application);
- The City of Santa Clara Notice of Mitigated Negative Declaration and Notice of Adoption—filed February 6,2008, and March 5, 2008 respectively--(see Appendix B of the Small Power Plant Exemption application (11-SPPE-01));
- The Bay Area Air Quality Management District Authority to Construct, and ATC Addendum to the Mitigated Negative Declaration for Authority to Construct Application No. 17020, Plant No. 18801—June and July of 2010 respectively (as Appendix B of the Small Power Plant Exemption application (11-SPPE-01));
- Additional information provided by the applicant at Energy Commission staff request—filed December, 2011, and January, 2012 (11-SPPE-01);

All documents are available at the project's page on the Energy Commission Website below: http://www.energy.ca.gov/sitingcases/santaclara/index.html.

These documents are considered appended to the Energy Commission's analysis, and are incorporated in this Energy Commission staff Initial Study by reference.

A separately-titled REFERENCE Section containing Docketed References for this project with appropriate transaction numbers corresponding to the Energy Commission Docket recording system for the Xeres Ventures LLC, Santa Clara SC-1 Data Center, Small Power Plant Exemption (11-SPPE-01) proceeding appears at the end of this Initial Study.

BRIEF PROJECT DESCRIPTION:

THE PROPOSED PROJECT:
The Xeres Ventures, LLC (Xeres), Santa Clara SC-1 Data Center, located at the at 555 Reed Street, Santa Clara, California, in an industrial section of the city, plans to complete the build-out of the facility as follows:

Xeres proposes to install 16 additional diesel-fueled backup generators (numbers S17-32) at the Data Center in addition to the existing 16 already-installed backup generators (numbers S1-16), adding four additional 2-cell cooling towers, a second 500,000 gallon chilled-water storage tank, chillers and ancillary equipment, two 1.75 million British thermal unit per hour (mmbtu/hour) natural gas-fired boilers for building heat, and completing interior construction to the north half of the 312,000 square-foot Data Center located on a 16.1 acre parcel. The project is in an area zoned MH-Heavy Industrial, and with the General Plan Designation of Heavy Industrial

FINDINGS:

[Summarize the conclusions of the analysis and list the findings, including any required mitigation measures. State where to send comments.]

Energy Commission staff has completed an independent review of the Xeres Ventures LLC, Santa Clara SC-1 Data Center Project, described above (Proposed Project). Staff finds that no significant direct or indirect impacts will derive from the build out of the Phase 2 project or cumulatively from the completed project. Energy Commission staff find that continued compliance with the mitigation measures, monitoring and reporting requirements detailed in the City of Santa Clara Initial Study and Mitigated Negative Declaration are sufficient to insure that there will be no significant impacts from the construction of Phase 2, and the operation of the completed Data Center.

Energy Commission staff have also performed updated analyses for environmental justice impacts, potential biological impacts associated with nitrogen deposition, thermal plumes, ground-hugging plumes, impacts to energy resources of the state, and impacts to the electrical grid system of the region and state.

No significant impacts were found in any of these areas associated with the current project, and the completion of the proposed Phase 2 project as described above.

ABBREVIATIONS AND ACRONYMS

BAAQMD:	Bay Area Air Quality Management District
CEQA:	California Environmental Quality Act
IS:	Initial Study
MND:	Mitigated Negative Declaration
MW:	Megawatt, one thousand watts
ND:	Negative Declaration
SPPE:	Small Power Plant Exemption

EXECUTIVE SUMMARY

Robert Worl

INTRODUCTION

The Initial Study (IS) contains the California Energy Commission (Energy Commission) staff's evaluation of the Xeres Ventures LLC, (Xeres) Santa Clara SC-1 Data Center, Phase 2, (Data Center), Application for a Small Power Plant Exemption (SPPE).

The Energy Commission has the exclusive authority to certify all sites and related facilities for thermal electrical power plants of 50 megawatts (MW) or larger within the state. A provision of the Warren-Alquist Act allows the Energy Commission to exempt power plants not exceeding 100 MW from the site certification process if it finds that no substantial adverse impact on the environment or energy resources would result from the construction or operation of the proposed facility (Pub. Resources Code § 25541). Under this exemption process, the Energy Commission prepares the environmental document that would be used by local and state agencies that issue the necessary permits.

In this IS staff examined potential impacts on the environment, energy resources, public health and safety, and transmission system engineering aspects of the Santa Clara SC-1 Data Center. Energy Commission staff has presented conclusions stating that the proposed project will not have direct or cumulative impacts and that the conditions, monitoring and reporting requirements contained in the City of Santa Clara Initial Study and Mitigated Negative Declaration and the associated Mitigation Monitoring and Reporting Program, adopted on March 5, 2008, and in the Bay Area Air Quality Management District's Authority to Construct, and addendum dated June 15 and July 15, 2010, which also analyzed the entire project, contains all the mitigation, reporting and monitoring requirements that are necessary to mitigate or avoid significant adverse environmental impacts of the complete proposed facility, if exempted.

BACKGROUND

On November 21, 2011, Xeres Ventures, L.L.C., (Xeres) submitted an application for a Small Power Plant Exemption (SPPE) to the Energy Commission which details its proposal to complete construction and to operate the Santa Clara SC-1 Data Center, (Data Center), at 555 Reed Street, Santa Clara, California. The Small Power Plant Exemption (SPPE) review process provides the public forum for the Energy Commission's independent evaluation of the project's eligibility for an exemption under Public Resources Code section 25541. The Data Center is located in an industrial area in the city of Santa Clara. The City of Santa Clara completed its initial study process and issued a Mitigated Negative Declaration for Phase 1 and Phase 2 of the project in 2008. Phase 1 of the Data Center has been constructed and began commercial operation in September of 2011. The current review by the Energy Commission considers the entire Data Center project, Phases 1 and 2, with the Phase 2 project as the trigger for analysis as it adds 16 additional backup generators, totaling 32

generators capable of 2.25 megawatts each, bringing total generation capacity of the backup system to 72 megawatts of installed capacity.

The analyses contained in this Initial Study are based upon information from:
1. The SPPE application for the Xeres Ventures LLC, Santa Clara SC-1 Data Center;
2. The applicant's supplemental information;
3. Various documents and publications listed at the end of each section;
4. A public meeting and site visit;
5. An Evidentiary Hearing;
6. Staff's independent investigations and analyses published as the Initial Study.

Energy Commission staff, the Public Adviser's Office and the Committee assigned to the case have made a substantial effort to notify interested parties and encourage public participation in the Data Center SPPE review process. For a detailed list of the procedural steps taken to insure that interested parties, property owners and agencies have had an opportunity to participate and offer comments, please see the summary in the Review Process section of the Introduction to this Initial Study.

STAFF'S INITIAL STUDY ASSESSMENT

Each technical section of the Initial Study contains a discussion of impacts. Staff did not identify any significant impacts of the project that were not addressed in the City of Santa Clara Initial Study and therefore has not presented additional Conditions of Exemption that would be required to mitigate Phase 2 of the proposed Data Center. The Initial Study includes staff's discussion of:

- The environmental setting surrounding the project area;
- Potentially significant and adverse impacts to public health and safety; and
- Potentially significant and adverse environmental impacts.
- Potential Environmental Justice Impacts.

ENVIRONMENTAL JUSTICE

California law defines environmental justice as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Government Code Section 65040.12 and Public Resources Code Section 72000).

All Departments, Boards, Commissions, Conservancies and Special Programs of the Resources Agency must consider environmental justice in their decision-making process if their actions have an impact on the environment, environmental laws, or policies. Such actions that require environmental justice consideration may include:

- Adopting regulations;
- Enforcing environmental laws or regulations;

- Making discretionary decisions of taking actions that affect the environment;
- Providing funding for activities affecting the environment; and
- Interacting with the public on environmental issues

In considering environmental justice in energy facility siting cases, staff uses a demographic screening analysis to determine whether a low-income and/or minority population exists within the potentially affected area of the proposed site. The demographic screening is based on information contained in two documents: *Environmental Justice: Guidance Under the National Environmental Policy Act* (Council on Environmental Quality, December, 1997) and *Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses* (U.S. Environmental Protection Agency, April, 1998). Due to the change in the sources and methods of collection used by the U.S. Census Bureau, the screening process relies on Year 2010 U.S. Census data to determine the number of minority populations and data from the 2005-2009 ACS to calculate the population below-poverty-level.

Environmental Justice: Guidance Under the National Environmental Policy Act, defines minority individuals as members of the following groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. A minority population is identified when the minority population of the potentially affected area is (1) greater than 50 percent; or (2) or when one or more U.S. Census blocks in the potentially affected area have a minority population of greater than 50 percent.

In addition to the demographic screening analysis, staff follows the steps recommended by the U.S. EPA's guidance documents which are: outreach and involvement; and if warranted, a detailed examination of the distribution of impacts on segments of the population.

Staff has followed each of the above steps for the following 11 sections in the Initial Study for the Xeres Ventures LLC, Santa Clara SC-1 Data Center: Air Quality, Hazardous Materials, Land Use, Noise, Public Health, Socioeconomics, Soils and Water, Traffic and Transportation, Transmission Line Safety/Nuisance, Visual Resources, and Waste Management. Over the course of the analysis for each of the 11 areas, staff considered potential impacts and mitigation measures and whether there would be a significant impact on an environmental justice population.

ENVIRONMENTAL JUSTICE STAFF FINDINGS:

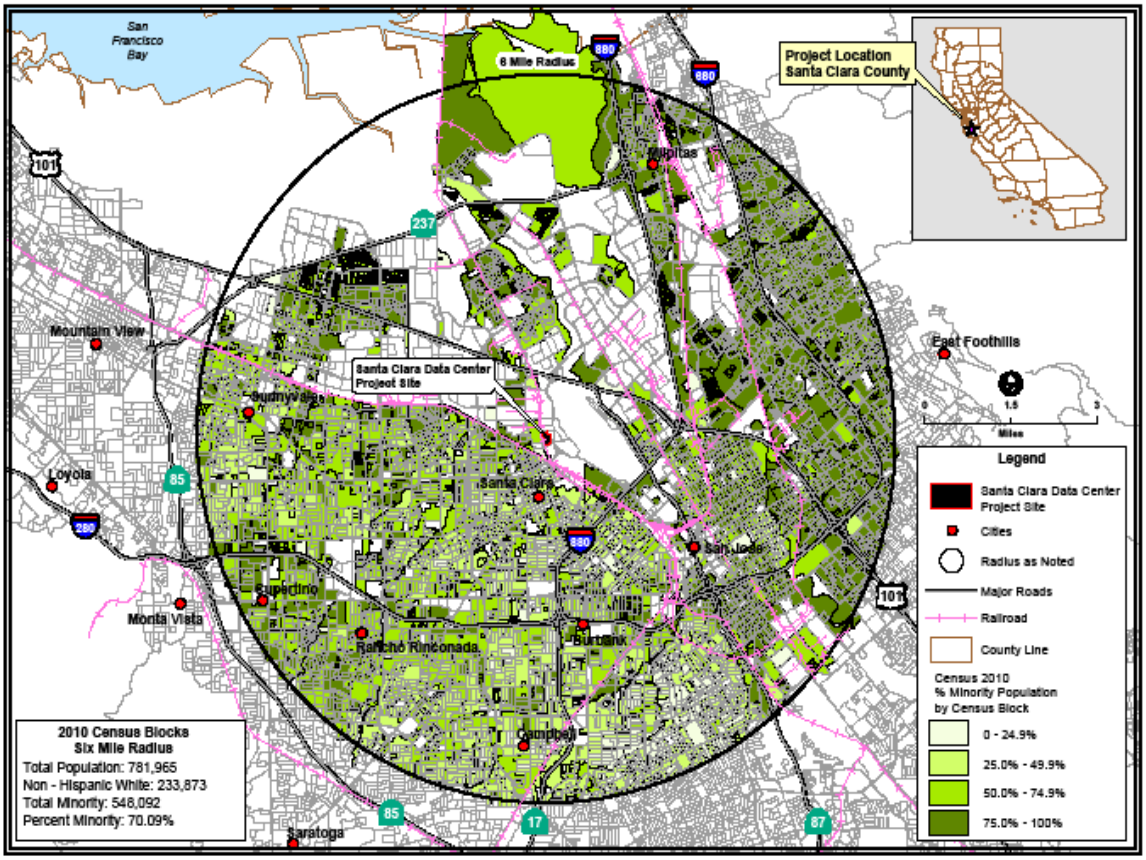
As a result of staff's analysis that determined there are no significant impacts in any of the 11 technical areas reviewed for environmental justice impacts, staff determined there are no environmental justice issues for the proposed Xeres Ventures LLC, Santa Clara SC-1 Data Center located at 555 Reed Street, in Santa Clara, California.

Additionally staff identified the following economic benefits from the project: capital costs; construction and operation payroll; property taxes, sales taxes; and school impact fees.

See **Socioeconomics Figure 1**, below, for a detailed map of the project vicinity:

SOCIOECONOMICS - FIGURE 1

Santa Clara SC-1 Data Center - Census 2010 - Minority Population by Census Block - Six Mile Radius



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: David J. Powers & Associates, ESRI and Multinet - Census 2010 PL 94-171 Data

SUMMARY OF INITIAL STUDY CONCLUSIONS

The following table presents a summary of staff's analysis of the potential impacts of the Xeres Ventures LLC, Santa Clara SC-1 Data Center. Staff has concluded that with the mitigation measures proposed by the applicant and the mitigation, monitoring and reporting requirements of the City of Santa Clara's Initial Study and Mitigated Negative Declaration, the continuation of which is recommended herein, the Xeres Ventures LLC, Santa Clara SC-1 Data Center Project Phase 1 and Phase 2, will not result in any significant direct, indirect or cumulative impacts to public health, safety, energy resources or the environment.

Summary of Conclusions: Environmental and Energy Resources Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ENVIRONMENTAL				
Aesthetics			X	
Agriculture and Forest				X
Air Quality			X	
Public Health			X	
Biological Resources			X	
Cultural Resources				X
Geology and Soils			X	
Green House Gas Emissions			X	
Transmission Line Safety & Nuisance			X	
Hazardous Materials			X	
Hydrology and Water Quality				X
Land Use and Planning				X
Mineral Resources				X
Noise			X	
Population and Housing			X	
Public Services				X
Recreation			X	
Transportation and Traffic			X	
Utilities and Services				X
Waste Management			X	
Environmental Justice				X
ENGINEERING				
Transmission System Engineering				X
Energy Resources				X
Mandatory Findings of Significance			X	

1 INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

Xeres Ventures, LLC, a wholly-owned subsidiary of DuPont Fabros Technologies, LP, (Xeres or applicant) filed a request for a Small Power Plant Exemption (SPPE) with the California Energy Commission (Energy Commission) on November 21, 2011. The proposed project is Phase 2 of an operating data center located at 555 Reed Street, Santa Clara, California, in the county of Santa Clara; the Santa Clara SC-1 Data Center, (data center). Phase 2, evaluated in this process consists of adding an additional set of 16 diesel-fired backup generators, numbers 17 through 32, to be added to the facility for a total of 32 diesel-fired backup generators, upon the Energy Commission completing its evaluation and determination.

The Santa Clara SC-1 Data Center (data center) was initially permitted by the City of Santa Clara through a Mitigated Negative Declaration in March of 2008, and Phase 1 of the project was built and began commercial operation in September of 2010. Due to the planned backup generator system which includes 32 generators capable of producing 72 megawatts (MW) of gross electrical capacity, the project was constructed in a 2-phase manner; Phase 1 consisted of the complete 312,000 square foot facility which includes the external shell and completed floors and the penthouse for the Phase 2 generators, the slab for the second chilled water tank, the four underground 50,000 gallon each diesel fuel tanks, a 500,000 gallon chilled water storage tank, chillers and pumps for circulation to the phase 1 facility, a concrete-covered area from the facility's external walls to the back property fenceline, four 2-cell cooling towers to dissipate heat from the data center's chilled water cooling system, two natural gas-fired 1.75 million British thermal unit (Btu) boilers for phase 1 building heat as required to provide a controlled internal environment for the data center, and 16 backup generators . A 3-bay substation that provides primary clean electrical energy from the Silicon Valley Power (SVP) grid system for the entire data center (Phase 1 and 2) has been constructed. The backup generators for the data center are not connected to feed power to the grid, but solely to detect potentially damaging fluctuations or electrical power disruptions to the data center, which then triggers a switch reliance on backup generation. A data center serves contract clients who wish to house secure data servers in a central location. These servers require a very clean, steady-state electrical service in order to prevent equipment damage and data loss. Servers for customers are housed in discreet, custom-configured and secured access bays within the data center.

The Santa Clara SC-1 Data Center, Phase 2, evaluated as part of this SPPE process, will consist of installing the second set of 16 diesel-fired backup generators, an additional 500,000 gallon chilled water storage tank, and completion of the Phase 2 interior walls, flooring and partitions.

California's Warren-Alquist Act (Pub. Resources Code § 25000 et seq.) gives the Energy Commission the exclusive authority to certify all sites and related facilities for thermal electrical power plants of 50-megawatts (MW) or more within the state (Pub. Resources Code § 25120 and 25500 et seq.). Section 25541 of the Warren-Alquist Act allows the Energy Commission to

exempt power plants not exceeding 100-MW from the site certification process if it finds that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed facility.

The proposed plant is also subject to the requirements of the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). Pub Resources Code section 25519 (c) states that the Energy Commission shall act as lead agency under CEQA for projects that it either certifies or exempts from certification. Staff has prepared this Initial Study in accordance with CEQA and Title 20, California Code of Regulations (CCR) sections 1934 et seq. and 2300 et seq.

STAFF ANALYSIS

Staff's environmental and engineering analyses in the Initial Study (IS) document are the factual basis for staff's recommendation regarding the project's potential to result in substantial adverse impacts on the environment, public health and energy resources.

Staff has included Conditions of Exemption in various technical areas, which if implemented along with the applicant's proposed mitigation measures, should ensure that the project would result in no substantial adverse impact. Staff has concluded that the adopted reporting or monitoring program designed to ensure compliance during project development and to avoid significant impacts and the need for mitigation that is defined in the Initial Study and Mitigated Negative Declaration by the City of Santa Clara, adopted on March 5, 2008, is sufficient to insure that no significant impacts from completion of Phase 2 of the Santa Clara SC-1 Data Center will result. As a result of the Informational Hearing held on January 26, 2012, in Santa Clara, discussions with local and state agencies, the public and additional evidence provided during review of the SPPE application in this proceeding, staff produced the Initial Study.

REVIEW PROCESS

The Energy Commission's assigned Committee (Committee) will conduct a hearing at which all parties will have an opportunity to comment on the IS and make recommendations on the SPPE application. The Committee will consider the application, staff's analysis, and any other evidence presented in the proceedings to determine whether to recommend granting the SPPE. Following the hearing, the Committee will prepare and publish a proposed decision. The full Commission will then hold a hearing for final comments and render a decision on the application for the SPPE.

Title 14, California Code of Regulations section 15063 (d) states that an Initial Study shall contain the following items:

- A description of the project including the location of the project;
- An identification of the environmental setting;
- An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;

- A discussion of the ways to mitigate the significant effects identified, if any;
- An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
- The name of the person or persons who prepared or participated in the Initial Study.

The Energy Commission has made a substantial effort to notify interested parties and encourage public participation. The Energy Commission has:

Mailed separate Notices of Receipt of the Application for Small Power Plant Exemption (SPPE) to interested parties, local libraries, responsible and trustee agencies, and contiguous property owners on November 30, 2011;

Mailed a Notice of Public Hearing and Site Visit on December 15, 2011, to responsible and trustee agencies, persons with property contiguous to the proposed project, and individuals that expressed interest;

Conducted an Informational Hearing and Site Visit on January 26, 2012 in Santa Clara, California;

Mailed Notices of Availability for the Initial Study and Notice of Intent to Issue a Negative Declaration to interested parties, local libraries, responsible and trustee agencies, and contiguous property owners on February 1, 2012;

Energy Commission staff has conducted an independent review of the Xeres Ventures LLC, Application for a Small Power Plant Exemption (11-SPPE-01) filed on November 21, 2011, the City of Santa Clara's Initial Study and Mitigated Negative Declaration, and the Bay Area Air Quality Management District's Authority to Construct and the limited Permit to Operate for the Xeres Ventures, LLC Santa Clara SC-1 Data Center per the regulations noted below and recommends the conclusions summarized in the Summary of Findings, Section 1.2, that follows.

Persuant to the exclusive authority of the State Energy Resources Conservation and Development Commission (Energy Commission) provided in Division 15 of the Public Resources Code, Chapter 6, Section 25500, the Energy Commission "…shall have the exclusive power to certify all sites and related facilities in the state, whether a new site and related facility or a change or addition to an existing facility" (Warren-Alquist Act and Related Statutes, p. 77). The process for securing an exemption from the Energy Commission's siting authority is stated at Section 25541 of this chapter: "The commission may exempt from this chapter thermal power plants with a generating capacity of up to 100 megawatts and modifications to existing generating facilities that do not add capacity in excess of 100 megawatts, if the commission finds that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed facility or from the modifications" (ibid, p. 104).

The Energy Commission's Rules of Practice and Procedure—Power Plant Site Certification and Designation of Transmission Corridor Zones (Regulations) codified in Title 20 of California

Code of Regulations, Chapter 5, Article 5, Sections 1934 through 1947 specify the procedures for a Small Power Plant Exemption from the Energy Commission facility siting process.

The City of Santa Clara and the Bay Area Air Quality Management District have completed their respective review processes and have provided the necessary and appropriate permits for the construction and operation of the Xeres Ventures, LLC, Santa Clara SC-1 Data Center. The City of Santa Clara completed an Initial Study and issued a Mitigated Negative Declaration for the project May 5, 2008.

The Bay Area Air Quality Management District issued an Authority to Construct (ATC) for the entire project on July 15, 2010, but the ATC requires, prior to installation of backup generators numbers S17-32, that the Energy Commission "…has granted a small power plant exemption relating to the Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2, per Section 25541 of the California Public Resources Code, approved an application for certification relating to the Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2, per Chapter 6 of Division 15 of the California Public Resources Code, or it has otherwise been determined that Sources [the diesel-fired backup generators 1-32] are not subject to the provisions of Chapter 6 of Division 15 of the California Public Resources Code."

The Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 1 was constructed and began commercial operations in September of 2010. To secure the air district's Permit to Operate for the Phase 2 facility the Energy Commission must exempt the project from its exclusive jurisdiction per the above regulations, On November 21, 2011, the applicant, Xeres Ventures LLC, submitted an application for a Small Power Plant Exemption to the Energy Commission. The exemption, if granted, would allow the applicant to secure the PTO from the BAAQMD and complete Phase 2, as described in the Project Description.

5. PROJECT DESCRIPTION

5.1 PROJECT LOCATION

The Santa Clara SC-1 Data Center is located at 555 Reed Street, Santa Clara, CA.

5.2 BACKGROUND AND PURPOSE

California Energy Commission, Initial Study for a Small Power Plant Exemption: Santa Clara SC-1 Data Center (11-SPPE-01) located at 555 Reed Street, Santa Clara, California

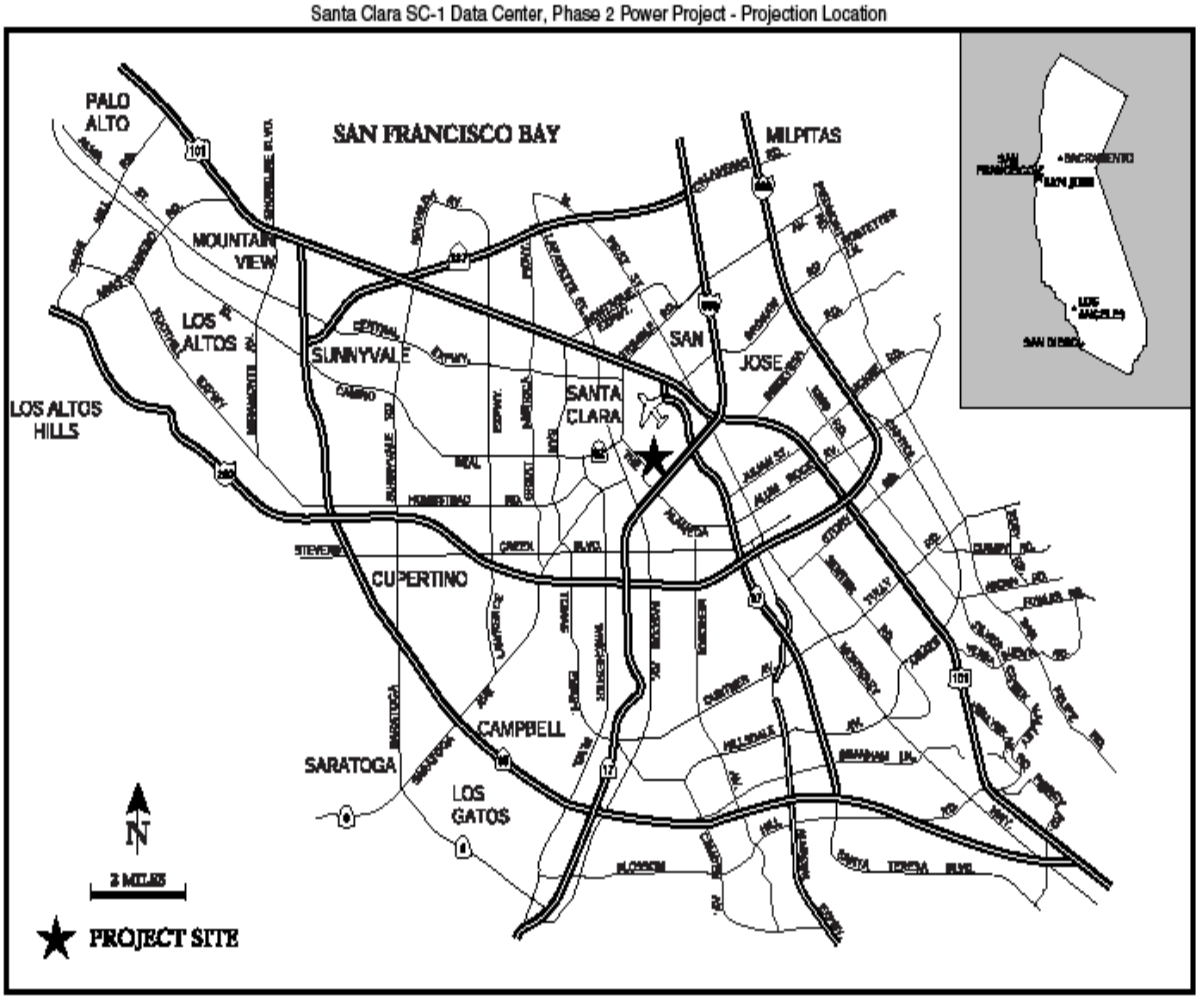
BACKGROUND AND SETTING:
On November 21, 2011, Xeres Ventures, L.L.C., (Xeres) submitted an application for a Small Power Plant Exemption (SPPE) to the Energy Commission which details its proposal to complete construction and to operate the Santa Clara SC-1 Data Center, (Data Center), at 555 Reed Street, Santa Clara, California. The Small Power Plant Exemption (SPPE) review process provides the public forum for the Energy Commission's independent evaluation of the project's eligibility for an exemption under Public Resources Code section 25541. The Data Center is located in an industrial area in the city of Santa Clara. The City of Santa Clara completed its initial study process and issued a Mitigated Negative Declaration for Phase 1 and Phase 2 of the project in 2008. Phase 1 of the Data Center has been constructed and began commercial operation in September of 2011. The current review by the Energy Commission considers the entire Data Center project, Phases 1 and 2, with the Phase 2 project as the trigger for analysis as it adds 16 additional backup generators, totaling 32 generators capable of 2.25 megawatts each, bringing total generation capacity of the backup system to 72 megawatts of installed capacity.

The project site is zoned MH-Heavy Industrial by the City of Santa Clara; data centers are allowed as an industrial use. The project is approximately 0.7 miles from the Norman Y. Mineta San Jose International Airport, and has been determined to comply with the Comprehensive Land Use Plan for the airport, adopted on May 25, 2011.

The following figures are illustrative of the location and setting of the Xeres Ventures, LLC, Santa Clara SC-1 Data Center. Phase 2, the subject of this analysis, is to be constructed in the northern wing of the already-constructed 131,000 Square-foot facility seen in the following figures**. Project Description Figure 1** illustrates the project’s location within the regional setting; **Figure 2** illustrates the project’s location on a Santa Clara street map; and **Project Description Figure 3** is an aerial photograph which illustrates the current facility, identifies the key features of Phase 1 already installed, and the north wing that will house the added Phase 2 features analyzed in this SPPE process.

PROJECT DESCRIPTION - FIGURE 1

Santa Clara SC-1 Data Center, Phase 2 Power Project - Projection Location



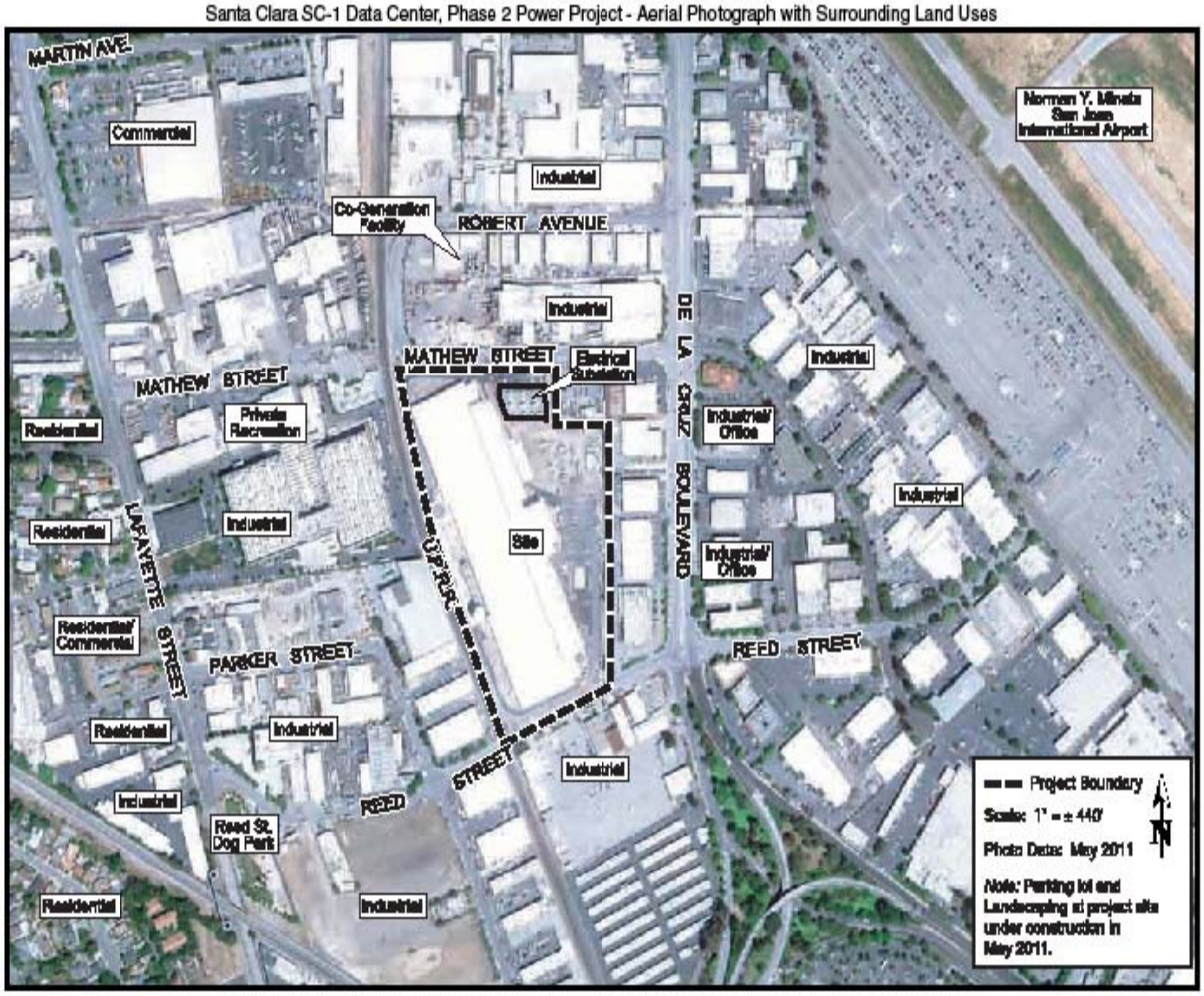
PROJECT DESCRIPTION

CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: SPPE November 2011, Fig. 2-1

PROJECT DESCRIPTION - FIGURE 2

Santa Clara SC-1 Data Center, Phase 2 Power Project - Aerial Photograph with Surrounding Land Uses



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SOURCE: SPPE November 2011, Fig. 2-3

PROJECT DESCRIPTION

PROJECT DESCRIPTION - FIGURE 3

Santa Clara SC-1 Data Center, Phase 2 Power Project - Oblique Photograph of Data Center - Looking North

PROJECT DESCRIPTION

CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: SPPE November 2011, Fig. 2-6

THE FACILITY:

The Data Center is an approximately 312,000 square foot building on a 16.1 acre site, housing computer servers and supporting equipment for private clients, as well as associated office uses, in an environmentally controlled structure. The Data Center is two stories and approximately 48 feet in height. Construction is complete on the foundations and exterior structure, a substation and associated switchgear. Phase 1 improvements in the southern half of the facility (currently in commercial operation since September of 2011) are complete and include: the second floor penthouse of Phase 1, a 51,550 square-foot penthouse enclosure for the first 16 (S1-16) backup generators and associated switchgear, and approximately 14,000 square-feet of office space, located in the central area of the facility, and in the southern Phase 1 wing. At the rear of the facility at ground level are the 500,000 gallon chilled water storage

tank and the four 2-cell cooling towers, each equipped with a variable speed fan, which are the means of dissipating heat from the chilled-water cooling system used to control temperatures within the Data Center's leased customer areas.

The Data Center intends to lease space within its facility for remote secure data management and storage equipment (servers) for multiple customers. The facility has the ability to be configured in a manner that allows multiple data center customers to house their servers in a manner that is secure, provides clean consistent electrical power, and appropriate backup generation which will insure that interruptions of the Silicon Valley Power Company's (SVP) electrical distribution grid, or the Pacific Gas and Electric Company's natural gas pipeline, will not disrupt the conditioned electricity availability that is required to protect and continue the operability of the equipment housed within the Data Center. Primary electrical power for the Data Center is provided through an on-site 3-bay SVP substation. Interconnection at the substation to the installed and proposed backup generators is solely for the purpose of detecting interruption or electrical instability in the prime power supply which would then trigger switching to the backup electrical generation system. The interconnection to the backup generators is such that no power can be back-fed to the grid from these generators; they only are capable of supplying backup power to the Data Center.

Each backup generator has a capacity to generate 2,250 kilowatts, or 2.25 megawatts (MW), a total capacity of 72 MW. Under state law, power plants that generate up to 100 MW may be exempted from the Energy Commission's licensing process if the Energy Commission determines a project proposal qualifies for such an exemption.

The Bay Area Air Quality Management District issued an Authority to Construct (ATC) for the entire project on July 15, 2010, but the ATC requires, prior to installation of backup generators 17-32, that the Energy Commission "…has granted a small power plant exemption relating to the DuPont Fabros Data Center per Section 25541 of the California Public Resources Code, approved an application for certification relating to the DuPont Fabros Data Center per Chapter 6 of Division 15 of the California Public Resources Code, or it has otherwise been determined that Sources [the diesel-fired backup generators 1-32] are not subject to the provisions of Chapter 6 of Division 15 of the California Public Resources Code." This description would be inclusive of any new information contained in the application for an SPPE filed with CEC.

Should the Energy Commission grant the exemption, or take other action, or otherwise determine that the Santa Clara SC-1 Data Center, Phase 2 "…Sources [the diesel-fired backup generators 1-32] are not subject to the provisions of Chapter 6 of Division 15 of the California Public Resources Code" then no further action is required of the City of Santa Clara, and the Bay Area Air Quality Management District may issue the Permit to Operate for Phase 2 of this project.

Staff is evaluating the SPPE application which seeks exemption from the Energy Commission's licensing process for Phase 2 of the Data Center. In Phase 2 of the project Xeres proposes to install 16 additional diesel-fueled backup generators (numbers S17-32) at the Data Center in addition to the existing 16 already-installed backup generators (numbers

S1-16), adding four additional 2-cell cooling towers, a second 500,000 gallon chilled-water storage tank and ancillary equipment, and completing interior construction to the northern half of the 312,000 square-foot Data Center. The exterior is already completed as part of the Phase 1 construction, and the pad for the chilled water storage tank is also in place. Upon exemption from the Energy Commission jurisdiction, this equipment would be installed and the Bay Area Air Quality Management District would issue its Permit to Operate for the Data Center. The City of Santa Clara has completed all necessary actions for the entire facility through the previously noted Initial Study and Mitigated Negative Declaration, approved on March 5, 2008.

5.3 DESCRIPTION OF THE PROPOSED PROJECT

Xeres Ventures, LLC (Xeres), a wholly-owned subsidiary of DuPont Fabros, LP, proposes to complete the Santa Clara SC-1 Data Center, Phase 2, located at the at 555 Reed Street, Santa Clara, California, in an industrial section of the city, with plans to complete the build-out of the facility as follows:

Xeres proposes to install 16 additional diesel-fueled backup generators (numbers S17-32) at the Data Center in addition to the existing 16 already-installed backup generators (numbers S1-16), adding four additional 2-cell cooling towers, a second 500,000 gallon chilled-water storage tank and ancillary equipment, and completing interior construction to the northeastern half of the 312,000 square-foot Data Center.

Project Description Figure 1 illustrates the regional vicinity of the project, Project Description Figure 2 provides the project location within the City of Santa Clara, and Figure 3 is an aerial photograph of the Santa Clara SC-1 Data Center showing the 312,000 square-foot facility as it currently is, on the 16.1-acre tract.

5.4 PROJECT TIMING AND GENERAL CONSTRUCTION METHODS

The Santa Clara SC-1 Data Center Phase 1 is complete, and included the construction of the buildings north wing which will house additional customer areas, chillers and pumps for temperature control, the penthouse that will house the additional 16 backup generators, and the cement apron from the facility to the rear fenceline, and the pad foundations for the addition of the Phase 2 cooling towers and chilled water storage tank.

<u>Schedule:</u>

The start of construction of Phase 2 is in part dependent upon customer demand and would begin based upon a business decision on the part of the project owner/developer, Xeres Ventures LLC, and the parent company, DuPont Fabros, LP. Phase 2 would be able to begin construction following the receipt of the Bay Area Air Quality Management District's revised Permit to Operate for the entire facility, inclusive of the Phase 2 addition of 16 additional backup generators (numbers 17-32).

6. ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title:
Xeres Ventures, LLC, Santa Clara SC-1 Data Center, Phase 2.

2. Lead Agency Name and Address:
California Energy Commission, Siting, Transmission and Environmental Protection Division.

3. Contact Person and Phone Number:
Robert Worl, Project Manager, 916-651-8853.

4. Project Location: **555 Reed Street, Santa Clara. California**

5. Project Sponsor's Name and Address: Xeres Ventures, LLC

6. General Plan Designation: **Heavy Industrial**

7. Zoning: **MH (Heavy Industrial);**

8. Description of Project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.): **See Attached Project Description**

9. Surrounding Land Uses and Setting**:**
Zoning District: MH – Heavy Industrial
General Plan Designation – Heavy Industrial

(Briefly describe the project's surroundings) :
The Xeres Ventures LLC, Santa Clara SC-1 Data Center is in an industrial area of the City of Santa Clara. It is adjacent to an operating paperboard recycler and a general recycling operation to the north, storage facilities and construction storage areas to the south and Union Pacific Rail Road tracks and another data center and industrial facility to the west of the project site. **To the west is an automotive repair facility.**

See Attached Project Description for additional information.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financing approval, or participation agreement):

Bay Area Air Quality Management District-Amended Permit to Operate for the Phase 2 addition of 16 diesel-fired backup generators. An Authority to construct has been issued (July 15, 2010).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED					
X	Aesthetics	X	Agriculture and Forest Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Geology / Soils
X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology / Water Quality
X	Land Use / Planning	X	Mineral Resources	X	Noise
X	Population / Housing	X	Public Services	X	Recreation
X	Transportation / Traffic	X	Utilities / Service Systems	X	Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)	
On the basis of this initial evaluation:	
☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☐	I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
X	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date _____

Printed Name _____ Title _____

Agency _____

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

a) Earlier Analysis Used. Identify and state where they are available for review.
b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

a) The significance criteria or threshold, if any, used to evaluate each question; and
b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Visually, the area is predominantly industrial in character. Structures along local and arterial streets include one and two-story masonry or metal warehouses and multiple tenant light industrial and commercial strip buildings. A large paperboard manufacturing company and energy co-generation facility, characterized by tall piles of bundled cardboard, venting steam, metal and masonry buildings, and vehicular activity associated with paperboard handling, is located just north of the site. The mainline Union Pacific Railroad tracks are located adjacent to the site and Norman Y. Mineta San Jose International Airport is located approximately 0.4 miles east of the site. Aircraft and train activity, along with truck and other vehicle traffic, is readily apparent in the area.

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

The site is within a fully developed area in Santa Clara. The topography is flat and views of the eastern foothills are partially blocked by existing industrial and commercial structures in the area. An auto repair facility utilizes the Reed Street Frontage for vehicle parking and storage. Visually, the project area is predominantly industrial in character and the project would not have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is bordered by industrial and commercial development and the Union Pacific Railroad Track. The city of Santa Clara is served by four freeways: U.S. 101 traverses east-west through the center of the city; State Route 237 located to the north and Interstate (I) - 880 and I-280 skirt the southeast and southwest corners of the city, respectively. These segments have not been officially designated as scenic highways by the California Department of Transportation and the project site is not visible from any designated scenic corridors.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The project required the demolition of existing structures of a former lumberyard within an industrial area and the construction of a new concrete industrial building. The Data Center building would be two stories and approximately 48 feet in height. Views of the Data Center building from De La Cruz Boulevard would be substantially blocked by existing buildings fronting this arterial street. The Data Center building is roughly perpendicular to Reed Street and Mathew Street and would be setback approximately 20 feet from Reed Street and 53 feet from Mathew Street. Landscaping includes 12, 36-inch trees that are planted on the Reed Street frontage. This provides softened views of the southern end of the building when viewed from the street.

Installation of a second set of cooling towers and a water tank is proposed as a part of completion of proposed mechanical systems for the northern half of the Data Center. Public visibility of this equipment would be limited due to its location at the rear of the Data Center building adjacent to the UPRR right-of-way. Mathew Street does not extend across the UPRR tracks at this location and views from local streets (Mathew Street and Reed Street) generally would be obscured by the existing building. The rear of the building would only be visible for a brief period by rail passengers and is not inconsistent with the industrial views in the area. The mechanical equipment, setback from local roadways and partially screened by landscaping and fencing therefore would not adversely change the visual character or quality of this industrial area. No further exterior changes to aesthetics are anticipated.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project is bordered by industrial and commercial development and the Union Pacific Railroad track. The project would include outdoor lighting similar to that found on industrial properties in the area and would be required to limit spillover onto adjacent properties. Lighting installed at the site was selected to avoid light spillage onto adjacent properties and streets, in conformance with Section 18.50.140 of the City Code. The exterior of the building is primarily concrete, with windows installed at the main entrance near the center of the structure facing the parking area. Given the limited glazing on the

building and the focus of exterior lighting downward, glare from reflective surfaces and nighttime glare from lighting on the site is not substantial.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center Project would not result in significant, adverse visual or aesthetic impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The project site is a 16.1-acre site within an area both designated and zoned Heavy Industrial. According to the Santa Clara County Important Farmland 2010 Map, the project site is

designated *Urban and Built-Up Land. Urban and Built-Up Land* is occupied by structures with a building density of at least one unit to one and half acres or approximately six structures to a ten acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment and water control structures. Currently, the project site is not used for agricultural purposes.

DISCUSSION

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) designates the Santa Clara SC-1 Data Center project site as “Urban and Built-Up Land.”

The Santa Clara SC-1 Data Center project does not contain and would therefore not convert any farmland with FMMP designations of Prime Farmland, Unique Farmland or Farmland of Statewide Importance to non-agricultural use. Therefore, the Santa Clara SC-1 Data Center project would have no impact with respect to farmland conversion.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

There are no existing agricultural uses present on the project site. The Santa Clara SC-1 Data Center project site and surrounding area are not located within lands under a Williamson Act Contract and as a result, would not conflict with any Williamson Act Contracts.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The project site is not zoned for forest land, timberland, or for timberland production. In addition, there is no land zoned for such purposes within one mile of the project site. Therefore, there would be no conflict with or cause for rezoning of forest land or timberland and as a result there would be no impact to forest land or timberland.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The project site does not contain forest land and therefore there would not result in the loss of forest land or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

The project would not involve other changes in the existing environment as the project site and surrounding areas are industrial in nature and do not contain Farmland or forest land.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center Project would not result in significant, adverse impacts to agricultural resources.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The federal and state attainment status of criteria pollutants in the San Francisco Bay Area are summarized in **Air Quality Table 1**. Overall air quality in the San Francisco Bay Area Air Basin is better than most other areas, including the South Coast, San Joaquin Valley, and Sacramento regions. This is due to a more favorable climate, with cooler temperatures and better ventilation. Although air quality improvements have occurred, violations and exceedances of the State ozone and PM standards continue to persist in the San Francisco Bay Area Air Basin, and still pose challenges to State and local air pollution control agencies (ARB 2009).

Air Quality Table 1
Attainment Status of Bay Area Air Quality Management District

Pollutants	State Classification	Federal Classification
Ozone (1-hr)	Nonattainment	No Federal Standard
Ozone (8-hr)	Nonattainment	Nonattainment (Marginal)
PM10	Nonattainment	Unclassified
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment

Source: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm. Accessed July 2010.

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

The Bay Area Air Quality Management District (BAAQMD) issued an Authority to Construct (ATC) permit July 15, 2010 for 32 emergency diesel-fired internal combustion engines. The ATC permit and engineering evaluation determines that the project would comply with all applicable laws, ordinances, regulations and standards (LORS) and would not conflict with or obstruct implementation of the applicable air quality plan. The ATC permit and engineering evaluation are included in the City of Santa Clara Initial Study and Mitigated Negative Declaration (2008,and 2010 addendum, in Xeres Ventures, LLC2011a, Volume II).

The BAAQMD found that the natural gas-fired boilers, the cooling towers, and the diesel storage tanks all qualified for air permit exemptions under BAAQMD Regulation 2, Rule 1, Sections 114.2, 128.4, and 123.3.2 respectively. Although these equipment were exempt from air quality permitting, they were included in the engineering evaluation performed by the BAAQMD for purposes of determining applicability of Prevention of Significant Deterioration (PSD) and Title V and were also included in the initial study performed by the City of Santa Clara and it was determined that they too would not conflict with or obstruct implementation of the applicable air quality plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

When permitting emergency diesel engines, the BAAQMD typically limits only emissions resulting from non-emergency use, since emergency use of generators is not limited under

BAAQMD regulations. In this case, the applicant has proposed limits on both discretionary and emergency usage of the engine generators to limit the facility's potential emissions for purposes of BAAQMD's Regulation 2, Rule 6 (Major Facility Review). Because of this, the BAAQMD evaluated discretionary emissions based on a total of 700 hours per year for all engines combined for purposes of maintenance testing and 8,000 hours per year for all engines combined for emergency usage. Operating emissions for all criteria pollutants would be well below their respective BAAQMD significant thresholds when the project is operating in compliance with discretionary use. A discussion of project criteria pollutant emissions and assumptions are discussed below.

Nitrogen Oxides

The described types of maintenance tests indicated that a majority of the maintenance testing scenarios are projected to occur at low load and/or for short duration. For the majority of these tests, the exhaust temperatures generated would not be adequate to reach the minimum 500° temperature required for the catalyst in the selective catalytic reduction (SCR) system to become effective. The BAAQMD's engineering evaluation analyzed a variety of operating assumptions and applied the most representative to actual worst case emissions. Of the types of maintenance tests projected, many are expected to last for 30 minutes or less; these short duration test will occur at up to 75% load. The emissions resulting from a 30 minute test have been calculated based on uncontrolled emissions until the SCR minimum temperature is reached and controls emissions for the remainder of the test. The highest NOx emission rate from testing was calculated as 11.6 pounds in 30 minutes. Since all of the emissions (excluding emergency situations) occur during testing and maintenance, the maximum annual NOx emissions from the project have been based on the emission rate for a 30 minute test at 75% load (23.2 pounds per hour) for 700 hours per year. Although the project would be permitted for 700 hours of total combined engine operation for maintenance testing, the BAAQMD also evaluated potential impacts at 8,000 hours of operation for emergency situations for purposes of determining applicability of PSD and Title V.

Particulate Matter

The maximum hourly diesel PM emissions result from operation of these engines at 25% load. Accordingly, the PM emissions from this project have been calculated assuming operation at 25% load. The PM emissions resulting from operation at 25% load and the combined annual usage limit of 700 hours for all 32 engines are summarized in **Air Quality Table 2** below. Together, the permit conditions relating to maximum discretionary use per engine-generator (50 hours per year) and the maximum combined discretionary usage for all engine-generators (700 hours per year) brought diesel PM emissions and the project health risk to within approvable levels.

Other Criteria Pollutants

The emission calculations for precursor organic compounds (POC) and CO were based on the standard certified ISO 8178 D-2 cycle emission factors for these engines combined with assumed operation at 100% load. The calculation of sulfur dioxide (SO2) emissions was based on the maximum fuel usage rate at 100% load, the maximum sulfur content allowed in California diesel, and an assumed 100% conversion of fuel sulfur to SO2.

Air Quality Table 2 provides emission estimates for discretionary usage of 700 hours per year of total combined operation of all 32 engines for maintenance testing and emission estimates for emergency usage at 8,000 hours per year total combined engine operation for purposes of determining applicability of PSD and Title V.

Air Quality Table 2
Maximum Annual Facility Emissions (tpy)

Pollutant	Combined Discretionary Emissions, Maintenance Testing (700 hr/year), tpy	Combined Potential to Emit, Including Emergency Situations (8,000 hr/year), tpy
PM10	0.184	3.4
POC	0.569	6.7
NOx	8.147	94.6
SO2	0.012	0.16
CO	3.666	44.4

Note: Facility emissions include boilers, cooling towers and diesel tanks.

As noted above, the total facility-wide potential to emit determination is necessary for determining applicability of PSD and Title V. For these purposes, the facility wide potential to emit includes emissions from emergency operation (limited to 8,000 hours per year) of the engines, plus the exempt equipment. The total emissions potential for the SC-1 Data Center is summarized in **Air Quality Table 3** below. Even during emergency situations, the SC-1 Data Center would not be subject to PSD or Title V permitting.

Air Quality Table 3
Facility-Wide Potential to Emit for SC-1 Data Center based on 8,000 hr/year (tpy)

Sources	NOx	CO	POC	PM10	SO2
Engines	93.11	41.89	6.50	2.11	0.14
Boilers	1.50	2.53	0.17	0.23	0.02
Cooling Towers	--	--	0.01	1.10	--
Diesel Tanks	--	--	0.01	--	--
Total for Site	94.6	44.4	6.7	3.4	0.2

State and National Ambient Air Quality Standards
The emissions associated with project operation, testing and maintenance of diesel generators and operation of gas-fired boilers as shown in **Table 2** for discretionary emissions are well below BAAQMD significance criteria for significant air quality impacts. Therefore, operational emissions would not cause or contribute to a violation of an air quality standard, or conflict with applicable plans and programs regulating ambient air quality.

The BAAQMD requires air quality modeling to show compliance with State and National ambient air quality standards (CAAQS and NAAQS) for projects that exceed major source thresholds under New Source Review per District Regulation 2, Rule 2. Although project emissions are below the thresholds of significance, an air quality modeling evaluation was completed to determine compliance with the U.S. EPA adopted 1-hour NO_2 NAAQS. This assessment was presented in the BAAQMD Engineering Evaluation Report, dated July 7, 2010. The Initial Study performed by the City of Santa Clara evaluated air quality models showing compliance with 1-hour CO and NOx, 8-hour CO, and annual NOx standards that were in effect at the time the Initial Study was completed (February 2008).

The modeling that has been completed for the SC-1 Data Center is sufficient to address any potential project impacts in respects to CAAQS and NAAQS as the impacts associated with the SC-1 Data Center would be short term in general. Annual impacts are well below any significant thresholds. As noted above, project operation would be limited to maintenance testing of the engines. Engines would be tested one at a time for approximately 30 minutes each for a combined total operation of no more than 700 hours per year.

It is unlikely that the short term SO_2 CAAQS and NAAQS would be violated due to the discretionary use conditions in the ATC permit and the fact that the SC-1 Data Center would be using California certified ultra-low sulfur diesel (ULSD) fuel.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The BAAQMD California Environmental Quality Act, Air Quality Guidelines (BAAQMD 2011) states that for a project that does not individually have significant operational air quality impacts, the determination of a significant cumulative air quality impact is based upon an evaluation of the consistency of the project with the local general plan and of the general plan with the most current Clean Air Plan (CAP). The proposed project, redevelopment of an industrial site, is consistent with the City of Santa Clara general plan and the assumptions in the current CAP. The project, therefore, would not result in a significant cumulative impact.

d) Expose sensitive receptors to substantial pollutant concentrations?

The location of a development project is a major factor in determining whether it will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and members of the public decreases. Impacts on sensitive receptors are of particular concern. Sensitive receptors are facilities that house or attract children, the elderly, and people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors.

The Initial Study completed by the City of Santa Clara provides an adequate list of nearby sensitive receptors. The emissions associated with the project operations, testing and maintenance of diesel generators and operation of gas-fired boilers, are well below BAAQMD

significance criteria for significant air quality impacts. Therefore, discretionary operational emissions would not expose any receptors, sensitive or not, to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people?

BAAQMD 2011 states that while offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the District. Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites and commercial areas.

Determining the significance of potential odor impacts involves a two-step process. *First*, determine whether the project would result in an odor source and receptors being located within the distances indicated in **Air Quality Table 4**. **Air Quality Table 4** lists types of facilities known to emit objectionable odors. The Lead Agency should evaluate facilities not included in **Air Quality Table 4** or projects separated by greater distances than indicated in **Air Quality Table 4** if warranted by local conditions or special circumstances. *Second*, if the proposed project would result in an odor source and receptors being located closer than the screening level distances indicated in **Air Quality Table 4**, a more detailed analysis, as described in Chapter 3 of BAAQMD 2011, “Assessing the Air Quality Impacts of Projects and Plans”, should be conducted.

Air Quality Table 4

Project Screening Trigger Levels for Potential Odor Sources

Type of Operation	Project Screening Distance
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Rendering Plant	1 mile
Coffee Roaster	1 mile

The Santa Clara SC-1 Data Center is not an odor source listed in **Air Quality Table 4** and this project type is not known to cause any significant odor impacts. An evaluation of this facility is

not warranted by any local conditions or special circumstances. Therefore, staff finds that there would not likely create objectionable odors affecting a substantial number of people.

MITIGATION MEASURES

The proposed project includes the following measures to reduce air quality impacts:

- Operate in compliance with conditions of the Authority to Construct;
- Engine-generators will be Tier 2 compliant (low-NOx);
- Selective catalytic reduction (SCR) units will be installed on each engine;
- Use of ultra-low sulfur diesel (ULSD) fuel; and
- All equipment engines shall be maintained in good condition, in proper tune (per manufacturer's specifications), and in compliance with all State and Federal requirements.

CONCLUSION

With the implementation of the mitigation and avoidance measures included in the Initial Study performed by the City of Santa Clara and the implementation of the Authority to Construct permit issued by the Bay Area Air Quality Management District, the SC-1 Data Center would not result in significant environmental impacts or make a cumulatively considerable contribution to cumulative impacts.

REFERENCES

ARB 2009. (California Air Resources Board, Planning and Technical Support Division). 2009. The California Almanac of Emissions and Air Quality. 2009 Edition. April.

BAAQMD 2011. Bay Area Air Quality Management District, California Environmental Quality Act, Air Quality Guidelines. Updated May 2011.

Xeres Ventures, LLC2011a – CEC/R.Obelsby (tn:62957) Application for Small Power Plant Exemption for Phase 2 of the Santa Clara SC-1 Data Center. Submitted to CEC/Dockets on 11/16/11; filed on 11/21/11. 2 Volumes. 1043 pps.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Public Health Would project operation:				
a) Cause the surrounding population to be exposed	☐	☐	☒	☐

to hazardous levels of toxic air pollutants?

Note: All required mitigation is contained in the City of Santa Clara Mitigated Negative Declaration, 2008, and the Bay Area Air Quality Management District permits.

ENVIRONMENTAL SETTING DISCUSSION

a) Cause the surrounding population to be exposed to hazardous levels of toxic air pollutants?

The pollutants of specific concern in this Public Health analysis are the toxic air pollutants for which there are no specific air quality standards. The potential health significance of exposure to these pollutants is assessed through a health risk assessment process in which potential impacts are identified as cancer or non-cancer effects. Since every exposure to a cancer-causing pollutant is presently regarded as posing a specific risk of cancer, the numerical cancer risk from a source of such pollutants is regarded as the most sensitive indicator of the potential for the environmental acceptability of that source. According to the information from the applicant (Xeres 2011, p. 25, and Appendix I), the maximum population cancer risk from operating the proposed project is 1.2 in a million which staff regards as reflecting a risk far below the levels of health significance. Since the project would be operated for only weekly readiness testing, or alone (as a back-up power source when grid power is unavailable) this would constitute the maximum risk. The facility would be limited to operations for only a total of 700 hours per year for all 32 engines combined.

b) Comply with federal, state, and local statutes and regulations related to toxic pollutant exposure?

Since the proposed project would be limited to operations no more than 700 cumulative hours per year, the related toxic emissions would be below levels of significance specified in federal, state, and local statues and regulations. The project would thus comply with these statutes and regulations.

MITIGATION MEASURES

The emission levels for the toxic air pollutants of specific concern reflect the effectiveness of the control equipment and limited operating hours allowed for the project. These control measures reflect incorporation of the best available toxics control technology (TBACT) as recommended by staff and required by the area's air quality management district. No additional mitigation would be necessary.

CONCLUSION

Operating the proposed project would not result in significant health impacts from the toxic air pollutants at expected emission levels.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
Note: All required mitigation is contained in the City of Santa Clara Mitigated Negative Declaration, 2008, and the Bay Area Air Quality Management District permits.				

ENVIRONMENTAL SETTING

The proposed project includes the Phase 2 addition of 16 emergency diesel fuel backup generators to the Santa Clara SC-1 Data Center. Previously, in Phase 1, the first 16 backup generators were installed at the site (Xeres 2011). The Data Center is located at an existing developed area zoned heavy industrial in the city of Santa Clara, 0.3 miles west of the Norman Y. Mineta San Jose International Airport in Santa Clara County, California.

Natural native habitats no longer exist in the project area due to development as Santa Clara County has become urbanized. The closest open habitat is non-native annual grassland at the airport in San Jose where western burrowing owls, a California species of special concern, are known to occur (CDFG 2012).

Approximately 8 miles southeast of the project site near U.S. Highway 101, the U.S. Fish and Wildlife Service (USFWS) has identified critical habitat for the federally listed threatened Bay checkerspot butterfly (73 FR 50406). The conservation of critical habitat is considered essential for the conservation of a federally listed species. Critical habitat for the Bay checkerspot butterfly occurs on nutrient-poor serpentine or serpentine-like grasslands that support at least two of the three butterfly's larval host plants, California plantain (*Plantago erecta*), dense flower owl's clover (*Castilleja densiflora*), and purple owl's clover (*Castilleja exserta*). Due to increased nitrogen deposition, non-native grasses have increased, crowding out the native forbs needed by the Bay checkerspot butterfly (Weiss 1999). Additional serpentine grassland not designated as critical habitat by the USFWS for the butterfly has been identified by the project applicant. This serpentine grassland is located 5 miles southeast of the project site on Communications Hill in San Jose.

Energy Commission Air Quality staff ran the model, AERMOD, which gives conservative estimates for nitrogen deposition assuming all 32 diesel generators running at once for the permitted cumulative 700 hours/year (see Biological Resources Appendix, *Nitrogen Deposition Analysis* by Wenjun Qian, Ph.D.). The model estimates that 4.79 kilogram/hectare/year (kg/ha/yr) nitrogen would be deposited immediately near the emission source (generator stacks), where there is an absence of critical habitat . At 650 meters from the center of the stacks, the nitrogen deposition is expected to drop to a rate of 0.02 kg/ha/yr. The further away the receptor site (serpentine grassland) is from the source, the less the habitat is likely to be affected by the nitrogen plume from the proposed project. Consequently, nitrogen deposition at the closest Bay checkerspot butterfly habitat 5 miles southeast from the proposed site would likely not change the current background levels. Therefore, the project's emissions are unlikely to cause an adverse impact to the sensitive habitat of the Bay checkerspot butterfly.

DISCUSSION

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? *No Impact (Western Burrowing Owls); Less than Significant Impact (Bay Checkerspot Butterfly)*

Western burrowing owls, a state species of special concern, are known to occur 0.3 miles east of the proposed project site at the Norman Y. Mineta San Jose International Airport, but were not found at the project site. Due to the developed nature of the proposed project site, no suitable habitat exists for this species. Therefore, there will not be any impact.

The closest serpentine grassland habitat for the federally listed threatened Bay checkerspot butterfly occurs approximately 5 miles southeast of the Data Center on Communications Hill in San Jose. The closest designated critical habitat for this species is 8 miles southeast of the Data Center on the northern half of Coyote Ridge. The impact of nitrogen deposition increases the proliferation of non-native grasses, crowding out the Bay checkerspot butterfly's larval host plants. Staff's air modeling for nitrogen deposition shows that at a distance of 650 meters from the emission source, the proposed project's contribution falls to 0.02 kg/ha/year from an estimated 4.79 kg/ha/year at the Data Center. Since the closest occurrence of the Bay checkerspot butterfly is 5 miles southeast from the proposed project site, nitrogen deposition from the project would be further diluted and would likely be indistinguishable from current background nitrogen deposition levels. Therefore, the project's impact of nitrogen deposition to the butterfly and its habitat would be less than significant.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? *Less than Significant*

Serpentine grassland habitat, which is identified as a sensitive natural community by the California Department of Fish and Game California Natural Diversity Database, has also been identified as critical habitat for the federally listed threatened Bay checkerspot butterfly. The closest critical habitat identified by the USFWS is located 8 miles southeast of the project site on Coyote Ridge. Another serpentine grassland that is not designated by the USFWS as critical habitat is located 5 miles southeast of the project site on Communications Hill in San Jose. As discussed above, the proposed project's anticipated nitrogen deposition on these sensitive areas would likely be indistinguishable from current background levels due to dilution of the nitrogen as the distance increases from the emission source. Therefore, the project's nitrogen deposition at the nearest serpentine grassland habitat would be less than significant.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? *No Impact*

There are no federally protected wetlands on the project site that would be adversely impacted by the installation of the emergency backup generators. The closest waters of the U.S. are 1 mile northeast of the proposed project site, which would not be impacted by the project. The backup generators will be lifted to the second floor of the existing Data Center, which is in a developed heavy industrial area. Therefore, there would be no impact to federally protected wetlands.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? *No Impact*

Due to the developed nature of the proposed project site, wildlife resident habitat, nursery sites, or migratory corridors are lacking. Therefore, there would be no impact to these biological resources.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? *No Impact*

No additional trees would be removed on the proposed Phase 2 project site, therefore there would be no impact.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? *No Impact*

The Final Plan for the Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) may be prepared during the first half of 2012, but the City of Santa Clara does not have lands subject to the HCP/NCCP and, so, will not be a local partner or permittee in the HCP/NCCP (Santa Clara Valley HCP website: http://www.scv-habitatplan.org/www/default.aspx). There being no other applicable HCP or NCCP, the proposed project would not be in conflict with any adopted habitat conservation plan.

CONCLUSION

Phase 2 of the proposed Santa Clara SC-1 Data Center project would not have any significant direct, indirect, or cumulative impacts on biological resources, therefore no mitigation is required.

REFERENCES

CDFG (California Department of Fish and Game). 2012. California Natural Diversity Database (CNDDB) RAREFIND v4.18 government edition, data base search results for San Jose West, San Jose East, Santa Teresa Hills, Los Gatos, Castle Rock Ridge, Cupertino, Mountain View, Milpitas, and Calaveras Reservoir quadrangles. Accessed on January 13, 2012.

"Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Bay Checkerspot Butterfly (*Euphydryas editha bayensis*). Final Rule." *Federal Register* 73(26 August 2008): 50406-50452. Accessed online January 13, 2012 at http://www.gpo.gov/fdsys/pkg/FR-2008-08-26/pdf/E8-19195.pdf.

Weiss, S.B. 1999. Cars, cows, and checkerspot butterflies: Nitrogen deposition and management of nutrient poor grasslands for a threatened species. *Conservation Biology* 13: 1476–1486.

Xeres (Xeres Ventures LLC). 2011. Application for Small Power Plant Exemption. Project to Add 16 Emergency Backup Generators to the Santa Clara SC-1 Data Center, Santa Clara, California. Submitted to the California Energy Commission on November 23, 2011.

BIOLOGICAL RESOURCES APPENDIX

Nitrogen Deposition Analysis

Wenjun Qian, Ph.D.

AERMOD

Staff used AERMOD to model the nitrogen deposition for Santa Clara SC-1 data center, (2011-SPPE-1). AERMOD is the US EPA recommended model that incorporates state-of-art air dispersion concepts. It is designed to overestimate impacts and the conservatism is extended to the nitrogen deposition analysis. AERMOD calculates nitrogen deposition by accounting for both dry and wet fluxes of the total nitrogen. No chemical conversion was considered in AERMOD to calculate nitrogen deposition. But the following assumptions that staff used make the analysis more conservative without chemical conversion.

INPUTS AND ASSUMPTIONS

In order to model nitrogen deposition, staff used AERMOD modeling input files for NO_2 from the Bay Area Air Quality Management District (District or BAAQMD). The modeling radius is about 650 m surrounding the project center. The meteorological inputs for 2004 were obtained from the District as well. The stack parameters, building dimensions, and receptor coordinates were kept unchanged from the District provided files. Staff only changed the emission rate so that nitrogen emissions from both NOx and NH3 are included. Staff calculated the emission rate of nitrogen based on the permitted annual emission limits of both NOx and NH3 with 32 engines running 700 hours in total. The annual emissions of 8.147 tons/yr NOx and 75.4 lb/yr NH3 were averaged over every hour of the year to give hourly emission rates, which are needed in the AERMOD input files. The emissions of NOx and NH3 were adjusted for the molecular weight of nitrogen in the molecules and then summed together.

Staff assumed that the pollutants leaving the stacks would already be in the form of depositional nitrogen, rather than allowing the conversion of NOx and NH3 to occur over distance and time in the atmosphere. This assumption leads to very conservative estimation of nitrogen deposition especially in the immediate areas surrounding the project site.

In order to model gaseous deposition, the model requires land use characteristics and gas deposition resistance terms based on five seasonal categories. The seasonal categories are input into AERMOD on a month-by-month basis, corresponding to each summer, fall, winter, and spring seasons, based on the following BAAQMD defaults for AERMET (the meteorological data processing program for AERMOD):

- Late autumn/winter without snow = November, December, and January
- Transitional spring = February and March
- Midsummer = April, May, June, and July
- Autumn = August, September, and October

AERMOD requires the following additional inputs for deposition parameters. For this analysis, the deposition parameters are based on gaseous nitric acid because nitric acid has the

greatest potential to cause depositional effects (CH2M HILL 2010). The deposition parameters were obtained from a draft Argonne National Laboratory report (Wesely, et. al., 2002).

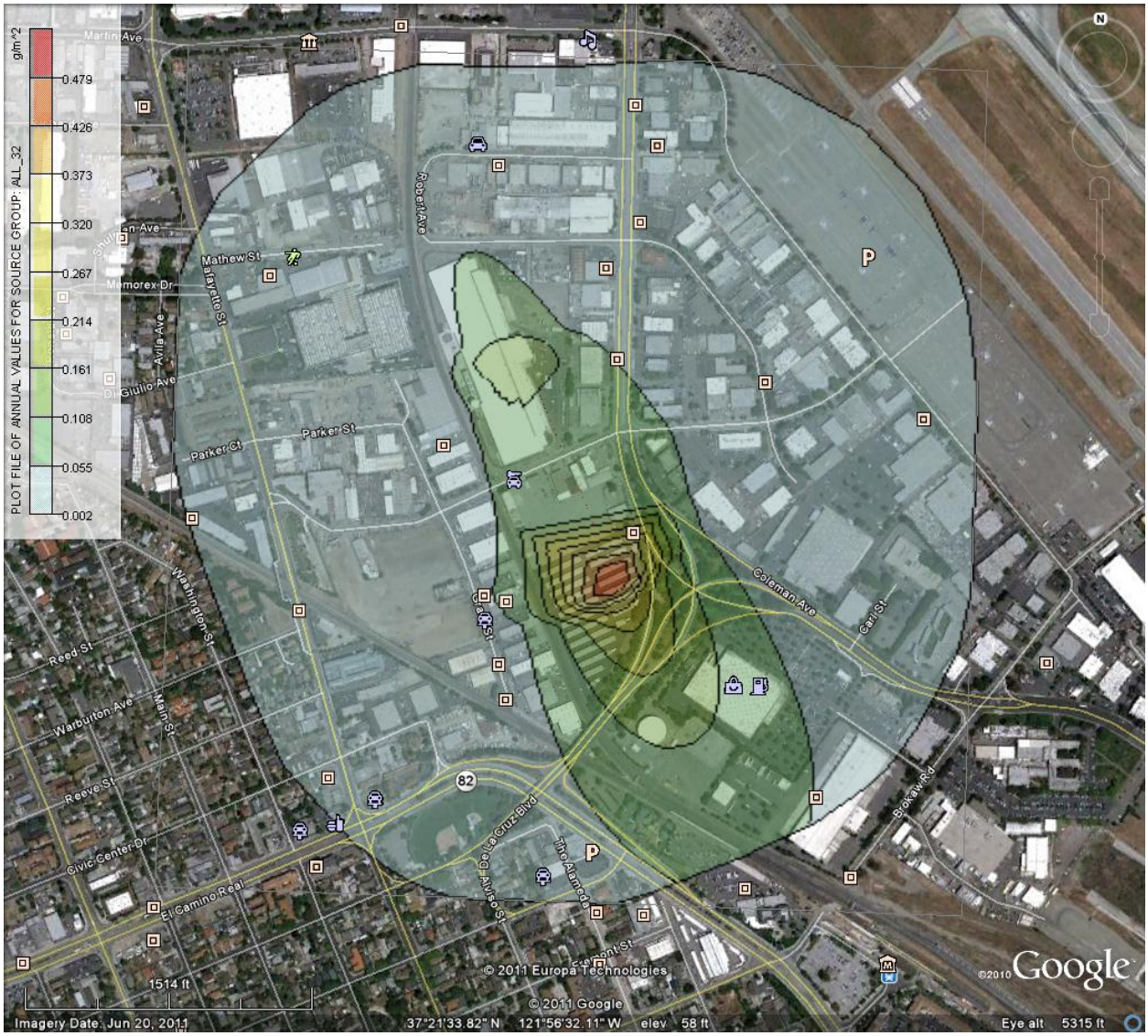
- The molecular diffusivity (Da) for the pollutant being modeled (0.1628 cm^2/s)
- The diffusivity in water (Dw) for the pollutant being modeled (2.98E-5 cm^2/s)
- The cuticular[1] resistance to uptake by lipids for individual leaves (rcl) for the pollutant (1.0E+5 s/cm)
- The Henry's Law constant for the pollutant (8.0E-8 Pa-m^3/mol)

RESULTS

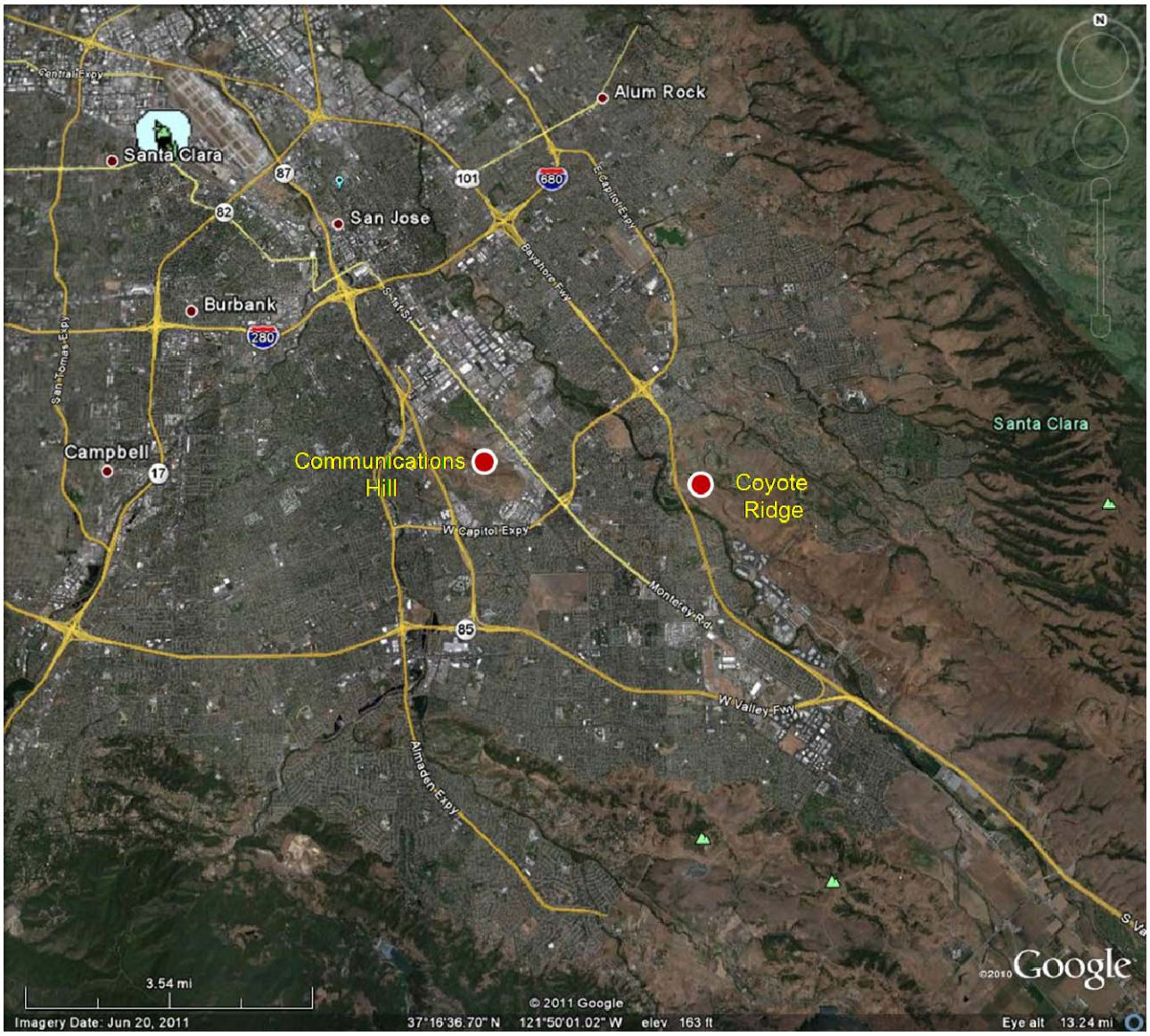
Biological Resources Figures 1 and 2 show the contour plot of modeled nitrogen deposition overlaid onto the Google map with a near-field view and a regional view respectively. The unit of the contours is g/m^2 accumulated over a year of modeling. Note the numbers in the unit of g/m^2 need to be multiplied by 10 to be converted to kg/ha/yr. The coordinates of receptors modeled in AERMOD do not match perfectly with those in Google earth due to the inevitable error in the conversion between UTM and Latitude/Longitude coordinates. But the small mismatch in the coordinates does not affect our conclusion of this analysis.

The maximum modeled nitrogen deposition rate of 4.79 kg/ha/yr (0.479 $g/m^2/yr$) would occur on the property line. This is mainly due to the building downwash effect. The nitrogen deposition rate decreases rapidly with respect to downwind distance from the stacks. The nitrogen deposition rate goes down to 0.02 kg/ha/yr (0.002 $g/m^2/yr$) at the outer edge of the modeling domain, which is about 650 m from the center of the stacks. Staff expects the nitrogen deposition rate would further decrease as the pollutant travels and disperses further downwind to the sensitive habitat areas.

[1] The cuticle is a waxy layer covering plants. Its function is to lessen water loss by not letting it diffuse out so easily.



Biological Resources Figure 1. Google map with overlay of modeled nitrogen deposition (g/m^2) contour plot (near field view)



Biological Resources Figure 2. Google map with overlay of modeled nitrogen deposition (g/m^2) contour plot (regional view)

REFERENCES

CH2M HILL 2010, Oakley Generating Station Project (09-AFC-4) Response to Energy Commission Staff Data Requests # 68-73, May 12, 2010.

Wesely, M.L., P.V. Doskey, and J.D.Shannon, 2002. Deposition Parameterizations for the Industrial Source Complex (ISC3) Model, Draft ANL report ANL/ER/TR-01/003

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

As noted in project description for the SC-1 SPPE, the proposed project activities consist primarily of the installation of 16 backup generators on a previously constructed foundation, within an existing building; installation of a second set of cooling towers and a water tank on existing foundations; and construction of a temporary construction driveway.

DISCUSSION

There are no historic buildings present on the project site and proposed project activities would not impact any historic buildings in the project area. Of the proposed project activities, only the temporary driveway construction involves ground disturbance and would have any potential to impact unknown historical resources.

The temporary construction driveway would extend for approximately 20 feet from the Mathew Street sidewalk to the paved driveway bordering the Data Center driveway. The construction driveway would be approximately 24 feet in width. Soil materials in the landscape area would be excavated to a depth of 6-12 inches. The area crossed by the proposed driveway was formerly a parking lot for an industrial building at 500 Mathew Street. Pavement was removed from this area as a part of construction of the data center facility and replaced with clean soil materials prior to landscaping. (email from Nora Monette to Robert Worl; January 20, 2012; contained in **Xeres Ventures, LLC, 2012a, Memorandum to Dockets [tn: 63437]**). As noted in the City of Santa Clara's "Santa Clara SC-1 Initial Study", dated February, 2008, (in **Xeres Ventures, LLC2011a (tn:62957),** Application For A Small Power Plant Exemption, Appendix A., p.26), the project site is located in an area sensitive for prehistoric archaeological resources due to its proximity to the Guadalupe River. However, excavation for the temporary driveway would not extend below the level previously excavated during site development and, therefore, would have no potential to impact any buried archaeological or historic resources, or disturb any human remains.

MITIGATION MEASURES

There is no potential for impacts to any historical resources; therefore, no mitigation measures are required.

CONCLUSION

The project would have no impact on historic or archaeological resources, as defined in CEQA Guidelines Section 15064.5, or disturb any human remains.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	X	☐
ii) Strong seismic ground shaking?	☐	☐	X	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	X	☐
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	X	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	X	☐
e) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X

ENVIRONMENTAL SETTING

DISCUSSION

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist

for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

The site is not located within a mapped Alquist-Priolo Earthquake Fault Zone. Therefore, the site is not likely to be subject to earthquake fault rupture.

ii) Strong seismic ground shaking?

The site will be subject to strong seismic shaking. The site structures were built in accordance with current building codes and practices to address strong seismic shaking.

iii) Seismic-related ground failure, including liquefaction?

As recommended in the site specific geotechnical report to address the potential for seismically induced liquefaction, the existing data center structure is supported by 1,030 Auger Pressure Grouted Displacement piles (APGD) and the electrical substation is supported by 98 APGD piles. In addition to the site structures, the soils that support slabs on grade were prepared in accordance with current building codes and practices and in accordance with the recommendations provided in the site specific geotechnical report to address the potential for seismic–related ground failure.

iv) Landslides?

The site is flat and near the margin of the San Francisco bay. The property is not susceptible to damage from landsliding.

b) Result in substantial soil erosion or the loss of topsoil?

The site is developed. Aside from minor landscaped areas, the site is covered with pavement and not susceptible to soil erosion or loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The site structures were constructed in accordance with current building codes and practices and the recommendations provided in a site specific geotechnical report. Soil conditions were addressed in the geotechnical investigation and the conclusions provided in the report provided mitigation measures to address site soil conditions.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

The buildings have been constructed. The additional proposed construction will not be subject to impacts from expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Sewer collection and conveyance has been constructed. There are no septic tanks or alternative waste water disposal systems proposed.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The site has been developed. No additional excavation is proposed. Therefore, there is no impact to paleontological or geological features from project development.

MITIGATION MEASURES

Project development will not create impacts to geological or paleontological resources. While the site is subject to geologic hazards, those hazards were addressed in the design and construction of the existing buildings. No additional mitigation is necessary.

CONCLUSION

The proposed project would not result in significant adverse impacts to geological or paleontological resources. The proposed project would not result in significant adverse impacts to existing geologic or soils hazards.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

On September 27, 2006, Governor Schwarzenegger signed Assembly Bill 32, the Global Warming Solutions Act of 2006 (Núñez, Chapter 488, Statutes of 2006). By requiring in law a reduction of greenhouse gas (GHG) emissions to 1990 levels by 2020, California set the stage for its transition to a sustainable, clean energy future. This historic step also helped put climate change on the national agenda, and has spurred action by many other states (AB 32 Scoping Plan).

ARB developed a Scoping Plan outlining the State's strategy to achieve the 2020 greenhouse gas emissions limit. This plan calls for an ambitious but achievable reduction in California's carbon footprint. Reducing greenhouse gas emissions to 1990 levels means cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 15 percent from today's levels. On a per-capita basis, that means reducing our annual emissions of 14 tons of carbon dioxide equivalent for every man, woman and child in California down to about 10 tons per person by 2020. This challenge also presents a magnificent opportunity to transform California's economy into one that runs on clean and sustainable technologies, so that all Californians are able to enjoy their rights in the future to clean air, clean water, and a healthy and safe environment (AB 32 Scoping Plan).

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

40 CFR 98, Subpart D requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tonnes of CO_2-equivalent emissions per year. The SC-1 Data Center is not expected to exceed this limit even during an assumed emergency operation of 8,000 hours per year for all engines combined. Nonetheless, owners or operators must collect emission data; calculate GHG emissions; and follow the specified procedures for quality

assurance, missing data, recordkeeping, and reporting. Since GHG emissions are expected to be well below the mandatory reporting trigger level the SC-1 Data Center is not expected to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The SC-1 Data Center would be consistent with the AB 32 Scoping Plan and would be required to collect emission data satisfactory to 40 CFR 98, Subpart D. The SC-1 Data Center would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

MITIGATION MEASURES

Implementation of the Authority to Construct permit issued by the Bay Area Air Quality Management District would limit engine operation hours to below levels associated with any potentially significant greenhouse gas impacts.

CONCLUSION

With the implementation of the Authority to Construct permit issued by the Bay Area Air Quality Management District, the SC-1 Data Center would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment nor would it conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

REFERENCES

AB 32 Scoping Plan. Climate Change Scoping Plan, December 2008, *available at* http://arb.ca.gov/cc/scopingplan/scopingplan.htm.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Transmission Line Safety and Nuisance Would project operation:				
a) Result in perceptible and non-perceptible field and nonfield impacts from current flow in the utilized transmission line?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

See Project Description Section of this Initial Study

DISCUSSION

a) Result in field and nonfield impacts from current flow in the utilized transmission line?

Silicon Valley Power (SVP) provides power to the Data Center through a substation at the northeastern portion of the project site. Power from the proposed back-up project would be provided via this substation and through three underground duct banks constructed according to the field-reducing guidelines of the area's main utility (SVP) as currently required by the California Public Utilities Commission (CPUC). Using this power (when power is cut off from the SVP power grid) would thus eliminate the field and non field impacts from transmission through the SVP connection. These impacts are normally encountered as interference with radio-frequency communication, fire hazards, audible noise, and human electric and magnetic field exposure. Since operating the proposed project would eliminate the power flow from the existing SVP power grid, there would be a net reduction in the general levels of these field impacts in the project area.

b) Comply with federal, state, and local statutes and regulations related to field and nonfield impacts from transmission line operation?

Since operating the proposed project would reduce the levels of transmission-related impacts, the project should be seen as complying with federal and state regulations to reduce such impacts in any given area.

MITIGATION MEASURES

Operating the proposed back-up project would reduce the field and non-field impacts of the area's power transmission; therefore no further mitigation measures would be necessary.

CONCLUSION

Operating the proposed project line would maintain the field and nonfield impacts of usual concern below levels encountered using power from the existing source.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Hazardous Materials Management Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	X	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	X	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	X	☐
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
e) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X

ENVIRONMENTAL SETTING

The Xeres Ventures, LLC (Xeres), Santa Clara SC-1 Data Center is located at 555 Reed Street, Santa Clara, California, an industrial section of the city. Xeres plans to complete the build-out (Phase 2) of the facility as follows:

- install 16 additional diesel-fueled backup generators (numbers S17-32) at the Data Center in addition to the existing 16 already-installed Phase 1 backup generators (numbers S1-16),
- Install four additional 2-cell cooling towers,
- Install a second 500,000 gallon chilled-water storage tank and ancillary equipment, and

- Complete the interior construction in the northeastern half of the 312,000 square-foot Data Center.

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No reportable quantities of acutely or extremely hazardous materials will be transported, stored, or used at the site.

During the construction phase of the project, the only hazardous materials used would be paints, cleaners, solvents, gasoline, motor oil, welding gases, and lubricants. Any impact of spills or other releases of these materials would be limited to the site because of the small quantities involved, the infrequent use and hence reduced chances of release. Petroleum hydrocarbon-based motor fuels, mineral oil, lube oil, and diesel fuel all have very low volatility and would not represent plausible off-site hazards, even in larger quantities.

During operations, diesel fuel would be stored in an underground tank reducing the risk from an accidental release to an insignificant level. Because the facility building is already existing and in operation, this project phase represents an expansion of the already onsite backup capability, and no new hazardous materials types will require transportation, use, or storage at the site.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

During operations, diesel fuel will be stored in an underground tank reducing the risk from an accidental release to an insignificant level. Only smaller day-use quantities will be brought to above-ground tanks, located inside concrete containment berms, and any accidental release would not create a significant impact.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No hazardous materials would be emitted at rates capable of creating offsite impacts. There are no schools proposed or existing within one-quarter mile.

d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

There would be no stored hazardous materials presenting a plausible significant risk of offsite impact.

e) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

There would be no stored hazardous materials presenting a plausible significant risk of offsite impact.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

There would be no impacts to an adopted emergency response plan or emergency evacuation plan.

MITIGATION MEASURES

No additional mitigation is necessary.

CONCLUSION

The Santa Clara SC-1 Data Center project would not result in significant adverse impacts to the public or to the environment related to hazardous materials management.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	☐	☐	☐	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☐	☐	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X

ENVIRONMENTAL SETTING

ENVIRONMENTAL SETTING

See Project Description Section of this Initial Study

DISCUSSION

a) Violate any water quality standards or waste discharge requirements?

The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant. No new significant impacts to water quality or hydrology would occur with the proposed project.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. No new significant impacts to groundwater supplies or aquifer volumes would occur with the proposed project.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?

All major exterior construction activities for drainage on and around the Data Center building facility have been completed. No new significant impacts to water quality or hydrology would occur with the proposed project.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?

All major exterior construction activities for drainage on or around the Data Center building facility have been completed. No new significant impacts to water quality or hydrology would occur with the proposed project.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

All existing drainage control facilities have been designed and constructed to control runoff on and around the Data Center building facility. No new significant impacts to water quality or hydrology would occur with the proposed project.

f) Otherwise substantially degrade water quality?

All major exterior construction activities for the Data Center building facility have been completed. No new significant impacts to water quality or hydrology would occur with the proposed project.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Housing is not an element of the proposed project. The project site is located in an area designated by FEMA as Zone B. Zone B is defined as areas between the limits of a 100-year flood and a 500-year flood, or certain areas subject to 100-year flooding with average depths of less than one foot. The generators will be installed on the second floor of the existing building. The 500,000 gallon water tank will be installed on an existing elevated concrete pad. The cooling towers will be supported by lattice foundation elements. Therefore, the structural elements of phase 2 will not be subject to inundation by a 100-year flood.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project site is located in an area designated by FEMA as Zone B. Zone B is defined as areas between the limits of a 100-year flood and a 500-year flood, or certain areas subject to 100-year flooding with average depths of less than one foot. The generators will be installed on the second floor of the existing building. The 500,000 gallon water tank will be installed on an existing elevated concrete pad. The cooling towers will be supported by lattice foundation elements. Therefore, the structural elements of phase 2 will not be subject to inundation by a 100-year flood.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project is not located in an area where it would be exposed to significant flooding

j) Result in inundation by seiche, tsunami, or mudflow?

The project is not located in area that would be susceptible to significant impact from seiche, tsunami, or mudflow.

MITIGATION MEASURES

All major exterior construction activities for the Data Center building facility have been completed. No new significant impacts to water quality or hydrology would occur with the proposed project.

No additional mitigation is necessary.

CONCLUSION

No new significant impacts to water quality or hydrology would occur with the proposed project.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Data Center building is located within an industrial area of the city of Santa Clara. The project site is bordered by the Union Pacific Railroad (UPRR) main line and has access from Mathew Street on the north and Reed Street on the south. A paperboard recycling facility and a Silicon Valley Power co-generation facility are located on Mathew Street north of the project site. Uses west of the UPRR tracts, include a data center and indoor soccer facility in an industrial-style building on the northern segment of Mathew Street (with access from Lafayette Street). Light industrial uses, including an auto body shop, are located south of the site across Reed Street. Industrial and industrial serving commercial uses are present along the De La Cruz Boulevard frontage, east of the data center property. Uses along De La Cruz Boulevard include an industrial gas distributor (at Reed Street) and a commercial recycling company (on the southwest corner of Mathew Street and De La Cruz Boulevard).

DISCUSSION

a) Physically divide an established community?

The Santa Clara SC-1 Data Center project site would be located entirely on private property and designated and zoned for industrial development. The project site is located in the central portion of the city, north of the Caltrain corridor and south of U.S. 101 which consists of predominately light and heavy industrial uses and public/quasi public uses, although some of the area has transitioned into office/Research and Development (R&D) and data centers. The nearest residential areas are located on the west side of Lafayette Street, approximately 1,100 feet west of the site. A private, indoor soccer facility is located at 500 Mathew Street, approximately 500 feet west of the site.

Therefore, the project would not physically divide an established community within the city of Santa Clara.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The current Land Use Diagram in the City of Santa Clara 2010-2035 General Plan, adopted November 16, 2010, designates the site for Heavy Industrial and Low Intensity Office/R&D land uses. The *Heavy Industrial* land use designation, which applies to the majority of the site, allows primary manufacturing, refining and similar activities and accommodates warehousing and distribution, as well as data centers. The maximum FAR (floor area ratio) is 0.45.

The Low-Intensity Office/Research and Development (R&D) land use designation is intended for campus-like office development that includes office and R&D, as well as medical facilities and free standing data centers, with manufacturing uses limited to a maximum of 20 percent of the building area. The maximum FAR is 1.00.

The data center use and FAR of 0.45 for the entire site is consistent with allowed uses and development intensity under both the Heavy Industrial and Low-Intensity Office/R&D land use designations.

The zoning of the entire site is MH-Heavy Industrial. This district is intended to encourage sound heavy industrial development in the city (City of Santa Clara City Code Chapter 18.50). Data center uses, are allowed as an industrial use. Zoning requirements also include minimum lot area (20,000 square feet), building height limits (70 feet) and front yard setbacks (15 feet minimum). The Santa Clara SC-1 Data Center facility conforms to these zoning requirements.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The project site does not fall within a habitat conservation or a natural community conservation plan. Based on the historic and current industrial use on site and the surrounding industrial zoning the proposed Santa Clara project site is devoid of native vegetation. Therefore, the project would not conflict with any habitat conservation plan or natural community conservation plan.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center would not result in significant, adverse land use impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	X

ENVIRONMENTAL SETTING

The project is located on within the City of Santa Clara, in an area zoned MH – Heavy Industrial, and with a General Plan Designation of Heavy Industrial as well. The 16.1 acre site was once the site of a lumber mill and the current project has been substantially built as part of the Phase 1 SC-1 Data Center. No actions proposed by the Phase 2 project will excavate or require excavation from other sources of any mineral resources.

DISCUSSION

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No impacts to mineral resources are anticipated.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

MITIGATION MEASURES

None are required as there is no impact to mineral resources.

CONCLUSION

No impacts to mineral resources are anticipated from the completion of this project, and no mitigation is required.

The Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 will have no impact on Mineral Resources.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Noise. Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	X	☐
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	X	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X

ENVIRONMENTAL SETTING

The project site is located in an area of existing industrial uses. No residential or other sensitive uses are adjacent or close to the project site. Operation of the proposed data center project will increase noise levels on the project site. The proposed data center will include noise-generating mechanical equipment, such as chillers and cooling towers. The emergency backup generators would also be a noise source, when in operation.

DISCUSSION

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

The project proposes to incorporate noise attenuation measures in conformance with the Santa Clara County Municipal Code noise standard of 70 dBA at the property line of the project site. Thus, the project will maintain noise levels within the applicable noise standards.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Because construction will be limited to installing the remaining generators, cooling towers, and the chilled water storage tank, for which, the concrete slabs are in place, no excessive groundborne vibration is expected.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The project site is located in an area of existing industrial uses. No residential or other sensitive uses are adjacent or close to the project site. The project proposes to incorporate noise attenuation measures in conformance with the with Santa Clara County Municipal Code noise standards of 70 dBA at the property line of the project site. Thus, staff considers the noise effect of project operation to be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction of Phase 1 of the Data Center (including installation of 16 backup generators) is complete as well as the building in which the Phase 2 generators will be located. Nearly all of the Phase 2 build out will be constructed within the existing building shell. Construction activities will temporarily elevate the existing ambient noise levels at adjacent businesses, but they will be short-term (expected to last 10-12 months), and construction will occur during the daytime hours in accordance with the City of Santa Clara Municipal Code (§ 9.10.230). Thus, staff considers the noise effect of project construction to be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is within a relatively close proximity to the Norman Y. Mineta San José International Airport. However, because the project site is located in an area of existing industrial uses and no residential or other sensitive uses are adjacent or close to the project site, and because the project will comply with the City of Santa Clara's noise standards, the project will not result in excessive noise levels.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Please see the discussion above, under the previous heading.

MITIGATION MEASURES

The project site is located in an area of existing industrial uses. No residential or other sensitive uses are adjacent or close to the project site. Also, the project will be required to comply with the City of Santa Clara's noise standards. Therefore, staff recommends no mitigation measures related to noise.

CONCLUSION

The project site is located in an area of existing industrial uses. No residential or other sensitive uses are adjacent or close to the project site. Also, the project will be required to comply with the City of Santa Clara's noise standards. Therefore, staff concludes that the project is not expected to produce significant adverse noise impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The project proposes to redevelop an industrial site in the city of Santa Clara. According to the Association of Bay Area Government's *Projections 2007,* the city of Santa Clara had an estimated total of 104,920 jobs and 49,470 employed residents in 2005, resulting in a jobs/housing ratio of 2.12 jobs per employed resident.

DISCUSSION

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would redevelop a predominantly vacant industrial site with an approximately 312,000 square foot data center. Although approval of the project would result in a slight increase in jobs in the city, the proposed project would not induce substantial population growth in the city or substantially alter the city's jobs/housing ratio and would therefore result in a less than significant population and housing impact.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

The project site was a former lumber facility and is currently developed with16 backup generators within the 312,000 square-foot Data Center. The project site has not contained homes and the therefore, the project would not displace any existing homes.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project site was a former lumber facility and is currently developed with16 backup generators within the 312,000 square-foot Data Center. The project site has not contained homes and the therefore, the project would not necessitate the construction of replacement housing elsewhere.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center would not result in significant adverse population and housing impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Fire Services

Fire protection services are provided by the City of Santa Clara Fire Department (SCFD).The city has ten fire stations consisting of eight engines, two trucks, one rescue/light unit, three ambulances, one hazardous materials unit, and one command vehicle. The Fire Department is comprised of 180 personnel and is supplemented by over 60 Volunteer/Reserve firefighters.[2]

The Suppression Division, using the Incident Command System, efficiently manages over 7,000 emergency responses annually. The full time emergency staff is supplemented by an active Volunteer/Reserve force, which responds to over 2,750 emergency incidents and contributes more than 7,900 hours of community service each year.[3]

The closest station to the project site is Station 1, located at 777 Benton Street, which is approximately one mile south of the project site.

Police Services

Police protection services are provided by the City of Santa Clara Police Department (SCPD). The SCPD has approximately 131 sworn officers, 66 civilian employees, and 25 reserves.

[2] http://santaclaraca.gov/index.aspx?page=326, accessed January 26, 2012.
[3] http://santaclaraca.gov/index.aspx?page=338, accessed January 26, 2012.

Police headquarters are located at 601 El Camino Real, approximately one mile southeast of the project site[4].

Schools

The nearest schools to the project site are Scott Lane Elementary School, located at 1925 Scott Boulevard (approximately 1.8 miles west of the site traveling by road), Buchser Middle School, located at 1111 Bellomy Street (approximately 1.4 miles south of site), and Santa Clara High School, located at 3000 Benton Street (approximately 3.1 miles southwest of the site).

Parks

The nearest public parks to the project site are the Reed Street Dog Park, located at 888 Reed Street (approximately 0.3 miles west of the site), and Larry J. Marsalli Park, located at the intersection of Lafayette Street and El Camino Real (approximately 0.7 miles southwest of the site).

DISCUSSION

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire Protection?

The proposed project is the redevelopment of an industrial site with an approximately 312,000 square foot data center. The Phase 1 of the Santa Clara SC- Data Center has been reviewed by the City of Santa Clara Police and Fire Departments. The Phase 2 portion will also be reviewed by the City of Santa Clara Police and Fire Departments. The project would be constructed in conformance with current codes, including features that will reduce potential fire hazards and increase security. Based upon consultation with City of Santa Clara Public Works Staff, sufficient water is available for fire flow at the site5. The proposed project may result in an incremental increase in the need for police and fire services, but would not require the construction of new facilities or stations.

Police Protection?

The proposed project is the redevelopment of an industrial site with an approximately 312,000 square foot data center. The Phase 1 of the Santa Clara SC- Data Center has been reviewed by the City of Santa Clara Police and Fire Departments. The Phase 2 portion will be also be reviewed by the City of Santa Clara Police and Fire Departments. The project would be constructed in conformance with current codes, including features that will reduce potential fire hazards and increase security. The proposed project may result in an incremental increase in

[4] City of Santa Clara Police Department, http://scpd.org/index.aspx?page=1521, accessed January 26, 2012.

[5] Source: Santa Clara SC-1 Data Center Initial Study, February 2008, File Number PLN2007-06643.

the need for police and fire services, but would not require the construction of new facilities or stations.

Schools?

The proposed project is located 1.4 miles from the closest school site. Although approval of the project could result in generation of new students in the city, there are approximately 74 schools that serve Santa Clara students. There are 12 high-schools, 12 middle schools, 44 elementary schools and three classified as other. Therefore, the project would not result in an increase in school population or result in the need for new school facilities, or modification to school facilities, that could result in significant environmental impacts.

Parks?

The proposed project would not generate substantial population growth in the project area or result in the use of public park facilities in the city by new residents. Some employees at the project site may visit local parks, however, it is not anticipated that this use would create the need for any new facilities or adversely impact the physical condition of existing facilities.

Other Public Facilities?

None identified.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center would not result in significant adverse public service impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The city of Santa Clara General Plan parks, open space and recreation facilities are critical in satisfying the diverse outdoor needs of Santa Clara residents and visitors, improving the physical health of the community and providing opportunities for social interaction. Open spaces should offer options for all types of activities, from passive rest areas and trails for walking or jogging, to fields and recreational facilities for organized sports. Overall, parks are an essential contributor to quality of life.[6]

The city of Santa Clara parks and recreation facilities are organized based on typical size, programming and intended use. Park categories include Community Parks (one), Mini-Parks (four), Neighborhood Parks (24), Public Open Space (three) Recreation Facility (16)[7].

The nearest general use public park to the project site is Larry J. Marsalli Park, located approximately 0.7 mile southwest of the site at the intersection of Lafayette Street and El Camino Real.

[6] City of Santa Clara 2010-2035 General Plan, Chapter 5, Goals and Policies.

[7] City of Santa Clara 2010-2035 General Plan, Appendix 8.8 Parks and Recreation Inventory.

DISCUSSION

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Although the proposed project may increase employee usage of nearby parks and recreation facilities, this increase would not have an impact on these facilities such that adverse physical effects would result.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Given the local labor force and the two hour commuting time within the surrounding Bay Area counties to the project site, it is not expected that employees would relocate to the immediate project area, thereby necessitating construction or expansion of recreational facilities. Based on the quantity and variety of parks within the local park area the proposed project would not require construction of new parks or expansion of recreational facilities.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center would not result in significant adverse impacts to parks and recreational facilities.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Transportation/Traffic. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Existing Roadway Network

The project site can be accessed from Reed Street and Mathew Street. Regional access is provided by U.S. 101 and Central Expressway. Local access is provided by De La Cruz Boulevard, Martin Avenue and Mathew Street.

Regional and Local Roadway Access

Exiting Transit Services

Transit service in the area includes local bus service provided by the Santa Clara Valley Transportation Authority (VTA).

Bus Service

Route 304 - South San Jose to Sunnyvale Transit Center via Arques has a stop at De La Cruz Boulevard and Reed Street. The route operates northbound in the morning and southbound in the evening.

Caltrain and Altamont Commuter Express

The Santa Clara Caltrain station is located approximately one mile from the project site, near Railroad Avenue and El Camino Real. Caltrain commuter rail service between San Francisco to Gilroy and the Altamont Commuter Express (ACE) rail service between Stockton and San Jose both stop at the Santa Clara Caltrain Station. The ACE rail service operates three trains during the morning and afternoon commute periods.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities comprise sidewalks, crosswalks, and pedestrian signals. Sidewalks are provided on both sides of the roadways bordering the project site.

Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only. There are no bicycle paths, lanes or routes in the project vicinity.

Overview

Access to the site would be provided via one driveway on Reed Street and one driveway on Mathew Street. Access to the electric substation would be from the Mathew Street driveway.

The proposed data center would employ approximately 30 people. In addition, approximately 20 clients would visit the site to work on the servers at the facility.[8] At any one time, an estimated 50 people would be at the site.

[8] Source: Ron Ronoconi, Principal Architect, CAS Architects, Inc., personal communications, October 11, 2007, cited from Santa Clara SC-1 Data Center Initial Study, February 2008, File Number PLN2007-06643

DISCUSSION

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The project site is located near two major arterial streets, De La Cruz Boulevard and Lafayette Street, with good access to highways. Anticipated construction traffic would be greater than projected operational traffic by Data Center employees and clients. Construction traffic would not be greater than that required for construction of the existing Data Center building and Phase 1 improvements over the last three to four years (2008-2011). Construction traffic and construction activities would not result in substantial impacts to the performance of intersections, streets, or other modes of transportation, such as transit, bicycle lanes, or pedestrian access.

b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The standard reference for trip generation, the Institute of Transportation Engineers (ITE) trip generation manual (7th Edition, 2003), does not include trip generation rates for data centers. Trip generation rates, including during peak hour periods, are expected to be low, however, due to a low employment density and the occupation of much of the building with equipment. The proposed project is anticipated to generate less than 100 new peak hour trips or add less than 10 vehicles per lane during the peak hour on surrounding streets. For these reasons, the proposed project is not anticipated to result in transportation level of service impacts to signalized intersections or freeway segments.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project would be an industrial use located approximately 0.4 miles west of the Norman Y. Mineta San José International Airport. The current Comprehensive Land Use Plan (CLUP) for the Norman Y. Mineta San José International Airport was adopted on May 25, 2011. The CLUP includes land use compatibility policies and standards updated from the preceding land use policy plan (as amended through November 2008), which previously covered activities around the airport. These policies and compatibility criteria form the basis for evaluating the land use compatibility of individual proposed projects. The CLUP is not intended to define allowable land use for a specific property, although the plan establishes development standards or restrictions that may limit certain types of uses and structures on a parcel.

Safety zones have been identified around San José International Airport in conformance with federal and state regulations. Airport safety zones are established to minimize the number of people exposed to potential aircraft accidents in the vicinity of an airport by imposing density and use limitations within these zones. Designated safety zones for the Mineta San Jose International Airport are shown on Figure 4-6 of the Application for Small Power Plant Exemption. The project site is within the Traffic Pattern Zone, the least restrictive of the airport safety zones.

Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, establishes imaginary surfaces for airports and runways as a means to identify objects that are obstructions to air navigation. Each surface is defined as a slope ratio or at a certain altitude above the airport elevation. The project site falls within the Federal Aviation Regulations Part 77 Surfaces 125 feet (above mean sea level [AMSL]) height restriction zone for the Mineta San José International Airport. The Santa Clara SC-1 Data Center building height was reviewed by the FAA and a Determination of No Hazard to Air Navigation made on March 25, 2011.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Design Features or Incompatible Uses

The Data Center building is located within an industrial area of the city of Santa Clara that is both designated and zoned for industrial development. The project site is bordered by the Union Pacific Railroad (UPRR) main line and has access from Mathew Street on the north and Reed Street on the south. The proposed project would not substantially increase hazards due to design features or incompatible uses.

Thermal Plumes

The proposed project would be an industrial use located approximately 0.4 mile west of the Norman Y. Mineta San José International Airport. Energy Commission staff uses a 4.3 meters per second (m/s) vertical velocity screening threshold for determining whether an exhaust plume may pose a hazard to aircraft. This velocity generally defines the point at which general aviation aircraft begin to experience more than light turbulence. Exhaust plumes with high vertical velocities may damage aircraft airframes or cause turbulence resulting in loss of aircraft control and maneuverability.

Using the Spillane Approach methodology, Energy Commission Air Quality staff calculated worst-case average plume vertical velocities at different heights above the proposed sixteen emergency backup generators and proposed cooling tower to assess potential impacts to aircraft.

Calculations assumed the worst-case meteorological conditions (cool temperatures and calm winds) for all sixteen generators and cooling tower operating at full load, when the maximum upward plume velocity would be generated. Air Quality staff determined the

generators and cooling tower would not generate thermal plumes above 4.3 meters per second (m/s) at 500 feet and there would be no hazards at altitudes where planes would fly. (See **Air Quality** section for detailed results of the plume velocity analysis).

e) Result in inadequate emergency access?

Emergency access would be provided to the site via the two project driveways. Paved access is proposed to extend around the entire building. The final site design is proposed to be consistent with regulatory requirements for fire truck access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Some employees and visitors to the site may use public transit (bus or train services) to access the site. Transit service impacts are defined to occur when a project conflicts with existing or planned transit facilities or generates potential transit trips without providing adequate facilities for pedestrians and bicyclists to access transit routes and stops. VTA, Caltrain, and ACE provide transit service to the Santa Clara Caltrain Station and Santa Clara Transit Center, approximately one mile from the site. In addition, VTA also provides bus service along De La Cruz Boulevard near the project site. There are adequate pedestrian routes connecting the project site to the bus stops on De La Cruz Boulevard.

The project is expected to generate less than ten new trips during the peak hour. All transit lines serving the project site can comfortably accommodate higher passenger loads. Thus, transit capacity is sufficient to adequately handle all new transit trips generated by the proposed project. Based on the impact criteria listed above, the proposed project would not have a significant impact on transit facilities.

The project would modify existing sidewalks on Reed Street and Mathew Street to accommodate two new driveways. Other than temporary impacts during construction, the project would not result in conflicts with pedestrian facilities in the area. The project would not impact bicycle facilities in the project vicinity.

The project includes on-site bicycle storage, changing rooms, and showers to accommodate travel by bicycle by employees and clients.

MITIGATION MEASURES

None

CONCLUSION

The proposed Santa Clara SC-1 Data Center would not result in significant adverse transportation and traffic impacts.

REFERENCES

City of Santa Clara 2010-2035 General Plan.

Xeres Ventures, LLC2011a – CEC/R.Obelsby (tn:62957) Application for Small Power Plant Exemption for Phase 2 of the Santa Clara SC-1 Data Center. Submitted to CEC/Dockets on 11/16/11; filed on 11/21/11. 2 Volumes. 1043 pps.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	x
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	x
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	x
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	x
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	x
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	x
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	x

ENVIRONMENTAL SETTING

The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant

DISCUSSION

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No. No new significant impacts to water quality or hydrology would occur with the Xeres Ventures LLC, Santa Clara SC-1 Data Center project. The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant.

All major exterior construction activities for drainage on and around the Data Center building facility have been completed.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No. The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No. The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant. All major exterior construction activities for drainage on and around the Data Center building facility have been completed

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Facility Potable Water needs are met by the City of Santa Clara. The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

No. The proposed cooling towers will use recycled water supplied by South Bay Water Recycling. The waste water will be discharged via existing sewerage conveyances to the San Jose/Santa Clara Water Pollution Control Plant

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Yes. Solid waste collection in the City of Santa Clara is provided by Mission Trail Waste System. Newby Island Landfill provides disposal capacity to the City of Santa Clara. Newby is one of the largest active landfills in the San Francisco Bay area. The facility encompasses over 342 acres with the permitted footprint covering 313 acres. The facility is permitted to accept up to 4000 tons of Municipal Solid Waste (MSW) per day. There will be sufficient capacity to meet the projects waste disposal needs.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Yes. See the discussion above.

MITIGATION MEASURES

No Mitigation Measures Are Required.

CONCLUSION

The Santa Clara SC-1 Data Center will result in no direct, indirect or cumulative impacts and no mitigation beyond that already applied by the City of Santa Clara in their Initial Study and Mitigated Negative Declaration of March 5, 2008, are required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Waste Management. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	X	☐
b) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	X	☐
c) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	X	☐
d) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

ENVIRONMENTAL SETTING

A 312,000 square-foot data center, constructed on an approximately 16.1-acre site at 555 Reed Street, Santa Clara, California, zoned MH for heavy industrial use by the City of Santa Clara. The General Plan Designation for the location is also Heavy Industrial. The facility has been constructed and

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The project owner/operator would be considered the generator of hazardous liquid wastes at the site during facility operations. Therefore, the project owner will be required to obtain unique hazardous waste generator identification number. The hazardous wastes would be temporarily stored on site, transported off site by licensed hazardous waste haulers, and recycled or disposed of at authorized disposal facilities in accordance with established standards applicable to generators of hazardous waste (Title 22, CCR, §§ 66262.10 et seq.).The amount of hazardous material generated by this project is extremely small.

b) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Waste will be disposed of at the appropriate facilities.

c) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Santa Clara project facility is constructed on a property that was once used for agricultural, commercial and industrial uses including manufacturing. The property was listed on the Cortese Hazardous Waste and Substance Sites list. In 2005, reported groundwater pentachlorophenol (PCP) concentrations were considered stable and constrained to the site and regulatory closure was issued by the Regional Water Quality Control Board in March 2006. All buildings and operations from previous property owner and tenants were demolished and disposed of in landfills. The current site has been graded, partially paved, and a data center is constructed on the property. Therefore, the site will not be a significant hazard to the public or environment.

d) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Solid waste collection in the City of Santa Clara is provided by Mission Trail Waste System. Newby Island Landfill provides disposal capacity to the City of Santa Clara. Newby is one of the largest active landfills in the San Francisco Bay area. The facility encompasses over 342 acres with the permitted footprint covering 313 acres. The facility is permitted to accept up to 4000 tons of Municipal Solid Waste (MSW) per day. There will be sufficient capacity to meet the projects waste disposal needs.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

Project will comply with federal, state and local statues and regulations related to solid waste management.

MITIGATION MEASURES

Project development will not create impacts related to waste management. There will be additional non-hazardous and hazardous waste created, however the amount of waste increase is insignificant. No additional mitigation is necessary.

CONCLUSION

The proposed project would not result in significant adverse impacts related to waste management.

XXI. Transmission System Engineering:

TRANSMISSION SYSTEM ENGINEERING

Testimony of Sudath Edirisuriya and Mark Hesters

INTRODUCTION

The Santa Clara Data center is an approximately 312,000 square foot building on a 16.1 acre site located on the north side of Reed street, west of De La Cruz Boulevard, in the city of Santa Clara. The applicant (Xeres) proposes to install 16 backup generators (2250kW/2800kVA each) at the Santa Clara SC-1 data center in addition to the existing 16 backup generators that are already installed at the project facility. The net output of the proposed 16 generators is approximately 36 MW. The backup generators will be run only for short periods for testing and maintenance and otherwise will not operate unless there is a power outage. The applicant has completed the phase one of the project and seeks approval to complete to build out of phase two of the project.

PROJECT INTERCONNECTION INFORMATION

Under normal operation, the serving electric utility Silicon Valley Power (SVP) will provide electrical power for the Data center. As a part of the phase one of the project, an electrical substation and associated electrical equipments have been constructed on the northeast portion of the site to facilitate the electrical demand of the Data center. SVP has routed new 60 kV loop feeders into the newly built substation via the Mathew Street. The three Bay substation has been built with three step down transformers (30/40/50 MVA, 60 kV to 24.9 kV), breakers, disconnect switches and relevant protection equipment. The electrical power from the substation will be transferred through conductors which are capable of carrying the full load continuous current and routed through three underground duct banks into the indoor 24.9 kV distribution normal and transfer buses. The detailed descriptions of the design facilities have been discussed in the Application for Small Power Plant Exemption section 2.0, 2.2.1, 2.2.2 and Figure Dupont Fabros / SC-1 Plant revised primary distribution single line.

PROJECT ELECTRICAL GENERATION EQUIPMENTS

Each backup generator consists of a Detroit Diesel engine that is capable of producing 2250kW of electricity at the generator output terminals. The backup generators will be run for short periods for testing and maintenance purposes and otherwise will not operate unless there is a disturbance or interruption of the electrical utility supply. Protective functions are added at all relays at 24.9 kV switch gear to comply with SVP requirements including backup

reverse power trip set at 500kW with fixed delay of 2.0 seconds. These relays will prevent power flow into the SVP system during the outages and testing and maintenance time period. Therefore, the applicant will not utilize backup generators to dispatch or sell power to the SVP or any other party. The entire Data center phase one and two are designed to support a critical load for the computer servers and associated equipment of 36.4 MW or 18.2 MW per phase.

REGULATIONS AND STANDARDS COMPLIANCE

- California Public Utilities Commission (CPUC) General Order 95 (GO-95*), Rules for Overhead Electric Line Construction,* specifies uniform requirements for the construction of overhead electric lines. Compliance with this order ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of overhead electric lines, and for the safety of the general public.
- CPUC General Order 128 (GO-128), *Rules for Underground Electric Line Construction,* establishes uniform requirements for the construction of underground electric lines. Compliance with this order also ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of underground electric lines, and for the safety of the general public.
- National Electric Safety Code 1999 provides electrical, mechanical, civil, and structural requirements for overhead electric line construction and operation.
- Silicon Valley Power planning standards also provide the standards and guidelines that assure adequacy, security and reliability during the planning process of the project electric transmission facilities. The SVP planning standards incorporate the NERC and WECC and California ISO planning standards. With regard to power flow and stability simulations, the SVP planning standards are similar to those of the NERC and WECC, and to the NERC's planning standards for transmission system contingency performance. The SVP standards apply to all participating transmission owners that interconnect into the SVP controlled transmission grid.

CONCLUSION AND RECOMMENDATIONS

- The applicant should generate power by utilizing the proposed backup generators during the power outages, testing and maintenance purposes and should not transfer power to the SVP grid.
- The Staff has reviewed the interconnection one line diagrams and System Impact Study (SIS) of the project. Staff finds that there are no Transmission System Engineering (TSE) impacts caused by the project to the neighboring utility.
- The project phase one and two both are in compliance with state, and local statues and regulations related to TSE standards.
- There is no associated Checklist for this area of analysis

XXVII. Energy Resources:

ENERGY RESOURCES

Shahab Khoshmashrab

INTRODUCTION

The Energy Commission makes findings as to whether energy use by the Santa Clara SC-1 Data Center, Phase 2 (SC-1) will result in significant adverse impacts on the environment, as defined in the California Environmental Quality Act. If the Energy Commission finds that the SC-1's consumption of energy would create a significant adverse impact, it must determine whether there are any feasible mitigation measures that could eliminate or minimize the impacts. An adverse impact can be considered significant if it results in adverse effects on local and regional energy supplies and energy resources.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS

No Federal, State or local/County laws, ordinances, regulations and standards (LORS) apply to energy resources for this project.

ASSESSMENT OF IMPACTS

SC-1 will consist of 32, 2.25 MW (net output), diesel-fired emergency backup engine generators (Mitsubishi Model: 2010 Detroit Diesel MTU16V4000G83). The backup generators will operate for short periods for testing and maintenance purposes and otherwise will not operate unless there is a disturbance or interruption of the utility supply. The combined total number of hours of operation for reliability purposes (i.e.; testing and maintenance) for all 32 engines is limited to 700 hours annually, or approximately 22 hours per generator (SC-1 2011a, SPPE § 2.3.2). At this rate, the quantities of diesel fuel used for all 32 engines would be approximately 9,000 barrels per year (bbl/yr). Compared to California's 2010 diesel fuel capacity of approximately 315,000,000 bbl/yr[9], this rate is insignificant (0.003 of one percent).

Therefore, the project will not have a significant adverse effect on local and regional energy supplies and will not create a significant adverse impact on energy resources.

CONCLUSIONS

The project's fuel consumption will be insignificant compared to California's overall consumption. The project will not have a significant adverse effect on local and regional energy supplies and will not create a significant adverse impact on energy resources. No mitigation measures are necessary.

PROPOSED CONDITIONS OF EXEMPTION

No conditions of exemption are proposed as no impacts are expected.

There is no associated Checklist for this area of analysis

REFERENCES

Xeres Ventures, LLC2011a – CEC/R.Obelsby (tn:62957) Application for Small Power Plant Exemption for Phase 2 of the Santa Clara SC-1 Data Center. Submitted to CEC/Dockets on 11/16/11; filed on 11/21/11. 2 Volumes. 1043 pps.

[9] The Energy Commission's Weekly Fuels Watch Report for 2010

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Authority: Public Resources Code Sections 21083 and 21083.05.
Reference: Gov. Code Section 65088.4; Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.05, 21083.3, 21093, 21094, 21095, 21151; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3rd 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

DISCUSSION

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Energy Commission staff has reviewed the November 21, 2011, proposed Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2, project (11-SPPE-01) and examined the information and the actions of the City of Santa Clara in permitting the project through issuance of an Initial Study and Mitigated Negative Declaration (March 5, 2008) and also the Bay Area Air Quality Management District's issued Authority to Construct issued July 15, 2010, for the project. The Energy Commission staff found no substantial environmental effects from the proposed construction and operation of the Phase 2 project.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No cumulatively considerable impacts have been identified in the Energy Commission staff evaluation of the project.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

No substantial adverse effects either direct or indirect, have been identified by Energy Commission staff in their evaluation of the project.

MITIGATION MEASURES

Mitigation measures contained in the City of Santa Clara Initial Study and Mitigated Negative Declaration and the measures required by the Bay Area Air Quality Management District in their Authority to Construct and the subsequent Permit to Operate, when applied to the completion of the equipment installation (standby generators, chilled water system including the second 500,000 gallon storage tank) and all other ancillary and necessary equipment and construction will insure that there are no significant direct, indirect or cumulative impacts from the completion and the operation of the Xeres Ventures LLC, Santa Clara SC-1 Data Center.

CONCLUSION

The Energy Commission staff upon completion of the review of the relevant information regarding completion and operation of the Xeres Ventures LLC, Santa Clara SC-1 Data Center located at 555 Reed Street, Santa Clara, California, have determined that there are no significant impacts, direct, indirect or cumulative, from the project. The City of Santa Clara and the Bay Area Air Quality Management District have sufficient Mitigation Monitoring and Reporting procedures in place to insure the compliance of the project with all relevant laws, ordinances, regulations and standards. The Energy Commission staff recommends that the project be exempted from the Energy Commission's jurisdiction per provisions of Section 25541 of the Warren-Alquist Act (Pub.Resources Code Section 25541).

REFERENCES FOR THE INITIAL STUDY

Xeres Ventures, LLC2011a – CEC/R.Obelsby (tn:62957) Application for Small Power Plant Exemption for Phase 2 of the Santa Clara SC-1 Data Center. Submitted to CEC/Dockets on 11/16/11; filed on 11/21/11. 2 Volumes. 1043 pps.

Xeres Ventures, LLC2011b – CEC/Dockets (tn:62975) Xeres Ventures, LLC's Responses to Informal Data Requests. Submitted to CEC/ Dockets on 11/18/11. 63 pps.

Xeres Ventures, LLC2012a – CEC/Dockets (tn:63437) Xeres Ventures, LLC's email Responses to Cultural Resources, Water, Transmission Engineering informal data requests, 1/20/12. Contained in Memorandum to Dockets, Submitted to CEC/ Dockets on 1/23/12. 8pps.

CEC2011a – CEC/C.Davis (tn:63023) CEC Notice of Receipt Letter. Submitted to CEC/Dockets 12/2/22. 3pps.

CEC2011b – CEC/R.Weisenmiller (tn:63142) Memorandum-Hearing Officer Assignment. 1p.

CEC2011c – CEC/Commissioners (tn:63141) Notice of Public Informational Hearing and Site Visit. Filed 12/15/11. 8pps.

CEC2012a – CEC/C.Peterman (tn:63405) Notice of Evidentiary Hearing and Further Orders. 1/18/11. 8pps.

CEC2012b – CEC/Avalos (tn:63406) Proof of Service List for Santa Clara SC-1Data Center, Phase 2, Small Power Plant Exemption application**.** Submitted to CEC/ Dockets on 3/13/06.

XERES VENTURES LLC, SANTA CLARA SC-1 DATA CENTER SMALL POWER PLANT EXEMPTION (11-SPPE-01) INITIAL STUDY PREPARATION TEAM

Executive Summary.....Robert Worl

Introduction.....Robert Worl

Project Description .....Robert Worl

Aesthetics.....Candace Hill

Agriculture and Forest .....Candace Hill

Air Quality.....Joseph Hughes

Public Health .....Obed Odoemelam, Ph.D.

Biological Resources/Nitrogen Deposition Supplement.....Joy Nishida and Wenjun Qian

Cultural Resources ..... Marsha L. (Shaelyn) Strattan

Geology and Soils ..... Casey Weaver

Green House Gas Emissions .....Joseph Hughes

Transmission Line Safety and Nuisance .....Obed Odoemelam, Ph.D.

Hazardous Materials..... Geoff Lesh

Hydrology and Water Quality..... Casey Weaver

Land Use and Planning .....Candace Hill

Mineral Resources..... Casey Weaver

Noise .....Shahab Khoshmashrab

Population and Housing.....Candace Hill

Public Services .....Candace Hill

Recreation .....Candace Hill

Transportation and Traffic.....Candace Hill

Utilities and Services ..... Casey Weaver

Waste Management .....Ellie Townsend-Hough

Transmission System Engineering .....Mark Hesters and Sudath Edirisuriya

Traffic and Transportation.....Candace Hill

Energy Resources .....Shahab Khoshmashrab

Mandatory Findings of Significance.....Robert Worl and Staff

Staff Counsel……..…….Dick Ratliff

Project Assistant..... Mineka Fogge

DECLARATION OF

I, **Ellen Townsend-Hough** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as an **Associate Mechanical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Waste Management** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/12 Signed: Ellen Townsend-Hough

At: Sacramento, California

DECLARATION OF GEOFFREY LESH

I, **Geoffrey Lesh** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Mechanical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Hazardous Materials Management** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/2012 Signed: Geoffrey Lesh

At: Sacramento, California

DECLARATION OF

I, **Wenjun Qian** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as an **Air Resources Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Biological Resources Appendix - Nitrogen Deposition** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/2012 Signed: _____

At: Sacramento, California

Wenjun Qian, Ph.D.

Professional Experience

Air Resources Engineer ***(July 2010 – Present)***

California Energy Commission, Siting Transmission and Environmental Protection Division

Currently acting as air quality technical staff on Siting projects filed with the Energy Commission including Mariposa, Pio Pico, Blythe II, Sentinel, and Inland Empire. Specific responsibilities include the following:

- Analyze the impacts of the construction and operation of large power generation projects on air quality, Green House Gas and climate change
- Determine the conformance to applicable U.S. EPA, CARB and local air district regulations and standards
- Investigate and recommend appropriate emission mitigation measures
- Prepare air quality staff assessments and technical testimony
- Develop and monitor air quality compliance plans
- Review and evaluate U.S. EPA, CARB, and local air district air quality rules and regulations
- Collect, analyze and evaluate data for the effects of air pollutants and power plant emissions on human health, vegetation, wildlife, water resources and the environment
- Develop, recommend, and implement statewide planning and policy initiatives for the Energy Commission and Governor

Research Assistant ***(Sept. 2005 – June 2010)***

University of California, Riverside, Mechanical Engineering

- Evaluated air quality impact of distributed generations in South Coast Air Basin of California
- Estimated air quality impact from the key power plant of Los Angeles Department of Water and Power in shoreline urban areas
- Improved air quality model results by evaluation with experimental data
- Prepared and presented multiple comprehensive reports, journal papers, and conference papers

Education

PhD Mechanical Engineering, University of California, Riverside (August 2010)
MS Mechanical Engineering, George Washington University (August 2005)
BS Mechanical Engineering, Shanghai Jiao Tong University (June 2004)

DECLARATION OF

I, **Joy Nishida** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Planner II**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Biological Resources** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/12 Signed: Joy Nishida

At: Sacramento, California

JOY NISHIDA
Biologist

Experience Summary

Twenty-eight years experience in the biological field, including botanical consulting, curatorial management of vertebrate and herbarium collections, college-level instruction, and conducting biological resources impact analyses for inclusion in environmental documents.

Education

- California State Polytechnic University, Pomona—Master of Science, Biological Sciences
- California Polytechnic State University, San Luis Obispo—Bachelor of Science, Environmental & Systematic Biology and Natural Resources Management (Forestry Concentration)

Professional Experience

July 2008 to Present—Planner II: Siting, Transmission & Environmental Protection Division – California Energy Commission, Sacramento

As a staff biologist, primary duties include conducting impact analyses to biological resources for power plant siting projects. Other duties include evaluating compliance with accepted Conditions of Certification related to biological resource technical areas for power plant facilities and coordinating with biological resource protection and management agencies, environmental organizations, universities, and special interest groups to assure their biological input into Commission programs.

January 2008 to July 2008—Environmental Scientist: Regional Programs Unit, Division of Financial Assistance – State Water Resources Control Board, Sacramento

Using scientific judgment, provided technical and administrative review of environmental documents for projects receiving financial assistance from the State Water Board. Reviewed and commented on environmental documents for wastewater treatment and water reclamation facilities, watershed protection, nonpoint source pollution control, and other local assistance projects to assure compliance with the California Environmental Quality Act and other Division's environmental review process. Participated in applicant meetings, prepared Agenda and Resolution language for various projects seeking local funding assistance from the State Water Board, developed environmental review summaries of projects to be funded, initiated consultation with federal authorities, developed mitigation measures, and resolved environmental concerns related to proposed projects. Coordinated interagency review of environmental documents subject to crosscutting federal regulations, and organized and maintained the Environmental Services filing system, library, and database.

DECLARATION OF

I, **Candace M. Hill** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Planner II**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Aesthetics, Agricultural Resources, Land Use, Population and Housing, Public Services, Recreation and Transportation** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/30/12 Signed: CMHill

At: Sacramento, California

DECLARATION OF

I, **Joseph Hughes** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Air Resources Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Air Quality, Greenhouse Gas, and the Appendix for Traffic and Transportation** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/30/12 Signed: _____

At: Sacramento, California

Joseph Hughes

Education

Sacramento State University 2003-2008
Sacramento, Ca

Bachelor of Science, Mechanical Engineering Technology, 3.25GPA-May 2008

AA degree in liberal arts and science 3.0 GPA

Experience

California Energy Commission March 2009-Present
Sacramento, Ca

Air Resources Engineer

- Currently co-authoring air quality staff assessments for thermal power plant projects in California producing more than 50 mega-watts of electricity.
- Currently working on American Recovery and Reinvestment Act (ARRA) projects, along with natural gas fired projects.
- Review and process compliance reports for multiple power plants in California.
- Currently working on project amendments and modifications requiring air quality analysis.
- Trained in CEQA and NEPA analysis, along with AERMOD air modeling.

Capital Engineering Consultants, Inc April 2008-2009
Sacramento, Ca

Mechanical Engineer

- Responsible for detailed and accurate take off calculations to ensure successful project completion.
- Completing engineering design for Heating Ventilation Air Conditioning and Plumbing by utilizing complex engineering calculations and software.
- Responsible for meeting code regulation and requirements to the degree acceptable by various organizations.
- Lead productive weekly team meetings to discuss project scheduling, cost effectiveness, request for information, and change orders.

DECLARATION OF MARK HESTERS

I, **Mark Hesters** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Senior Electrical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Transmission System Engineering** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/30/12 Signed: _____

At: Sacramento, California

DECLARATION OF

I, **Marsha L. (Shaelyn) Strattan** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Planner III, Supervisor – Cultural Resources Unit**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Cultural Resources** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/12 Signed: Marsha L. (Shaelyn) Strattan

At: Sacramento, California

Marsha L. (Shaelyn) Strattan
Environmental Planner II
California Energy Commission
Siting, Transmission, and Environmental Protection Division
Community Resources Unit

EXPERIENCE SUMMARY

Six years management experience over programs/projects involving environmental protection, resource conservation, and energy facilities planning/siting. Twelve years experience in land use and environmental planning, environmental review and CEQA/NEPA analysis, and project management with the California Energy Commission, California State Parks, and Calaveras County Planning Department. Twenty-five years of writing, editing, and research experience, focused on land use, aviation, recreation, agriculture, and the environment, with the California Air Resources Board, California Department of Toxic Substances Control, California Department of Fish and Game, and as owner of The Wordworker, a writing, editing, and research company specializing in environmental research, education, and public relations. Seven years experience as an Air Traffic Control(ATC)Specialist with the Federal Aviation Administration and U.S. Air Force. Six years as National Weather Service (NWS) certified Weather Observer; concurrent with work as ATC. Land Use and Environmental Planning Certificate from the University of California at Davis. Education and experience equivalent to graduation from college. Currently, supervisor of the Cultural Resources Unit/Energy Commission's Environmental Protection Office - Siting, Transmission, and Environmental Protection Division.

PROFESSIONAL EXPERIENCE

California Energy Commission

Planner III

Planner III – Supervisor, Cultural Resources Unit 1 yr/5 mos

Supervisor (9/1/2010 - present) Cultural Resources Unit - First-level supervisor, performing a variety of supervisory, administrative, and analytical tasks. Responsible for a staff of 6-10 technical specialists and consultants performing cultural resource analyses in the areas of power plant siting, electric transmission line corridor planning, electric transmission line licensing, electric generation resource planning, energy conservation, new energy technology development, and energy policy/planning. Advise the Office Manager and Deputy Director on procedural, legislative, and technical issues. Exercise a high degree of quality control (rigorous analytical foundation and meticulous writing technique) over all products originating from staff in the Unit and ensures timely completion of staff assignments. Act as a consultant to Commission management on the most complex energy and environmental issues, including energy facility siting plans prepared by federal, state and local agencies; adoption, deletion or modification of environmental or energy-oriented legislation, ordinances or regulations; new policies being proposed by the Commission or other agencies; and implications of energy development proposals for siting regulations. Complete regular performance evaluations of unit staff. Complete the most complex multi-disciplinary environmental analyses. Provide training in the areas of land use, traffic and transportation (including aviation), and CEQA/NEPA compliance.

Planner II 2 yrs/10 mos[1]

Environmental Technical Specialist - Identify, describe, and analyze complex environmental issues related to the construction and operation of electrical energy production facilities, transmission corridors, alternative energy technologies and energy conservation, and Commission programs and policies. Prepare components of Staff Analyses to comply with requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), with emphasis

[1] Nov 2006 – Nov 2008 and Dec 2009 – Sept 2010

materials. Conduct CEQA seminars at California Trails and Greenways Conference (September 2002 & 03) and Resource Ecologists' In-Service Training Seminar (2002). Act as Service Center liaison with the Environmental Stewardship Section of the Natural Resources Division regarding the effectiveness and improvement of the environmental review process.

California Air Resources Board (Research Division) Nov 1998-Nov 2000
Research Writer

Research, write, and/or edit technical documents, presentations, and related materials, with special emphasis on scientific and environmental writing for a general readership. These documents include Requests for Proposals; responses to public inquiries; consumer guidelines and fact sheets; articles for magazines and technical journals; brochures; webpage information (both internal and external); legislative bill analyses; briefing documents; proposals; and Board presentations and agenda items. Evaluate suitability of documents for publication.

The Wordworker May 1987-Nov 1999
Owner & Primary Researcher/Editor/Author

Work included narratives (including voice-overs), scripting, copy editing, transcription, and technical writing; proposals (grants, bids, and new business); legal briefs (environmental and family law); training and teacher's manuals; desktop publishing (brochures, newsletters, flyers, etc.); and adaptation of scientific information for general readership. Research, draft, review/edit, and comment on CEQA/NEPA environmental documents; coordinate preparation of materials among project scientists, lead and responsible agencies, and applicants. Promotional consultant and press liaison for several non-profit fundraisers, seminars, and symposiums.

Federal Aviation Administration 1975-1981
Air Traffic Control Specialist

Control air traffic at Salem Tower (Salem, OR) and the Oakland Air Traffic Control Center in Fremont, CA. Coordinate aviation-related search and rescue operations. Provide pilot weather briefings, flight plan assistance, and in-flight information at Bellingham International Airport, Dannelly Field (Montgomery, AL) and Purdue University Airport (W. Lafayette, IN).

Tennessee Valley Authority 1974-75 (18 mos)
Engineering Aide

Set, monitor, and analyze dosimeters at Browns Ferry and Sequoia Nuclear Power Plants. Collect and analyze vegetation, silage, milk, water, and air samples from surrounding areas to establish background radiation levels and provide on-going radiation monitoring.

EDUCATION

- Colleges & Universities
  - American River College (Sacramento, CA)
  - Calhoun Community College (Huntsville, AL)
  - University of Alabama (Tuscaloosa, AL)
  - Whatcom Community College (Bellingham, WA)
  - California State University – Sacramento
  - University of California - Davis

- Certificate: Land Use and Environmental Planning (University of California – Davis; 20 units of core classes and 22 elective courses)
- Certificate: Technical Writing (American River College)

DECLARATION OF

I, **Robert Worl** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as a **Siting Program Manager**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Introduction, Project Description and Executive Summary** for the the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/12 Signed: Robert Worl

At: Sacramento, California

DECLARATION OF
CASEY WEAVER

Water Quality-Hydrology, Geology -Soils

I, **Casey Weaver** declare as follows:

1. I am presently employed by the California Energy Commission in the Siting, Transmission and Environmental Protection Division as an Engineering Geologist.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Water Quality-Hydrology and Geology-Soils** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for a Small Power Plant Exemption and any supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/27/2012 Signed: _____

At: Sacramento, California

CASEY W. WEAVER, PG, CEG
1621 Delta Drive
Woodland, CA 95695
(530) 662-0482

SUMMARY OF EXPERIENCE:

Certified Engineering Geologist with over 20 years of environmental and geotechnical consulting experience. Experience includes remedial investigations and feasibility studies (RI/FS), groundwater investigations, corrective action plans, landfill studies (SWATs, siting, closure), preliminary environmental site assessments (PESA, Phase I), regulatory compliance (RCRA/CERCLA), geotechnical investigation/evaluation, geologic hazard evaluations, active fault evaluations, seismic studies, landslide evaluation/repair, foundation suitability studies, personnel management and business development.

EDUCATION:

B.S. Geology, Humboldt State University, Arcata, CA, 1981
University of California, Davis Extension Courses

REGISTRATIONS/LICENCES/CERTIFICATIONS:

Certified Engineering Geologist, California
Registered Geologist, California, Oregon, Arizona
Registered Environmental Assessor
OSHA 1910.120 Hazardous Waste Operations and Emergency Response - 40hr
OSHA 1910.120 Hazardous Waste Operations and Emergency Response - Supervising Operations at Hazardous Waste Sites.

PROFESSIONAL HISTORY:

2008 to Present

Engineering Geologist
California Energy Commission, Sacramento, CA

Duties within the Water and Soils Unit of the Environmental Office in the Facilities Siting Division include review and evaluation of applications for certification of thermal power plants within the state of California. The focus of the work is on sensitive project sites that may have issues involving groundwater and surface water resources, soil erosion, flooding potential, water quality and plant-derived waste generation and disposal. In addition, evaluate construction, operation and maintenance of the facilities and conduct investigations to determine if violations of the program's

1993 to 1998 **Senior Geologist, Geoscience Team Leader and RI/FS Task Leader**

LAW Engineering and Environmental Services, Inc., Sacramento, CA

As Geoscience Team Leader, responsible for career development, training and personnel management of ten employees. This group consisted of 3 senior-level geologists, 4 project level geologists and scientists, 2 junior level geologists and 1 technician.

As RI/FS Task Leader, responsible for the development of cost estimates/budgets, preparation of Work Plans and Sampling and Analysis Plans, management of field activities, data collection and documentation associated with the investigation of 15 Installation Restoration Program sites at Beale Air Force Base awarded under several Delivery Orders with combined project budgets of $18 million. Also responsible for aerial photographic interpretations associated with a basewide (23,000 acres), Preliminary Assessment, and preparation of a basewide Hydrogeologic Evaluation Report.

1990 to 1993 **Senior Project Manger/General Manager**
Earthtec, Ltd., Roseville, CA

Management of Environmental Department, business development, preparation of cost estimates and proposals, client and regulatory agency interface, supervision and training, report writing, technical review, budget management, and quality control. Initiated and supported the development of company's wetland and wildlife departments. Typical projects included preliminary site assessments, soil vapor studies, detailed hydrogeologic evaluations, waste plume delineations, and development of remediation alternatives associated with landfills, service stations, bulk oil facilities and other potentially contaminated sites.

1981 to 1990 **Project Geologist**
SHN Group, Inc. Eureka, CA

Managed project work directed toward solving environmental issues at variably contaminated sites and provided geotechnical information for land development and construction. Responsibilities included development of cost estimates/budgets, planned and supervised field operations, collected and interpreted subsurface information, evaluated areas traversed by Alquist-Priolo Special Studies Zones and sites subject to slope stability hazards. Typical projects included geotechnical evaluations and geologic hazard studies for major subdivisions, hospitals, schools, lumber companies, run-of-the-river hydroelectric projects, underground storage tank sites, and solid waste landfills.

DECLARATION OF
SHAHAB KHOSHMASHRAB

I, **SHAHAB KHOSHMASHRAB**, declare as follows:

1. I am presently employed by the California Energy Commission in the **ENGINEERING OFFICE** of the Siting, Transmission and Environmental Protection Division as a **SENIOR MECHANICAL ENGINEER**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I participated in the preparation of the staff testimony on **Noise and Vibration** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for Certification and supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: January 27, 2012 Signed: Shahab Khoshmashrab

At: Sacramento, California

DECLARATION OF
SHAHAB KHOSHMASHRAB

I, **SHAHAB KHOSHMASHRAB**, declare as follows:

1. I am presently employed by the California Energy Commission in the **ENGINEERING OFFICE** of the Siting, Transmission and Environmental Protection Division as a **SENIOR MECHANICAL ENGINEER**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I participated in the preparation of the staff testimony on **Energy Resources** for the **Xeres Ventures LLC, Santa Clara SC-1 Data Center, Phase 2 (11-SPPE-01)** project based on my independent analysis of the Application for Certification and supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: January 27, 2012 Signed: [signature]

At: Sacramento, California

DECLARATION OF
Sudath Edirisuriya

I, **Sudath Edirisuriya**, declare as follows:

1. I am presently employed by **California Energy Commission** in the **Siting, Transmission and Environmental Protection Division** as an **Electrical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Transmission System Engineering**, for the **Santa Santa Clara Data center project**, based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 30th Jan-2012 Signed: Sudath Edirisuriya

At: California Energy Commission

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR SMALL POWER PLANT EXEMPTION For The SANTA CLARA SC-1 DATA CENTER

DOCKET NO. 11-SPPE-01

PROOF OF SERVICE
(revised 1/20/12)

APPLICANT

DuPont Fabros Technology
Richard Waddle, Director, Construction
1212 New York Avenue N.W., Ste. 900
Washington, DC 20005
rwaddle@dft.com

APPLICANT'S CONSULTANT

David J. Powers & Associates
Nora H. Monette, Principal
Project Manager
1871 The Alameda, Suite, 200
San Jose, CA 95126
nmonette@davidjpowers.com

COUNSEL FOR APPLICANT

Bingham McCutchen LLP
Monica A. Schwebs
Three Embarcadero Center
San Francisco, CA 94111-4067
monica.schwebs@bingham.com

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

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Kevin L. Riley, Director of Planning & Inspections
1500 Warburton Avenue
Santa Clara, CA 95050
kriley@santaclaraca.gov

INTERESTED AGENCIES (con't)

City of Santa Clara
Payal Bhagat, Assistant Planner II
1500 Warburton Avenue
Santa Clara, CA 95050
pbhagat@santaclaraca.gov

***Bay Area Air Quality Management District**
Tamiko D. Endow,
Air Quality Engineer II
939 Ellis Street
San Francisco, CA 94109
tendow@baaqmd.gov

ENERGY COMMISSION – DECISIONMAKERS

KAREN DOUGLAS
Commissioner and Presiding Member
e-mail service preferred
kldougla@energy.state.ca.us

CARLA PETERMAN
Commissioner and Associate Member
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Ken Celli
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ENERGY COMMISSION – DECISIONMAKERS (con't.)

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Jennifer Jennings
Public Adviser's Office
publicadviser@energy.state.ca.us

*indicates change

DECLARATION OF SERVICE

I, Mineka Foggie, declare that on, February 1, 2012, I served and filed a copy of the attached initial study and negative declaration recommendation, **dated February 1, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at:** [http://www.energy.ca.gov/sitingcases/santaclara/index.html].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(*Check all that Apply*)

For service to all other parties:

X Served electronically to all e-mail addresses on the Proof of Service list;

X Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

X by sending an electronic copy to the e-mail address below (preferred method); ***OR***

___ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-SPPE-01
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

___ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
mlevy@energy.state.ca.us

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

MINEKA FOGGIE Mfoggie

APPENDIX C

Errata for Staff's Initial Study:
Based upon staff review and comments from the applicant

Page #	Comment/Edit
12 & 15	Phase I commercial operation start date should be September **2011**, not 2010.
12	Note: The applicant's phasing is related to spreading out capital costs while meeting client demand.
16	Building size is **312,000** (not 131,000)
54	Greenhouse Gas Emissions : The current mandatory reporting regulation for Greenhouse Gas Emissions (Division 3, Chapter 1, Subchapter 10, Article 2, sections 95100 to 95133, title 17, California Code of Regulations): Section 95101 (f)(2) does not require reporting for backup or emergency generators; (f) Exclusions: "(2) Generating units designated as backup or emergency generators in a permit issued by an air pollution control district or air quality management district."
65	Environmental Setting: In the third sentence regarding the UPRR, substitute "tracks" for "tracts".
77	Environmental Setting: In the first sentence add "…states that…" after "General Plan…".
83	Top of page-Reference to plume analysis: change "…detailed results…" to …discussion of…"
88	Environmental Setting: add at the end of the sentence "…and began commercial operations in September of 2011."
89	Note: that the site is not within one-quarter mile of a school.