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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of
McLaren Backup Generating Facility

Docket Number 17-SPPE-01

Comments of Helping Hand Tools (2HT)

Introduction

The McLaren Backup Generating Facility (MBGF) is unlike other Generating Plants that the CEC analyzes. First the MBGF has no annual NO_x, VOC, CO, SO₂ or (TAC) limits in emergency operation. The MBGF has no SCR to control NO_x emissions. The MBGF has no continuous emission monitors (CEMS) to record the projects NO_x and CO emissions. The MBGF has no CO catalyst to control CO, VOC, and TAC emissions. The MBGF does not even require any emission testing by the air district.¹ The project's emission stacks are only 14.55 meters limiting dispersion. Under emergency operations the project has no GHG limits. Essentially this is an uncontrolled power plant. The MBGF emits criteria air pollutants at an alarming rate. In 50 hours of operation the project can emit 40 tons of NO_x.

Despite these unusual attributes the CEC Staff refuses to model the projects air quality impacts and public health risks during emergency operations which is the MBGF project objective. The CEC staff says modeling emergency operations of the MBGF is speculative. The CEC staff states that they cannot estimate a duration of the emergency operation, the number of engines that will be utilized, the meteorological conditions and essentially every excuse under the sun. This is in spite of the fact that the applicants air quality expert has already demonstrated that modeling the emergency operations of the projects CO emissions is not only not speculative but is required. The applicant simply ***“assumed all 50 emergency generators are in use at the same time during the worst meteorological conditions for the respective***

¹ Exhibit 27 Page 6 of 31

averaging periods.”² CEC Staff performs this modeling exercise in every siting case to determine if any air quality standard is exceeded which is considered a significant impact under CEQA. The potential for the generators to operate simultaneously should be analyzed in an AFC level document in accordance with CEQA. Such analysis would identify the projects emergency emissions, quantify their impacts, require feasible mitigation, and assess the potential health risks from the operation of the 50 diesel engines operating at once. Without modeling the projects emergency operations, the applicant has not met the burden of proof and demonstrated that the project has no significant environmental impacts especially NO₂ and PM 2.5 exceedances which would preclude its approval as an SPPE application.

The MBGF clearly does not qualify for SPPE treatment. The Energy Commission has dealt with jurisdictional issues surrounding the generating capacity of multiple back up diesel generators at data center locations before. Most recently the Commission asserted jurisdiction over 36 three MW back up diesel generators located across the street from the MBGF at the Santa Clara Data Center. The applicant for the Santa Clara Data Center tried to evade Energy Commission jurisdiction by claiming that the design of the data center would limit the 36 three MW back up diesel generators output to 49.1 megawatts thereby removing it from Energy Commission Jurisdiction. In that case the CEC executive director sent the Santa Clara Data Center applicant a letter explaining that the 32 diesel generators had a combined output of 91.8 MW and informed the applicant that the Energy Commission has jurisdiction. The executive director recommended an AFC proceeding and stated ***“Moreover, the potential for the generators to operate simultaneously should be analyzed in a comprehensive environmental document in accordance with the California Environmental Quality ACT. Such analysis would identify the projects emissions, assess their impacts, identify feasible mitigation, and assess the potential health risks from this concentration of diesel engines.”***³

The Commission failed to engage the general public much less the confirmed environmental justice community that will be impacted by this proposal. The Commission

² Exhibit 21 TN 223484 Vantage Data Centers Revised SPPE application Air Quality and Public health. Page 22 of 155

³ Attachment 1 Page 1 - Appendix F Pages 315-317 of 376 Project to Add 16 Emergency Backup Generators to the Santa Clara SC-1 Data Center Santa Clara, California Application for Small Power Plant Exemption Submitted to the California Energy Commission Submitted by Xeres Ventures LLC November 2011 https://www.energy.ca.gov/sitingcases/santaclara/documents/applicant/SPPE_Application/02_Application_Appendices_A-H.pdf Pages 315 of 376 2HT request Official Notice of Exhibit 1

failed to hold the traditional Informational Hearing and Site Visit.⁴ An informational hearing is sponsored by the Energy Commission to inform the public about the project and to invite public participation in the review process. Staff also never filed an issues identification report for the public.⁵ The issues identification report is published to aid the parties and the public in understanding the project and potential environmental impacts. Staff never held any meetings for the public in Santa Clara to provide and exchange information with the public.⁶ No document handling memo was sent out to the librarians informing the public where the proceedings documents could be accessed. No project materials were provided to the public in Spanish or other appropriate foreign languages. All of the customary procedures for Energy Commission proceedings designed to engage the public were not performed.

Finally, the California Environmental Quality Act (CEQA) requires the lead agency to consider the whole of the action. Therefore, the Energy Commission should have evaluated the entire data center project in its analysis, which includes the demolition of existing buildings and the construction of three new four-story data center buildings along with the installation and operations of the diesel-fired backup generators.

Modeling the Emergency Operation of the MBGF is not speculative.

Staff argues that modeling emergency operations of the MBGF is too speculative but the applicant has already accomplished the modeling of CO emissions during emergency operation. The applicant merely, ***“assumed that all 50 emergency generators were in use at the same time during the worst meteorological conditions for the respective averaging periods.”***⁷ This simple formula is used by CEC Staff in every CEC siting case.

⁴ Title 20 § 1709.7. Informational Hearing, Site Visit, and Schedule

(a) Within 45 days after the acceptance of a notice of intent or application for certification, the presiding member shall hold one or more informational hearings and site visits as close as practicable to the proposed sites. Notice of the first informational hearing shall comply with section 1209, shall include information on how to participate in the proceeding, and shall be provided to all persons identified by the applicant under section (a)(1)(E) of the information requirements in Appendix B.

⁵ Title 20 § 1709.7. Informational Hearing, Site Visit, and Schedule (b) At least five days before the first informational hearing, the staff shall file a written statement summarizing the major issues that the staff believes will be presented in the case.

⁶ Title 20 § 1207.5. Staff Meetings; Purposes.

(a) At any time, staff may initiate voluntary meetings with the applicant, other parties, interested agencies, stakeholders, or the public on matters relevant to a proceeding. Such meetings may include workshops, site visits, or other information exchanges.

⁷ Exhibit 21 TN 223484 Vantage Data Centers Revised SPPE application Air Quality and Public health. Page 22 of 155

The Washington State Department of Ecology utilizes the same method in modeling impacts of multiple emergency generators in use when issuing permits to data centers in Quincy Washington.⁸ Modeling emergency operations of multiple back up diesel generators is a routine and necessary part of the Washington State Department of Ecology's procedures in permitting data centers. According to the results of the health risk assessment performed for the Vantage Data Center Project in Quincy, *"the maximum short-term ambient NO2 concentration was estimated to be 1,411 µg/m3, 1-hour average."*⁹ This represents three times the California State Standard for NO₂ and this project only has only 17 three megawatt back up diesel generators as opposed to Vantages proposed Santa Clara Data Center with its 50 diesel generators.

The modeling of the back-up diesel generators in emergency mode is necessary to determine if the project will exceed ambient air quality standards¹⁰ or lead to excessive health risks to an admitted environmental justice community. The health risk assessment done for the project includes only the operation of one diesel generator at a time. The BAAQMD has not reviewed and approved that health risk assessment and there is likely to be restrictions imposed on just the testing of just one engine due to health risks. The Santa Clara Data Center located across the street from the MBGF has operating limits on normal testing of just one engine due to excessive health risks. BAAQMD limited the "combined reliability-related operation for all 32 diesel backup generators to 700 hours in any consecutive 12-month period."¹¹ BAAQMD also required that, *"Selective catalytic reduction (SCR) units will be installed on each engine"*¹²

The Microsoft Data Center located across the other street from the MBGF also had normal testing of its diesel generators severely limited. As stated in the engineering analysis performed by BAAQMD, *"Currently permitted emissions at P# 19686 result in unacceptable*

⁸ Exhibit 301, 303

⁹ Exhibit 301 Revised Health Impact Assessment Review Document for Vantage Data Center Quincy, Washington Prepared by Air Quality Program Olympia, Washington May 11, 2017 Page 5 of 25, Exhibit 305 Page 3

¹⁰ The Federal and State 1-hour NO₂ standard are likely to be violated Exhibit 301 Revised Health Impact Assessment Review Document for Vantage Data Center Quincy, Washington Prepared by Air Quality Program Olympia, Washington May 11, 2017 Page 5 of 25

¹¹ Exhibit 300 Page 4 See also Exhibit 304 Attachment 4 Energy Commission Decision **SANTA CLARA SC-1 DATA CENTER, PHASE 2** Page 11 of 141

¹² Exhibit 304 Energy Commission Decision **SANTA CLARA SC-1 DATA CENTER, PHASE 2** Page 57 of 141

*health-risks under both District Rule 2,5 New Source Review of Toxic Air Contaminants and California H & SC §44300 Air Toxics "Hot Spots" Information and Assessment Act of 1987."*¹³

Because the cancer risk was so high from just the testing of one generator BAAQMD lowered the annual allowed hours of testing of each generator from 50 hours per year to 20 hours per year. BAAQMD also severely limited the times during the day that the generators could be tested.¹⁴

If just the periodic testing of one diesel generator at a time can create a health risk at a location across the street from the MBGF the operation of 50 diesel generators operating at once will lead to air quality violations and excessive health risks. To meet the burden of proof that there will be no exceedances of health-based standards for criteria air pollutants and toxic air contaminants the applicant must evaluate the health risks and the air quality impacts of all 50 diesel generators operating at once. It has been previously recommended by the executive director Melissa Jones for data center applications. Emergency operation of multiple diesel generators at data centers is performed routinely by the Washington State Department of Ecology as evinced by Exhibits 301 and 303. They have even placed annual limits on emergency operation of backup generators at the Microsoft data center in Quincy Washington because of projected health impacts.¹⁵

Cumulative Impacts

Neither the applicant or the CEC Staff performed a health risk assessment of the emergency operation of the MBGF. McLaren's air quality witness attempted to quantify the cumulative health risk according to the BAAQMD's cumulative health risk assessment guidelines. The effort failed because the air quality witness failed to include the health risks from several projects located across the street from the McLaren data center in Table 15 of her testimony. McLaren's air quality witness testified at the evidentiary hearing that the cumulative impact assessment need not include the Silicon Valley Power Authority Power plant from the cumulative health risk assessment because it was farther than 1,000 feet from the sensitive receptor of concern. A close look at the witness's testimony in Table B (presented below) which is the stationary source report supplied by BAAQMD for the project reveals that the Silicon

¹³ Exhibit 302 Page 3 of 10

¹⁴ Exhibit 302 Attachment 2 Microsoft Data Center Engineering Evaluation Plant 19686 Application 24737

¹⁵ Exhibit 303 Page 11 of 39

Valley Power Authority lies within 600 feet of the maximumly exposed receptor¹⁶ and the project should have been included in Table 15. The cumulative analysis and all analyses performed by applicant and CEC Staff in this entire proceeding ignore the Santa Clara Data Center and its 32 backup diesel generators in their entirety.

Table B Section 1: Requestor fills out these columns based on Google Earth data							Table B Section 2: BAAQMD returns form with additional information in these columns as needed													
Distance from Receptor (feet)	Plant # or Gas Dispensary #	Facility Name	Street Address	Screening Level Cancer Risk (1)	Screening Level Hazard Index (1)	Screening Level PM2.5 (1)	Permit # (2)	Source # (2)	Fuel Code (3)	Type of Source(s) (4)	HISA Ap # (5)	HISA Date (6)	HISA Engineer (7)	HISA Cancer Risk in a million	Age Sensitivity Factor (8)	HISA Adjusted Cancer Risk	HISA Chronic Health (9)	HISA PM2.5 Risk	Status/Comments	
220	9200	US Foam Inc	430 Martin Ave	0.05	0	22.4													0	emissions attached; consider site-specific modeling.
220	11324	Los Altos Garbage Company	450 Martin Ave	0	0	0													0	no risk/concentration, no further study needed.
520	08575	Wegas Landscaping Service	495 Robert Ave	1.9*	0.009*	na*													0	*Note that I added screening values for 2014 (not on web yet). Consider using provided screening values; no further study needed.
550	11223	88 Auto Body	518 Roberts Ave	0	0	0													0	no risk/concentration, no further study needed.
600	421	City of Santa Clara, Silicon Valley Power	560 Robert Ave	421	4.27	55													0	emissions attached; consider site-specific modeling.

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The MBGF Does Not Qualify for SPPE Treatment

The MBGF clearly does not qualify for SPPE treatment. The Energy Commission has already dealt with jurisdictional issues surrounding the generating capacity of multiple back up diesel generators at data center locations. Most recently the Commission asserted jurisdiction over 36 three megawatt back up diesel generators located across the street from the MBGF at the Santa Clara Data Center. The applicant for the Santa Clara Data Center tried to evade Energy Commission jurisdiction by claiming that the design of the data center would limit the 36 back up diesel generators output to 49.1 megawatts thereby removing it from Energy Commission Jurisdiction. In that case the CEC Executive Director Melissa Jones sent the Santa Clara Data Center applicant a letter explaining that the 32 diesel generators had a combined output of 91.8 MW and informed the applicant that the Energy Commission had jurisdiction. The executive director recommended an AFC proceeding ***“Moreover, the potential for the generators to operate simultaneously should be analyzed in a comprehensive environmental document in accordance with the California Environmental Quality ACT. Such analysis would identify the***

¹⁶ Exhibit 21 Page 59 of 155 See also Page 62 of 155 which list the Silicon Valley Power Plant as a facility impacting sensitive receptors.

¹⁷ Exhibit 21 Page 509 of 155

projects emission, assess their impacts, identify feasible mitigation, and assess the potential health risks from this concertation of diesel engines.”¹⁸

The Final Decision for the Santa Clara Data Center¹⁹ correctly applies Section 2003 of Title 20. The decision calculates the generating capacity as follows, “Each backup generator has a capacity to generate 2,250 kilowatts, or 2.25 megawatts (MW), a total capacity of 72 MW.”²⁰ Staff’s proposal to utilize an ad hoc formula²¹ to compute the generating capacity of the MBGF at the data center design value has no support in the regulations and no support in any Energy Commission decision on a data center siting case. An underground ad hoc regulation must be consistent if nothing else.

Environmental Justice

The CEC Staff failed to perform any outreach or communicate information about the project to the environmental justice community as required by USEPA. The Commission failed to hold the traditional Informational Hearing and Site Visit.²² Staff never filed an issues identification report for the public.²³ CEC Staff never held any meetings for the public in Santa Clara to provide and exchange information with the public.²⁴ No document handling memo was sent out to the librarians informing the public where the proceedings documents could be

¹⁸ Attachment 1 Page 1 - Appendix F Pages 315-317 of 376 Project to Add 16 Emergency Backup Generators to the Santa Clara SC-1 Data Center Santa Clara, California Application for Small Power Plant Exemption Submitted to the California Energy Commission Submitted by Xeres Ventures LLC November 2011 https://www.energy.ca.gov/sitingcases/santaclara/documents/applicant/SPPE_Application/02_Application_Appendices_A-H.pdf Pages 315 of 376

¹⁹ Exhibit 304

²⁰ Exhibit 304 Page 40 of 142

²¹ CEC Staff Witness Matt Layton

²² Title 20 § 1709.7. Informational Hearing, Site Visit, and Schedule

(a) Within 45 days after the acceptance of a notice of intent or application for certification, the presiding member shall hold one or more informational hearings and site visits as close as practicable to the proposed sites. Notice of the first informational hearing shall comply with section 1209, shall include information on how to participate in the proceeding, and shall be provided to all persons identified by the applicant under section (a)(1)(E) of the information requirements in Appendix B.

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²⁴ Title 20 § 1207.5. Staff Meetings; Purposes.

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accessed. No project materials were provided to the public in Spanish or other appropriate foreign languages. All of the customary procedures for Energy Commission proceedings designed to engage the public were not performed

Evidentiary Record

The current state of the evidentiary record is a mess. Through several iterations both staff and applicant have cut and pasted their way through their respective analyses but failed to remove references to their previous testimony and exhibits. For example, the documents prepared for the current amended SPPE application contain calculations and estimates that were for the previous application which contained 3 MW generators instead of the current 2.75 MW generator. The documents are inconsistent and instead of informing the public they create confusion. While the amended application states that the maximum critical load is 74 MW we find out at the evidentiary hearing that the actual critical load is possibly 69 MW. The commission cannot approve such a misleading document which contradicts itself continuously and fails to inform the public or interested agencies.

Conclusion

The CEC cannot approve this project as an SPPE. The applicant needs to file an AFC for this proceeding as the project does not qualify for SPPE treatment as the generating capacity is over 100 MW. The applicant has not borne the burden of proof that the project operating in emergency mode with all 50 diesel backup engines running will not cause a significant impact to the environmental justice community located just 400 feet from the project. In the upcoming AFC proceeding CEC Staff can meet its environmental justice responsibilities.

Attachment 1

11-SPPE-01

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

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https://www.energy.ca.gov/sitingcases/santaclara/documents/applicant/SPPE_Application/01_SPPE_Application.pdf

CALIFORNIA ENERGY COMMISSION

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April 21, 2008

Mr. W. Tate Cantrell, Jr.
Vice President, Data Center Technologies
DuPont Fabros Technology, Inc.
1212 New York Avenue, NW
Suite 900
Washington, DC 20005

RE: Diesel Backup Generators (Xeres Permit S-1 through S-32)

Dear Mr. Cantrell:

The California Energy Commission has received information regarding 32 low-use diesel backup generators that we understand Xeres Ventures, LLC, plans to install to support a data center at 535 Reed Street in Santa Clara, California. We also understand each backup generator has a rated capacity of 2.87 megawatts, which would make the total generating capacity at the site be 91.8 megawatts. We also understand Xeres is seeking a permit from the Bay Area Air Quality Management District, as well as a use permit from the City of Santa Clara.

The purpose of this letter is to inform you that the Energy Commission has permitting jurisdiction over the 32 diesel generators. As a general matter, the Energy Commission has jurisdiction over any site for a thermal power plant with a generating capacity of 50 megawatts or more. (Pub. Resources Code §§ 25110, 25120, 25500.) Here, the 32 generators, each to use diesel as a source of thermal energy to generate electricity, constitute a thermal power plant with more than 50 megawatts in generating capacity.

The aggregation of all 32 generators is based on their common location for a computer server campus and their common purpose to provide power conditioning and backup power to the data center that is also planned for the site. The issue of whether to aggregate the backup generators and view them as a thermal power plant under the Energy Commission's jurisdiction is one we have dealt with on more than one occasion. In all these cases, including a few in which the power plants were to be located a mile or more apart and two others which also involved diesel backup generators for a data center, the Energy Commission's Chief Counsel concluded the Commission has jurisdiction based on aggregating the proposed power plants, including backup diesel generators.

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The factors supporting aggregation include such matters as the separate generating units: (a) being served by common structures, for example, a common control room or a common gas line, (b) if lacking a common control room, nevertheless being triggered to operate by the same event, for example, grid failure, (c) being under common ownership or subject to a common permit to operate, (d) being proposed as part of a foreseeable plan of development and, thus, constituting a "project" under the California Environmental Quality Act for purposes of environmental review by the permitting agency, and (e) being installed to serve a common industrial or commercial host.

Here, the generators will be located on one site proposed for the development of a data center. The generators are considered by the Air District to be components of a single project. The generators have the common purpose of serving as power conditioning and backup generators for a computer server campus being developed by a single project proponent. Their operation is likely to be triggered by the same event, for example, lightning storms or grid failure. Moreover, the potential for the generators to operate simultaneously should be analyzed in a comprehensive environmental document in accordance with the California Environmental Quality Act. Such analysis would identify the project's emissions, assess their impacts, identify feasible mitigation, and assess the potential health risks from this concentration of diesel engines.

For all these reasons, we believe the Energy Commission has permitting authority over the 32 generators, regardless of whether the power will be sold to the grid or used exclusively on-site. Thus, to receive a valid permit for the 32 diesel generators, Xeres must file with the Energy Commission either an application for a small power plant exemption (for a thermal power plant of 50 to 100 megawatts) or an application for certification. We believe an application for certification would be most appropriate, given the potential for adverse impacts from the use of diesel fuel in as many as 32 generators operating at one time.

In either case, the Energy Commission, as a matter of statute, serves as lead agency under the California Environmental Quality Act. As lead agency, it is responsible for preparing the appropriate environmental document for public review and consideration in deciding whether to approve the application. In the case of a small power plant exemption, the project is exempted from the Commission's jurisdiction and permitted at the local level. In the case of an application for certification, the project is permitted by the Energy Commission. During the certification process, the Commission and its staff work with the Air District, which is required under the Commission's regulations to issue a determination of compliance with the District's rules. The conditions of the District's determination, provided within the timeline of the Commission's proceeding, are incorporated into and become enforceable through the Commission's final decision.

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If Xeres wishes to claim otherwise about the Commission's jurisdiction, or seek a formal opinion from the Energy Commission, you may file a request for a jurisdictional determination under the Commission's regulations, specifically, section 1230 et seq. in Title 20 of the California Code of Regulations.

In any event, the staff of the Energy Commission is interested in working with you, DuPont Fabros Technology, Inc., and Xeres in a productive manner. Please do not hesitate to contact Arlene Ichien at (916) 654-3959 or by e-mail at aichien@energy.state.ca.us if you have any questions whatsoever.

Sincerely,



ARLENE L. ICHIEN
Assistant Chief Counsel



MELISSA JONES
Executive Director

cc: Michael J Tollstrup, Air Resources Board
Tamiko Endow, Bay Area Air Quality Management District
Gerardo Rios, US Environmental Protection Agency
Terrance O'Brien, California Energy Commission