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Mr. Drew Bohan, Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

**Subject: *Application for Small Power Plant Exemption
Vantage McLaren Backup Generating Facility
Santa Clara, California***

Dear Mr. Bohan,

Vantage Data Centers (Vantage) submits this Application for a Small Power Plant Exemption (SPPE) for its McLaren Backup Generating Facility (MBGF) to be located in the City of Santa Clara, California. The MBGF consists of 48 backup generators that will be exclusively interconnected to the McLaren Data Center (MDC), a data center facility that is currently under construction.

The MDC is provided electrical service by Silicon Valley Power (SVP). The MBGF would provide backup electricity to the MDC only in the event that SVP is unable to deliver electricity to the MDC. The only other times any of the individual generators proposed in the application would operate would be for testing and maintenance purposes to ensure reliability.

Vantage requests the Commission process the SPPE expeditiously and rely heavily on the Mitigated Negative Declaration (MND) prepared by the City of Santa Clara (City) as part of its approval of the MDC. The MND evaluated 32 generators as part of the backup generating system for the MDC. Vantage has proposed an increase in the MDC facilities necessitating a corresponding increase in the backup generating capabilities. The MBGF will provide those capabilities. The City will be relying on the Commission's initial study and findings to support its addendum to the MND to accommodate the modifications to the MDC currently proposed by Vantage.

I am the Director of Construction for Vantage Data Centers and am authorized to file this application. I hereby attest, under penalty of perjury, that the contents of this application for a Small Power Plant Exemption are truthful and accurate to the best of my knowledge.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Spencer Myers", with a long horizontal flourish extending to the right.

Spencer Myers
Director of Construction
Vantage Data Centers



APPLICATION FOR SMALL POWER PLANT EXEMPTION

McLaren Backup Generating Facility (17-SPPE-1)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **VANTAGE DATA
CENTERS, LLC**

December 2017



CONTENTS

1	INTRODUCTION	1-1
1.1	NEED FOR BACKUP GENERATION	1-2
1.2	COMMISSION SPPE JURISDICTION.....	1-2
1.2.1	Power Plant	1-2
1.2.2	Data Center Facilities Not Within Scope of SPPE	1-3
1.3	PRIOR ENVIRONMENTAL REVIEW	1-3
2	PROJECT DESCRIPTION	2-1
2.1	OVERVIEW OF PROPOSED GENERATING FACILITIES.....	2-1
2.2	GENERATING FACILITY DESCRIPTION, CONSTRUCTION AND OPERATION	2-1
2.2.1	Site Description.....	2-1
2.2.2	General Site Arrangement and Layout	2-2
2.2.3	Backup Electrical System Design	2-2
2.2.4	Electrical Generation Equipment	2-4
2.2.5	Major Electrical Equipment and Systems	2-5
2.2.6	Fuel System.....	2-6
2.2.7	Cooling System.....	2-6
2.2.8	Water Supply and Use.....	2-6
2.2.9	Waste Management.....	2-6
2.2.10	Hazardous Materials Management	2-6
2.2.11	Project Construction	2-7
2.2.12	Facility Operation.....	2-7
2.3	MCLAREN DATA CENTER FACILITIES DESCRIPTION	2-8
3	ENERGY RESOURCES	3-1
3.1	USE OF ENERGY RESOURCES.....	3-1
4	ENVIRONMENTAL ANALYSES	4-1
4.1	ENVIRONMENTAL ANALYSIS METHODOLOGY	4-1
4.2	AESTHETICS.....	4-2
4.2.1	Setting	4-2
4.2.2	Project Changes Relevant to MBGF	4-3
4.2.3	Environmental Impact Evaluation	4-3
4.2.4	Mitigation Measures.....	4-5
4.2.5	Governmental Agencies	4-5
4.3	AGRICULTURAL RESOURCES	4-6
4.3.1	Setting	4-7
4.3.2	Project Changes Relevant to MBGF	4-7
4.3.3	Environmental Impact Evaluation	4-7
4.3.4	Mitigation Measures.....	4-8
4.3.5	Governmental Agencies	4-8
4.4	AIR QUALITY	4-8
4.4.1	Setting	4-8
4.4.2	Project Changes Relevant to MBGF	4-10

4.4.3	Environmental Impact Evaluation	4-10
4.4.4	Mitigation Measures.....	4-12
4.4.5	Governmental Agencies	4-12
4.5	BIOLOGICAL RESOURCES	4-14
4.5.1	Setting	4-15
4.5.2	Project Changes Relevant to MBGF	4-15
4.5.3	Environmental Impact Evaluation	4-15
4.5.4	Mitigation Measures.....	4-18
4.5.5	Governmental Agencies and Permits	4-18
4.6	CULTURAL RESOURCES	4-18
4.6.1	Setting	4-18
4.6.2	Project Changes Relevant to MBGF	4-19
4.6.3	Environmental Impact Evaluation	4-19
4.6.4	Mitigation Measures.....	4-22
4.6.5	Governmental Agencies and Permits	4-22
4.7	GEOLOGY AND SOILS	4-23
4.7.1	Setting	4-23
4.7.2	Project Changes Relevant to MBGF	4-24
4.7.3	Environmental Impact Evaluation	4-24
4.7.4	Mitigation Measures.....	4-28
4.7.5	Governmental Agencies and Permits	4-28
4.8	GREENHOUSE GAS EMISSIONS	4-28
4.8.1	Project Changes Relevant to MBGF	4-28
4.8.2	Environmental Impact Evaluation	4-28
4.8.3	Mitigation Measures.....	4-29
4.8.4	Governmental Agencies and Permits	4-29
4.9	TRANSMISSION LINE SAFETY AND NUISANCE	4-29
4.9.1	Setting	4-29
4.9.2	Project Changes Relevant to MBGF	4-30
4.9.3	Environmental Impact Evaluation	4-30
4.9.4	Mitigation Measures.....	4-30
4.9.5	Governmental Agencies and Permits	4-30
4.10	HAZARDS AND HAZARDOUS MATERIALS.....	4-31
4.10.1	Setting	4-31
4.10.2	Project Changes Relevant to MBGF	4-32
4.10.3	Environmental Impact Evaluation	4-32
4.10.4	Mitigation Measures.....	4-35
4.10.5	Governmental Agencies and Permits	4-35
4.11	HYDROLOGY AND WATER QUALITY	4-36
4.11.1	Setting	4-37
4.11.2	Project Changes Relevant to MBGF	4-37
4.11.3	Environmental Impact Evaluation	4-37
4.11.4	Mitigation Measures.....	4-40
4.11.5	Governmental Agencies and Permits	4-40
4.12	LAND USE AND PLANNING	4-40
4.12.1	Setting	4-40
4.12.2	Project Changes Relevant to MBGF	4-41
4.12.3	Environmental Impact Evaluation	4-41
4.12.4	Mitigation Measures.....	4-42
4.12.5	Governmental Agencies and Permits	4-42
4.13	MINERAL RESOURCES	4-42
4.13.1	Setting	4-42
4.13.2	Project Changes Relevant to MBGF	4-43
4.13.3	Environmental Impact Evaluation	4-43

4.13.4	Mitigation Measures.....	4-43
4.13.5	Governmental Agencies and Permits	4-43
4.14	NOISE	4-44
4.14.1	Setting	4-44
4.14.2	Project Changes Relevant to MBGF	4-45
4.14.3	Environmental Impact Evaluation	4-45
4.14.4	Mitigation Measures.....	4-48
4.14.5	Governmental Agencies and Permits	4-48
4.15	POPULATION AND HOUSING	4-48
4.15.1	Setting	4-49
4.15.2	Project Changes Relevant to MBGF	4-49
4.15.3	Environmental Impact Evaluation	4-49
4.15.4	Mitigation Measures.....	4-49
4.15.5	Governmental Agencies and Permits	4-50
4.16	PUBLIC SERVICES	4-50
4.16.1	Setting	4-50
4.16.2	Project Changes Relevant to MBGF	4-51
4.16.3	Environmental Impact Evaluation	4-51
4.16.4	Mitigation Measures.....	4-52
4.16.5	Governmental Agencies and Permits	4-52
4.17	RECREATION.....	4-53
4.17.1	Project Changes Relevant to MBGF	4-53
4.17.2	Environmental Impact Evaluation	4-53
4.17.3	Mitigation Measures.....	4-54
4.17.4	Governmental Agencies and Permits	4-54
4.18	TRAFFIC AND TRANSPORTATION	4-54
4.18.1	Setting	4-55
4.18.2	Project Changes Relevant to MBGF	4-55
4.18.3	Environmental Impact Evaluation	4-55
4.18.4	Mitigation Measures.....	4-58
4.18.5	Governmental Agencies and Permits	4-58
4.19	UTILITIES AND SERVICES	4-59
4.19.1	Setting	4-59
4.19.2	Project Changes Relevant to MBGF	4-60
4.19.3	Environmental Impact Evaluation	4-60
4.19.4	Mitigation Measures.....	4-61
4.19.5	Governmental Agencies and Permits	4-61

5 ALTERNATIVES 5-1

5.1	EVALUATION CRITERIA	5-1
5.2	REDUCED CAPACITY SYSTEM	5-1
5.3	ALTERNATIVE GENERATING TECHNOLOGIES.....	5-2
5.3.1	Flywheel.....	5-2
5.3.2	Gas Fired Engines	5-2
5.3.3	Battery Storage.....	5-2
5.4	NO PROJECT ALTERNATIVE	5-3

APPENDICES

APPENDIX A GENERATOR SPECIFICATIONS AND GENERATION RATINGS

APPENDIX B	CITY OF SANTA CLARA MITIGATED NEGATIVE DECLARATION
APPENDIX C	VANTAGE MODIFICATIONS OF MDC SUBMITTED TO CITY OF SANTA CLARA
APPENDIX D	SAMPLE DRAFT SPILL CONTROL AND COUNTERMEASURE PLAN
APPENDIX E	AIR QUALITY
APPENDIX E-1	AIR QUALITY TECHNICAL REPORTS
APPENDIX E-2	BAAQMD APPLICATION FOR ATC
APPENDIX F	THERMAL PLUME TECHNICAL REPORT

FIGURES

FIGURE 1-1	SITE LOCATION MAP
FIGURE 2-1	GENERAL ARRANGEMENT AND SITE LAYOUT
FIGURE 2-2	ELEVATION OF TYPICAL GENERATION YARD

1 INTRODUCTION

Vantage Data Centers (Vantage) files this Application for a Small Power Plant Exemption (SPPE Application) pursuant to Public Resources Code Section 25541 and Section 1934 et seq. of the California Energy Commission (Commission) regulations for the 98.7 MW¹ McLaren Backup Generating Facility (MBGF). The MBGF will consist of a total of 47 diesel fired generators that will be used exclusively to provide backup generation to support the McLaren Data Center (MDC), which is currently being constructed at 651, 725, and 825 Mathew Street in Santa Clara, California. In addition the MBGF will include one life safety emergency generator to support a fire pump. Figure 1-1 depicts the location of the MDC and the MBGF.

Unlike the typical electrical generating facility reviewed by the Commission, the MBGF is designed to operate only when electricity is unavailable to the MDC. The MBGF will not be electrically interconnected to the electrical transmission grid. Rather, it will consist of three generation yards, each separately electrically interconnected to the three server buildings that make up the MDC.

Section 2 of the SPPE Application provides a detailed description of the construction and proposed operation of the MBGF. To describe the context of the MBGF and its role in serving the MDC, Section 2 also includes a general description of the MDC.

Section 3 of the SPPE Application provides a description of power plant efficiency, reliability and potential energy resource impacts which may result from the construction and operation of the MBGF.

Section 4 of the SPPE Application includes environmental information and analyses in sufficient detail to allow the Commission to conduct an Initial Study consistent with Section 16063(d) of the California Environmental Quality Act (CEQA) Guidelines. Additionally, Section 4 contains a list of applicable agencies and contact information with laws, ordinances, regulations, and standards (LORS) that are applicable to the MBGF.

Section 5 of the SPPE Application includes a discussion of Alternative backup generation configurations and technology considered by Vantage including an evaluation of the No Project Alternative.

¹ Continuous steady state generating capacity.

1.1 NEED FOR BACKUP GENERATION

The MDC's purpose is to provide its customers with mission critical space to support their servers, including space conditioning and a steady stream of high quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by Vantage's clients. The MDC will be supplied electricity by Silicon Valley Power (SVP) through a new distribution substation constructed on the MDC site and owned and operated by SVP.

To ensure a reliable supply of high quality power, the MGBF was designed to provide backup electricity to the MDC in the event of electricity cannot be supplied from SVP and delivered to the MDC buildings. To ensure no interruption of electricity service to the servers housed in the MDC building, the servers will be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems will require a power generation source to continue supplying steady power to the servers and other equipment. The MGBF provides that power generation source.

1.2 COMMISSION SPPE JURISDICTION

Vantage acknowledges that the Commission's authorizing statute grants exclusive authority for the Commission to issue licenses for the construction and operation of thermal power plants with generating capacities in excess of 50 MW.² For thermal power plants with generating capacities greater than 50 MW but less than 100 MW, the Commission can grant an exemption from its licensing authority³. The MGBF is not a typical power generating facility in that it consists of generators that can operate independently. In addition, the generators are arranged in generation yards to support individual buildings within the greater data center campus. None of the generators will be interconnected to the electrical transmission system and therefore no electricity can be delivered off site.⁴

1.2.1 Power Plant

The MGBF will consist of a total of 47 backup generators, each with a peak output capacity of 3 MW and with a continuous steady state output capacity of 2.1 MW.⁵ The

² Public Resources Code (PRC) Section 25500.

³ PRC Section 25541 and Title 20 California Code of Regulations (CCR) Section 1934.

⁴ The Commission Staff has determined that notwithstanding these facts, the Commission has jurisdiction over the MGBF. Vantage reserves all its rights regarding whether or not the Commission has jurisdiction over the MGBF and the filing of this SPPE Application is not an admission by Vantage that the Commission has exclusive jurisdiction over the MGBF.

⁵ Steady state continuous generating capacity is 70 percent of the peak generating capacity. See Appendix A.

backup generators will be arranged in three location or generation yards. Sixteen (16) of the backup generators will be arranged in a generation yard located adjacent to support MDC Building A. Sixteen (16) will be arranged in a generation yard adjacent to support MDC Building B. The remaining fifteen (15) of the backup generators will be arranged in a generation yard adjacent to support MDC Building C. Additionally, the MGBF will have a 500 kW life safety backup generator to provide continuous power to the pump associated with the fire sprinkler system.

The Commission Staff and Vantage exchanged information concerning another one of Vantage's Data Centers relating to how to calculate the generating capacity of backup generator banks for Commission jurisdictional calculations. In a response to Vantage, Staff opined that to determine the generating capacity of a collection of backup generators, the maximum of capacity of the load being served was determinative.⁶ In other words the maximum generating capacity of the MBGF is limited by the combined load of the 3 MDC buildings since the MBGF is exclusively interconnected to the MDC and is not capable of delivering electricity to any other user or to the electrical transmission system. In the case of the MBGF, the maximum load for the 3 MDC buildings combined at total buildout and 100 percent tenant occupancy will not exceed 100 MW and the continuous steady state generating capacity of all the generators would not exceed 98.7 MW for a prolonged electricity outage.

Therefore, the MBGF's generating capacity is below the 100 MW threshold and would qualify for consideration under the Commission's SPPE authority.

1.2.2 Data Center Facilities Not Within Scope of SPPE

The MDC is not within the scope of the Commission's jurisdiction because it is not a thermal power plant. The MDC is the sole consumer of the electricity produced by the MGBF. The MDC was approved by the City of Santa Clara (City) as discussed in Section 1.3 and is currently under construction. Vantage provides a brief description of the MDC and current modifications being considered by the City in Section 2. Where appropriate, the changes are considered in environmental analyses of Section 4 to assist the Commission in evaluating cumulative impacts from the co-location of the MBGF and the MDC.

1.3 PRIOR ENVIRONMENTAL REVIEW

The City prepared an Initial Study (IS) and adopted a Mitigated Negative Declaration (MND) and a Mitigation Monitoring and Reporting Plan (MMRP) for the MDC on February 10, 2017. The IS, MND and MMP included backup generation facilities. A

⁶ Letter dated August 25, 2017 from Robert Ogelsby, CEC Executive Director to Mr. Matt Silvers, Vantage Director of Operations.

copy of the MND which includes the IS and MMP and supporting technical studies is include in Appendix B.

The original configuration of the MDC was smaller and consisted of two four-story buildings to be constructed in four phases. The original design of the MDC encompassed a total building square footage of 413,000 gross square feet (gsf) and a total electrical load at full buildout of 76 MW. To serve this 76 MW electrical load of the original MDC, Vantage proposed a total of 32 backup generators.

Since approval by the City, Vantage has reconfigured the MDC and now proposes that the MDC consist of three four-story buildings encompassing a total building square footage of 541,000 gsf and total electrical load at full buildout not to exceed 100 MW. The reconfigured MDC will be constructed in three phases. Backup generation has been increased to serve the additional electrical load and will be served by the MBGF.

The City is allowing construction of the MDC to continue for Phase I and is currently processing the modifications to allow full buildout of the reconfigured MDC as proposed by Vantage. Our understanding is that the City intends to rely on the environmental analysis of the MBGF performed by the Commission to supplement its environmental review of the modified MDC by way of an Addendum to the MND.

To enable the City to timely conduct its review of the modified MDC, Vantage requests the Commission complete its review of the MBGF by March 2018.



2 PROJECT DESCRIPTION

2.1 OVERVIEW OF PROPOSED GENERATING FACILITIES

MBGF will be a backup generating facility with a generation capacity of up to 98.7 MW to support the need for the MDC to provide uninterruptible power supply for its tenant's servers. The MBGF will consist of 47 diesel-fired back up generators, arranged in three generation yards each designed to serve one of the three server buildings that make up the MDC. Project elements will also include switchgear and distribution cabling to interconnect the three generation yards to their respective buildings. In addition, the MBGF will include one life safety diesel fired generator capable of generating 500 kW.

2.2 GENERATING FACILITY DESCRIPTION, CONSTRUCTION AND OPERATION

2.2.1 Site Description

The MBGF will be constructed within the boundaries of the MDC site. The MDC site is 8.97 acres (390,900 square feet) and located at 651, 725, and 825 Mathew Street in Santa Clara, California. The project site is primarily surrounded by industrial and commercial land uses. The site is bounded by existing occupied buildings to the West, rail tracks to the East, a Home Depot location to the North and Mathew Street to the South. The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport. See Figure 1-1, Site Location Map.

The MDC site is comprised of three parcels that were previously used for industrial warehouse, manufacturing, and office purposes as well as associated surface parking. These buildings are currently being demolished as part of the MDC. The westernmost portion of the project site is the 0.26-acre APN 224-40-011 (located at 825 Mathew Street). Vehicle ingress and egress for this parcel is provided by one gated driveway along Mathew Street. The central portion of the project site is the 4.36-acre APN 224-40-002 (located at 725 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. The easternmost portion of the project site is the 4.35-acre APN 224-40-001 (located at 651 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. APNs 224-40-001 and 224-40-002 were developed as canneries in the late 1940s.

There are no native trees and limited landscaping present on the project site. The limited landscaping includes several non-native volunteer shrubs, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree.

2.2.2 General Site Arrangement and Layout

The 47 backup generators will be located at the site in generation yards at three separate locations within the MDC. Each generation yard will be adjacent to the building it serves. Figure 2-1 shows the general arrangement and site layout of the MBGF within the MDC site. Sixteen (16) of the backup generators will be dedicated to support MDC Building A; Sixteen (16) will be dedicated to support MDC Building B; and Fifteen (15) will be dedicated to support MDC Building C. The life safety generator will be located in the within the generation yard supporting Building A.

Each backup generator is a fully independent package system with dedicated fuel tanks located on a skid below the generator. As shown in Figure 2-2, the generators will be supported in a stacked configuration. Each generation yard will be electrically interconnected to the building it serves through combination of underground and above ground conduit/cabling to a location within the building that houses electrical distribution equipment.

2.2.3 Backup Electrical System Design

2.2.3.1 Overview

To place the role of the MBGF into context, the following information about the overall MDC design is provided. The design objective of the backup electrical system is to provide sufficient equipment and redundancy to ensure that the servers housed in the MDC buildings will never be without electricity to support critical loads. The critical loads include the load to support the building operation in addition to the electricity consumed by the servers themselves. The largest of these building loads is to provide cooling for the server rooms.

For backup supply for a Data Center, it is commonplace to build levels of systems and equipment redundancy and concurrent maintainability into the overall electrical and mechanical infrastructure. The base quantity of systems that are required to serve the design load of the facility is referred to as “N”. When reliability requirements dictate that redundant systems are added to the base quantity of systems, it is commonplace in the industry to refer to the number of redundant systems as “X” in the representation “N+X”.

Each electrical system will consist of an Uninterruptible Power Supply (UPS) system that will be supported by batteries, electrical switchgear, an electrical inverter and portions of the MBGF backup generation. The UPS systems that will be deployed at the MDC will be consist of two (2) 1000KVA UPS units will be paralleled together to provide “N Unit” of redundant Critical Capacity of 2MW. The two UPS units will share a potential 2MW of critical load by employing load sharing capabilities inherent to the UPS design. The power inputs of the two UPS units will be electrically connected to a single

Main Switch Board. This main switchboard will be connected to a dedicated 3750 KVA Utility Transformer as well as dedicated to one of the MBGF proposed backup generators.

Four (4) N Unit 2MW UPS systems will equally share a maximum 6MW critical load. The system works as a distributive redundant (4 to make 3) N+1 system such that if any single N system were to catastrophically fail, the surviving 3 would have sufficient capacity to provide power to the maximum critical load.

2.2.3.2 UPS System and Batteries

The UPS System and Batteries are part of the MDC and are not part of the MBGF. However, the following description is provided to describe how the UPS will dispatch the individual generators of the MBGF. The UPS will protect the load against surges, sags, under voltage, and voltage fluctuation. The UPS will have built-in protection against permanent damage to itself and the connected load for all predictable types of malfunctions. The load will be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The status of protective devices will be indicated on a LCD graphic display screen on the front of the UPS. The UPS will operate in the following modes:

- **Normal** - IGBT Rectifier converts AC input power to DC power for the inverter and for charging the batteries. The IGBT inverter supplies clean and stable AC power continuously to the critical load. The UPS Inverter output shall be synchronized with the bypass AC source when the bypass source is within the AC input voltage and frequency specifications.
- **Loss of Main Power** - When Main Power is lost, the battery option shall automatically back up the inverter so there is no interruption of AC power to the critical load.
- **Return of Main Power or Generator Power** - The system shall recover to the Normal Operating Mode and shall cause no disturbance to the critical load while simultaneously recharging the backup battery.
- **Transfer to Bypass AC source** - If the UPS becomes overloaded, or an internal fault is detected, the UPS controls shall automatically transfer the critical load from the inverter output to the bypass AC source without interruption. When the overload or internal warning condition is removed, after a preset “hold” period the UPS will automatically re-transfer the critical load from the bypass to the inverter output without interruption of power to the critical load.

- **Maintenance Bypass** - An optional manual make-before-break maintenance bypass panel may be provided to electrically isolate the UPS for maintenance or test without affecting load operation.

2.2.3.3 Batteries

Similarly, the batteries and battery banks are not part of the MBSF and are described here for informational purposes only. The batteries will likely be supplied by Deka, C&D or EnerSys and will be configured in banks. The banks will be connected to the UPS units as described above. The batteries will have tab washers mounted on front terminal posts capable of accepting the wiring components of a battery monitoring system. Batteries will have a minimum design life of 10 years in float applications at 77 degrees F. The battery containers will have a Jar/Cover made of polypropylene with a Heat Seal and 100 percent testing. The LOI rating will be UL-94 VO>28 percent.

The batteries will be configured in banks with matching standalone valve-regulated battery banks with the following characteristics.

- a. Each battery bank will provide a minimum of 5 minutes of backup at 100% rated inverter load of 1000kW, @ 77°F/25°C, 1.67 end volts per cell, beginning of life.
- b. Internal cabinet temperature sensor to be wired back to the UPS module.
- c. Conductor terminations will be NEMA two hole long barrel compression lugs.

2.2.4 Electrical Generation Equipment

Each of the 47 generators will be a Tier-2 emergency diesel fired generator equipped with diesel particulate filters (DPF). The generators will be either Caterpillar Model C-175-16 or Cummins Model DQLF. The maximum peak generating capacity of each model is 3 MW with a steady state continuous generating capacity of 2.1 MW. Specification sheets for each manufacturer and evidence of the steady state continuous ratings are provided in Appendix A.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be made ready for the immediate call for the request for power controlled by the UPS. Each generator package will integrate a dedicated fuel tank with a capacity of 6,300 gallons. The generators will be configured in three generator yards. There will be two levels. Half of the generators in each yard will be placed on a concrete slab and the other half will be on a second level directly above the ground with the generators mounted on a steel support structure. The

generators are approximately 13 feet 6 inches wide, 48 feet 5 inches long and 16 feet 7 inches high. Each generator will have a stack height of approximately 45 feet 2 inches. When placed on slab, they will be spaced approximately 10 feet apart horizontally, while the second level of generators will be mounted 26 feet 8 inches above the ground. Each generator yard will be located adjacent to the MDC building it serves. The generator yards will be enclosed with 8 feet high chain link fencing to separate them from the balance of the property.

Four individual generators will each be connected to four individual N Unit 2MW UPS Critical Loads and supporting Mechanical equipment, in a distributed redundant distribution, sharing 6MW of critical IT load. All four systems share the approximate 3MW of mechanical load for a total load of 9MW. Should any one system fail, the surviving systems will have enough capacity to completely share the 9MW of total load at the maximum capacity of the surviving generators. During a utility outage, all four generators will start and be connected to their dedicated loads. If none of the generator systems fail during the utility outage, the total maximum load of 9MW will still be shared between the four generators, and will only be running at about 66% of the full capacity of the generator.

2.2.5 Major Electrical Equipment and Systems

At the Generator Alternator, there will be a LOAD Disconnect Breaker that is Normally Closed while the generator is both in and out of operation. From that load disconnect, 600V rated power cables in conduit, rated for the full ampacity output rating of the generator will traverse from the generator into the data center facility terminating on a dedicated MAIN generator input breaker. This breaker is an electrically operated breaker that is normally open when the generator is not in operation, and the Main Switchboard has not requested generator power. This Generator Main Breaker is electrically interlocked with an adjacent Utility Transformer Main Breaker, such that the Generator Main Breaker can never close unless the Utility Transformer Main Breaker is in the open state. The Generator Main Breaker will only closed based upon a gen start request from a PLC control logic that indicates that the Utility Transformer Main Breaker's source power is unavailable, as well as the Generator has started, and is producing 480VAC power, and the Utility Transformer Main Breaker is in the open state. Once the Generator Main Breaker is closed, the power created from the individual generator is then transmitted to the dedicated load of the N Unit 2MW critical load system and connected mechanical. This load is the exact same load that the dedicated Utility Transformer was supplying power to prior to the utility interruption. Power from this individual generator cannot be transferred to any other load or system, or anywhere adjacent N Unit System or mechanical load, or anywhere outside the facility.

2.2.6 Fuel System

The backup generators will use ultra-low sulfur diesel as fuel (< 15 parts per million sulfur by weight). Each generator package will include an integrated fuel tank with a capacity of 6,300 gallons, which is sufficient for operating at steady state continuous load for at least 24 hours.

2.2.7 Cooling System

Each generator will be air cooled independently as part of its integrated package and therefore there is no common cooling system for the MBGF.

2.2.8 Water Supply and Use

The MBGF will not require any consumption of water.

2.2.9 Waste Management

The MBGF will not create any waste materials other than minor amounts of solid waste created during construction and maintenance activities.

2.2.10 Hazardous Materials Management

The MBGF will prepare a Spill Prevention, Control and Countermeasure Plan (SPCC) to address the storage, use and delivery of diesel fuel for the generators. A draft SPCC Plan for Vantage's Campus Data Center is included in Appendix D.

Each generator unit and its integrated fuel tanks have been designed with doublewalls. The interstitial space between the walls of each tanks is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an alarm system in the security office that alerts personnel if a leak is detected. Additionally the standby generator units are housed within a self-sheltering enclosure that prevents the intrusion of storm water.

Diesel fuel will be delivered on an as-needed basis in a compartmentalized tanker truck with maximum capacity of 8,500 gallons. The tanker truck parks at the gated entrances to the generator yard for re-fueling.

There are no loading/unloading racks or containment for re-fueling events; however, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, drains will be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with stormwater, to the extent feasible, fueling operations will be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks will be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off will be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures will be posted at the loading and unloading areas.

2.2.11 Project Construction

Construction of the MBGF will take place in three phases. Each phase represents a generation yard which will be constructed to serve each of the three MDC Buildings. Therefore Phase I will include 16 generators and the life safety emergency generator; Phase II will include 16 generators; and Phase III will include 15 generators.

Since the site preparation activities for the MDC will include the ground preparation and grading of the entire MDC site, the only construction activities associated with the MDC would involve construction within each generation yard. This will include construction of concrete slabs, fencing, undergrounding and installing above ground conduit to install the electrical cabling to interconnect to the MDC Building switchgear, construction of the racking system to support the second level of generators, and placement and securing the generators.

The generators themselves will be assembled offsite and delivered to site by truck. Each generator will be placed within the generation yard by a crane.

Construction of the generation yard to support the first MDC Building is anticipated to begin in May 2018. Construction of each generation yard and placement of the generators is expected to take six months. Construction personnel are estimated to range from 10 to 15 workers per generation yard including one crane operator.

2.2.12 Facility Operation

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 utility supply. BAAQMD's Authority to Construct and the California Air Resources Board's Airborne Toxic Control Measures (ATCM) limits each engine to no more than 50 hours annually for reliability purposes (i.e., testing and maintenance). Please see Section 4.4.3 for further discussion on Vantage's proposed use of an overall site NOx emissions cap.

2.3 MCLAREN DATA CENTER FACILITIES DESCRIPTION

As described in Section 1.2.2 and 1.3, the MDC is not part of this SPPE and is currently undergoing additional environmental review by the City. However, as discussed with Commission Staff in our pre-filing meeting we are providing the following brief description of the MDC, including the modifications to the previously approved configuration, in order to provide context for the MBGF.

The MDC site is 8.97 acres (390,900 square feet [sf]) and located at 651, 725, and 825 Mathew Street in Santa Clara, California (refer to Appendix C, Figures 2.0-1, 2.0-2, and 2.0-3). The MDC site is comprised of three parcels used for industrial warehouse, manufacturing, and office purposes, as well as associated surface parking. The existing buildings on the site have a total footprint of approximately 147,600 sf.

There are no trees and limited landscaping present on the MDC site. The westernmost portion of the project site is the 0.26-acre APN 224-40-011 (located at 825 Mathew Street). Vehicle ingress and egress for this parcel is provided by one gated driveway along Mathew Street. The central portion of the site is the 4.36-acre APN 224-40-002 (located at 725 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. The easternmost portion of the project site is the 4.35-acre APN 224-40-001 (located at 651 Mathew Street). Vehicle ingress and egress to this parcel is provided by one gated driveway along Mathew Street. APNs 224-40-001 and 224-40-002 were developed as canneries in the late 1940s. The limited landscaping includes several non-native volunteer shrubs, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree. The MDC site is primarily surrounded by industrial and commercial land uses (refer to Appendix C, Figure 2.0-3). The site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport.

The MDC proposes to demolish the existing industrial warehouse, manufacturing, and office facilities, as well as the associated surface parking. In their place, Vantage would construct three four-story, 175,000-180,000-gross square feet (gsf) data center buildings (a total of approximately 541,000 gsf) and a paved surface parking lot that would become a new Vantage Data Center campus. The MDC would also include an approximately 14,250 sf Silicon Valley Power (SVP) substation along Mathew Street. The MDC would be constructed in three phases. Building A in the western portion of the site would be developed during Phase 1 (refer to Appendix C, Figures 3.0-1 and 3.0-2). The construction of the electrical substation would primarily occur during Phase 1. Building B in the central portion of the campus would be developed during Phase 2, and Building C in the eastern portion of the campus during Phase 3 (refer to Appendix C, Figures 3.0-3 and 3.0-4). The first story of Building A would include the building lobby,

multipurpose offices, storage rooms, meeting rooms, break rooms, restrooms, three data center modules, and support facilities including electrical rooms. Six data center modules along with their respective support facilities are located each on the second, third and fourth floor. Floor plans for Building A are depicted in Appendix C, Figures 3.0-5 and 3.0-6, respectively. Buildings B and C are nearly identical in configuration to Building A with six data center modules and support facilities located on each of the first, second, third and fourth floors of the proposed buildings. Each data module provides one megawatt (MW) of critical IT load capacity.

With this new configuration, the total projected critical demand of the MDC has been increased from 54 MW to 69 MW and the total projected building and supporting facility demand increased from 76 MW to a demand not to exceed 100 MW. The height of Buildings A and B to the top of the metal screen would remain approximately 106 feet above ground surface (refer to Appendix C, Figures 3.0-7, 3.0-8, and 3.0-9).

Vehicle ingress and egress would be provided by three new gated driveways along Mathew Street. The central entry would provide the main passenger vehicle and pedestrian access to the site, while the east and west entries would be intended for service vehicles related to loading and deliveries. Service vehicles would drive around the north portion of the MDC site and exit through the middle exit driveway. The landscaped central access drive would be flanked by Building A to the west, Building B in the center, and Building C to the east. There would be a 26-foot wide loop road around the project site for fire access and general circulation. Approximately 189 parking spots would be provided within the project site. In addition, ten Class I bicycle locker spaces and six Class II bicycle rack spaces would be provided on site.

The MDC site is designated as Heavy Industrial under the City's 2010-2035 General Plan (Santa Clara General Plan) and is zoned as MH (Heavy Industrial). The Heavy Industrial designation allows primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers.



McLaren Backup Generating Facility
General Arrangement and Site Layout
 Vantage Data Centers
 Santa Clara, California

FIGURE
2-1

PROJECT

RAMBOLL ENVIRON

DRAFTED BY:

DATE:

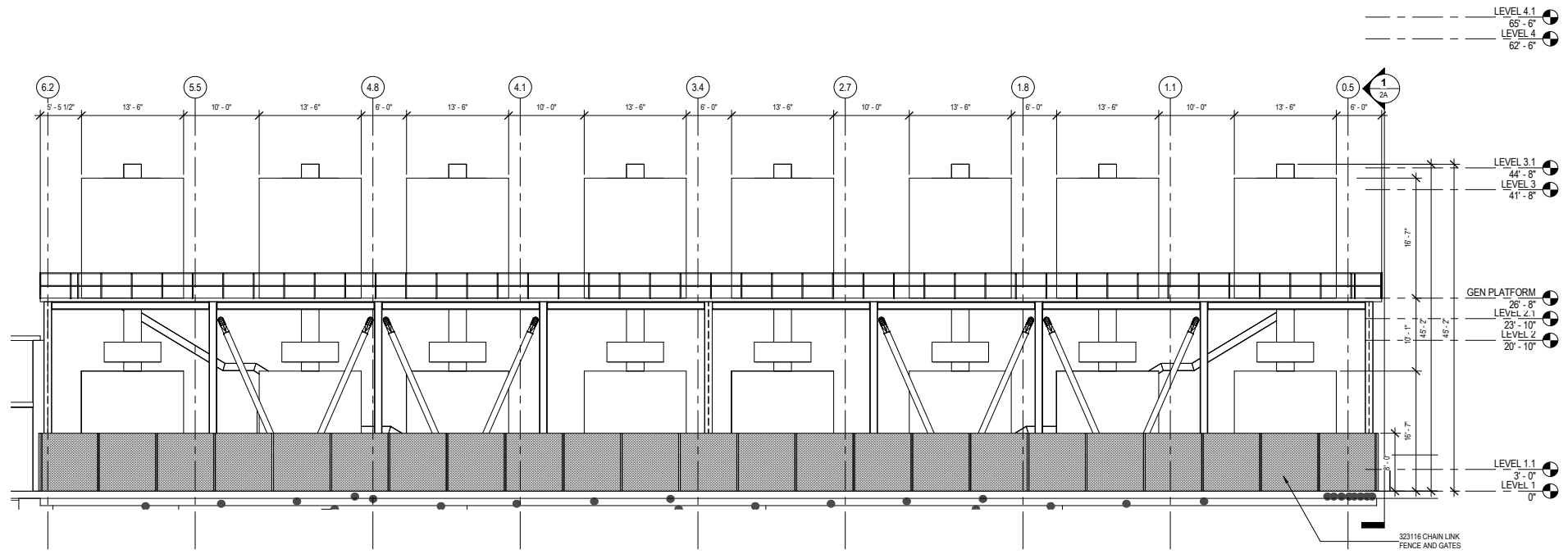
E

D

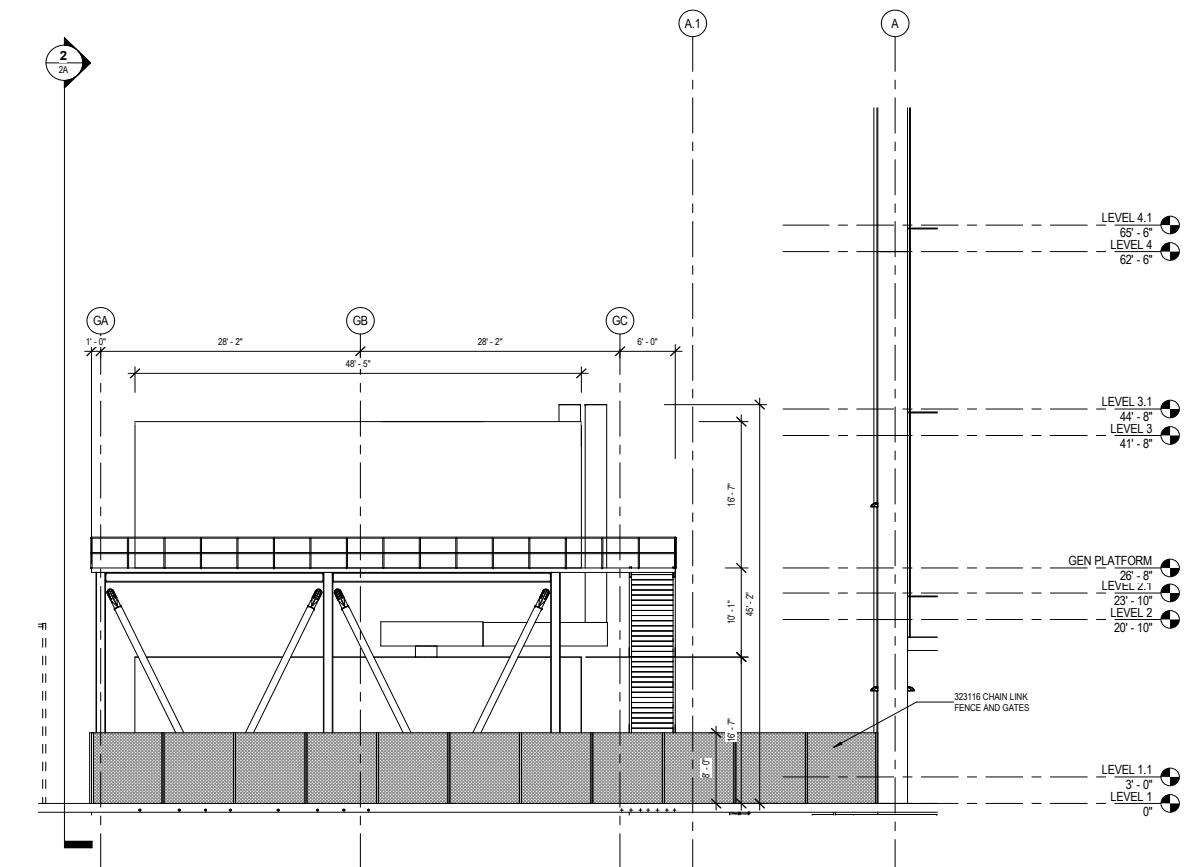
C

B

A



2 SECTION - SOUTH - FUTURE GEN YARD PLATFORM
1/8" = 1'-0"



1 SECTION - WEST - FUTURE GEN YARD PLATFORM
1/8" = 1'-0"

OWNER
VANTAGE
DATA CENTERS

ARCHITECT
SHEEHAN NAGLE HARTRAY ARCHITECTS

MECHANICAL/PLUMBING ENGINEER
ALFATECH

STRUCTURAL ENGINEER
PEOPLES ASSOCIATES STRUCTURAL ENGINEERS

CIVIL ENGINEER

LANDSCAPE ARCHITECT
oslund.and.assoc.

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TEL (312) 633-2900 EXT. 141
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NO.	DESCRIPTION	DATE

DRAWING ISSUES

**PROGRESS SET
NOT FOR CONSTRUCTION**

PROJECT:
VANTAGE - MCLAREN

Project Status
625, 725 MATHEW STREET
SANTA CLARA, CA

DWG. TITLE

**McLaren Backup Generating Facility,
Elevation of Typical Generation Yard**

PROJECT NO: Project Number
DATE: Issue Date
SCALE: AS NOTED

**FIGURE
2-2**

3 ENERGY RESOURCES

3.1 USE OF ENERGY RESOURCES

The MBGF will produce electricity only during an outage. It will only consume diesel fuel during maintenance and testing of the generators or when it is producing electricity. As described in Section 2.2.11 the air permit will limit each generator to less than 50 operation hours annually for testing, inspection and maintenance activities. The total amount of diesel fuel consumed if each generator was operated at full load for the full 50 hours annually would be 504,930 gallons or 12,023 barrels per year (bbl/year)⁷. According to the California Energy Commission's 2016 Weekly Fuel's Watch Report, the annual capacity of CARB Diesel Fuel in California was 222,744,000 barrels annually⁸. The proposed consumption of diesel by the MBGF is approximately 0.005 percent of the total California capacity.

Therefore, the MBGF will not have a significant adverse effect on local or regional energy supplies and will not create a significant adverse impact on California's energy resources.

⁷ This estimate is higher than expected since it does not represent partial loads and operation under the proposed NOx emission cap. See Section 4.4.3.

⁸ Addition of the total weekly Production Capacity and total weekly Refinery Stock reported in 2016.

4 ENVIRONMENTAL ANALYSES

4.1 ENVIRONMENTAL ANALYSIS METHODOLOGY

As described in Section 1.3, the original MDC included backup generating facilities consisting of 32 generators constructed in two generator yards. It was approved by the City of Santa Clara (City) after conducting an Initial Study (IS) and adopting a Mitigated Negative Declaration (MND) pursuant to CEQA⁹. Copies of the MND are included in Appendix B. The MND evaluated the potential effects of the 32 backup generators as part of the MDC. As described in Section 1.2, based on its interactions with the CEC Staff regarding one of its other California facilities, Vantage became aware of the CEC's potential jurisdiction over the backup generation planned to support the MDC. Vantage has filed this SPPE for the proposed MBGF and its modification from 32 generators approved in the MND to 48 generators configured in three generator yards. The increase in generation is to serve the ultimate buildout of all three phases of the reconfigured MDC.

The environmental baseline for evaluation of the potential impacts of the MBGF is, therefore, the original version of the MDC and the original 32 generators configured in two generator yards, as described in the MND.

The environmental evaluation below follows the CEQA guidelines and focuses on potential impacts of the additional generation and modified configuration of the MBGF, as proposed in this SPPE Application. Where the MBGF does not create new or additional impacts that are different from those evaluated in the MND, additional analyses is not required by CEQA. For each technical environmental area, a CEQA Checklist is provided followed by supporting discussion and analysis, as needed¹⁰. Where the MND proposed mitigation measures, the environmental analyses treats them as incorporated project features and, therefore, does not propose them as Conditions of Exemption to support the Commission's Decision to grant the SPPE. Additionally, each technical section contains an analysis of governmental agencies and permits that are necessary for the MBGF to comply with laws, ordinances, regulations or standards (LORS).

It is our understanding that the City will use the Commission's additional environmental analysis of the MBGF to supplement its current processing of the modifications to the MDC. Therefore, since the Commission does not have jurisdiction over the MDC, the

⁹ References to MND include the Initial Study, Response to Comments, Mitigation Monitoring Program and all associated technical reports contained in the appendices.

¹⁰ A CEQA checklist is not provided for Air Quality at this time pending input from Commission and BAAQMD Staff.

potential effects of the modifications proposed by Vantage to the MDC are only discussed where they may affect or contribute to potential effects of the MBGF.

4.2 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Aesthetics				
Would the project:				
1) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.2.1 Setting

As described in the MND, the visual character is industrial in character. The MND describes the project site as developed with industrial warehouse, manufacturing, and office facilities, as well as associated surface parking. The westernmost portion of the project site is the 0.26-acre parcel located at 825 Mathew Street. This parcel is a small paved lot that provides 13 surface parking spaces for the adjacent parcel. The central portion of the project site is the 4.36-acre parcel located at 725 Mathew Street. This parcel includes approximately 107,600 sf of buildings consisting of 11 one- and two-story warehouses, offices, vacant space, and paved surface parking. The warehouses serve as storage for a fruit manufacturer, a furniture company; a heating, ventilation and air conditioning (HVAC) contractor; and automotive vehicle storage. In addition, a vacant tomato paste manufacturing facility and cannery with large overhead equipment is located on this parcel. The easternmost portion of the project site is the 4.35-acre parcel located at 651 Mathew Street. This parcel includes approximately 40,000 sf of buildings, consisting of nine one-story industrial warehouses that are used by Diana Fruit Company Inc. for fruit processing and storage and two office buildings used for administrative and quality assurance purposes. Above ground storage tanks and fermenting bins are distributed throughout this parcel.

There are no trees and limited landscaping present on the project site. The limited landscaping includes several non-native volunteer shrubs along the east side of the project site, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree. Currently the buildings within the project site are being demolished.

4.2.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2 and the only ground disturbing activities would be limited underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard. The generators will be stacked as shown in Figure 2.3. Each generator is approximately 13 feet 6 inches wide, 48 feet 5 inches long and 16 feet 7 inches high. Each generator will have a stack height of approximately 45 feet 2 inches. When placed on slab, they will be spaced approximately 10 feet apart horizontally, while the second level of generators will be mounted 26 feet 8 inches above the ground. Each generator yard will be located adjacent to the MDC building it serves. The generator yards will be enclosed with 8 feet high chain link fencing to separate them from the balance of the property.

4.2.3 Environmental Impact Evaluation

4.2.3.1 Would the MBGF have a substantial adverse effect on a scenic vista?

The MND provided that original MDC would not have a substantial adverse effect on a scenic vista. The MND provided that the project site and the surrounding area are relatively flat and, as a result, the site is only visible from the immediate vicinity, particularly along adjacent roadways including Mathew Street, Robert Avenue and Lafayette Street. No designated scenic vistas or view corridors are located within the City of Santa Clara. Therefore, the MBGF would not cause or contribute to a substantial adverse effect on a scenic vista.

4.2.3.2 Would the MBGF substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The MBGF would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The MND evaluated whether the original MDC would impact views from the Santa Cruz Mountains, Diablo range, San Tomas Aquino Creek, and the Guadalupe River as “visual resources” within the City and concluded that due to distance, topography, and

intervening landscape trees, the project site cannot be seen in conjunction with San Tomas Aquino Creek (located 1.2 miles west of the project site) and the Guadalupe River (located 1.2 miles east of the project site). In addition, the site is not within a scenic viewshed or along a scenic highway designated by the California Department of Transportation (Caltrans) Scenic Highway Program.

As shown on the Figure 2.1 General Arrangement and Site Layout, and Figure 2.2, Elevation Typical Generation Yard, the generation yards that comprise the MBGF are located adjacent to the north side of each of the MDC buildings that they support. The generator stacks are 45 feet 2 inches tall, which is not as tall as any of the MDC buildings, which are approximately 106 feet tall chillers mounted on platforms on of the roof. The first set of generators will be partially obscured by the generator yard fencing. The MBGF presents a significantly smaller profile than the MDC. Therefore, if the MDC would not result in substantial damage to scenic resources, the MBGF, which is substantially smaller than, and visually obscured by the MDC, would also not result in substantial damage to scenic resources.

4.2.3.3 Would the MBGF substantially degrade the existing visual character or quality of the site and its surroundings?

The MBGF would not substantially degrade the existing visual character or quality of the site and its surroundings. As described above, the MBGF is visually obscured by the MDC. Each generator yard is located immediately adjacent to the MDC building it serves. The generator yards themselves cannot be viewed from the south looking northward because they are completely obscured by the MDC buildings. All of the other viewpoints are dominated by the MDC. The MND concluded that the MDC would be generally consistent with adjacent industrial and commercial development in terms of visual character and quality and would not substantially degrade the existing visual character or quality of the site or its surroundings. The addition of 16 generators and an additional generator yard would not change that conclusion and, therefore, the MBGF will not result in a significant adverse impact to visual resources.

Similarly, the MND concluded that the construction of the MDC would be temporary and would not result in a significant adverse impact to visual resources. The MBGF construction activities will take place within the overall construction activities of the MDC and similar to the MDC will be temporary and will not result in a significant impact to visual resources.

4.2.3.4 Would the MBGF create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The MBGF will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The MND concluded that sources of

light and glare are abundant in the urban environment of the area surrounding the MDC project site, including, but not limited to, street lights, parking lot lights, security lights, vehicular headlights, internal building lights, and reflective building surface and windows. The design of exterior facades of the MDC buildings would be subject to the City's design review process prior to issuance of building permits to ensure the project would not create a substantial new source of light or glare for adjacent businesses or persons traveling on the nearby roadways. Typical design requirements include directional and/or shielded lights to minimize brightness and glare of the lights. In addition, the exterior surfaces of the proposed buildings would utilize low-glare glazing and would not be a significant source of glare during daytime hours. Lighting specific to the MBGF will similarly be reviewed during the City's design review process, which will ensure that, like the MDC, it will not result in substantial light or glare. The additional generators proposed by the MBGF would not impact this conclusion.

4.2.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse visual resource or aesthetic impacts.

4.2.5 Governmental Agencies

The only governmental agency with LORS applicable to aesthetics and visual resources for the MBGF would be the City. Compliance with the City's LORS will be ensured through its design review process.

4.3 AGRICULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Agriculture and Forest Resources				
<p>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.</p> <p>Would the project:</p>				
1) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) 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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.3.1 Setting

As described in the MND, the project site is located in an existing developed, urban area of the City and is not used for agricultural purposes. The project site is designated as “Urban and Built-up Land” on the *Santa Clara County Important Farmland 2012 map*, which is defined as residential land with a density of at least six dwelling units per 10 acres, as well as land used for industrial and commercial purposes, golf courses, landfills, airports, sewage treatment, and water-control structures.

The project site is not designated by the California Natural Resources Agency as farmland of any type and is not the subject of a Williamson Act (a statewide agricultural land protection program) contract. Furthermore, no land adjacent to or in the vicinity of the project site is designated or used as farmland.

The site and surrounding land is not designated as forest land.

4.3.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2 and the only ground disturbing activities would be limited underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard.

4.3.3 Environmental Impact Evaluation

4.3.3.1 Would the MBGF 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 MBGF will not convert Prime Farmland, Unique Farmland, or Farmland of State Importance because the Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) designates the site as “Urban and Built-Up Land.”

4.3.3.2 Would the MBGF conflict with existing zoning for agricultural use or a Williamson Act contract?

The MBGF will not conflict with existing zoning for agriculture use or a Williamson Act contract because the site is not the subject of a Williamson Act Contract nor is it adjacent to or in the vicinity of agriculture land.

4.3.3.3 Would the MBGF 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 MBGF 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.

4.3.3.4 Would the MBGF result in the loss of forest land or conversion of forest land to non-forest use?

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

4.3.3.5 Would the MBGF 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 MBGF 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.

4.3.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse impacts to agriculture or forest resources.

4.3.5 Governmental Agencies

There are no governmental agencies with agricultural or forest service-related LORS applicable to the MBGF.

4.4 AIR QUALITY

4.4.1 Setting

The MBGF would be located in the City of Santa Clara, which is in the San Francisco Bay Area Air Basin. 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 and Federal 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.

The MBGF is within the air permitting jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The federal and state attainment status of criteria pollutants in the region are summarized in Table 4.4-1.

Table 4.4-1 Attainment Status of San Francisco Bay Area Air Basin Bay Area Air Quality Management District		
Pollutants	State Classification	Federal Classification
Ozone (1-hr)	Nonattainment	No Federal Standard
Ozone (8-hr)	Nonattainment	Nonattainment
PM10	Nonattainment	Unclassified
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO2	Attainment	Unclassified
SO2	Attainment	Attainment

Source: <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>

4.4.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2 and the only ground disturbing activities would be limited underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard.

4.4.3 Environmental Impact Evaluation

The following summarizes the results of an Air Quality and Greenhouse Gas Technical Report (AQTR) and an Air Dispersion Modeling Report For One-Hour NO2 Standard prepared by Ramboll Environ. Both reports are included in Appendix E-1. As described in this SPPE, the MND prepared by the City evaluated the MDC including 32 backup generators. For comparison purposes, the AQTR has evaluated the total emissions from full buildout of the MBGF, in addition to identifying the emission increases resulting from the addition of 16 generators.

Table 4.4-2 shows the previous generator and updated MBGF emissions and the BAAQMD CEQA thresholds.

Table 4.4-2 Summary of Backup Generator Operational Emissions				
	ROG	NOx	PM ₁₀	PM _{2.5}
Operational Daily Emissions (lb/day)				
Previous Generator Emissions	2.1	178	0.43	0.43
Updated Generator Emissions	3.3	263	0.63	0.63
Percent change from MND	57%	48%	47%	47%
BAAQMD CEQA Thresholds	54	54	82	54
Operational Annual Emissions (tpy)				
Previous Generator Emissions	0.38	33	0.08	0.08
Updated Generator Emissions	0.60	34.9 ¹¹	0.12	0.12
Percent change from MND	58%	6%	50%	50%
BAAQMD CEQA Thresholds	10	10	15	10

The MBGF, as modified, will not exceed the BAAQMD CEQA thresholds except for NOx. As described in the MND, per BAAQMD's Rule 2-2, new sources that emit more than 10 tons per year of NOx but less than 35 tons of NOx must fully offset emissions to net zero using the BAAQMD small facility bank. If emissions from any facility are greater than 35 tons per year, the operator must provide offsets to zero. Due to the acceptance of a limit on average aggregate operating hours for the generators at the MBGF, annual NOx emissions from the MBGF are less than 35 tons per year, and would total 34.9 tons per year¹², as shown in Table 4.4-2. Accordingly, the BAAQMD will provide offsets for NOx emissions from the backup generators from the BAAQMD small facility bank.

¹¹ Proposed as an overall cap for NOx for the site to the BAAQMD.

¹² Proposed as an overall cap for NOx for the site to the BAAQMD.

As described more fully in the AQTR, MBGF operations would contribute maximum local CO concentrations of 0.67 parts per million (ppm) on a 1-hour average and 0.39 ppm on an 8-hour average. These impacts are below the respective BAAQMD thresholds of significance of 20.0 ppm and 9.0 ppm. Dispersion modelling demonstrated compliance with the 1-hour NO₂ NAAQS and CAAQS. More detail on the 1-hour NO₂ model can be found in the air quality technical reports in Appendix E-1.

Therefore, the MBGF would not result in significant air quality impacts and therefore would comply with the Bay Area Clean Air Plan.

Additionally, the AQTR contains a health risk assessment for the MBGF. The results are presented in Table 4.4-3 and demonstrate that the MBGF will not result in significant public health impacts.

Table 4.4-3 Summary of Backup Generator Operational Health Impacts at the Maximally Exposed Individual Sensitive Receptor (MEISR)				
	Excess Lifetime Cancer Risk in one million	Noncancer Chronic HI (unitless)	Noncancer Acute HI (unitless)	PM _{2.5} Concentration (µg/m ³)
Project Operational Health Impacts				
Previous Generator Impact	0.30	0.000079	0.67	0.00039
Updated Generator Impact	0.42	0.00011	0.84	0.00055
Percent change from MND	40%	39%	25%	41%
BAAQMD CEQA Thresholds	10	1	1	0.3

4.4.4 Mitigation Measures

No mitigation measures are proposed beyond those included in the MND and the overall emission's cap for NOx proposed to the BAAQMD.

4.4.5 Governmental Agencies

The BAAQMD has authority to implement the air quality LORS and permits for the MBGF. Vantage has filed an application with the BAAQMD for an Authority To Construct (ATC) 31 of the 47 generators and the life safety generator. ATC Applications for the remaining generators will be filed in time to support full buildout of

the MDC phases. A copy of the recently filed BAAQMD application for ATC is included in - Appendix E 2.

4.5 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Biological Resources				
Would the project:				
1) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.5.1 Setting

The MDC site is comprised of three parcels used for industrial warehouses, manufacturing, and office purposes as well as associated surface parking. The closest open space to the project site is Larry J. Marsalli Park, which is 0.6 miles south of the project site. The MND concluded that there are no wetlands or other sensitive habitats located on or adjacent to the project site. The nearest waterways are the highly disturbed San Tomas Aquino Creek, approximately 1.2 miles west of the project site, and the Guadalupe River, approximately 1.2 miles east of the project site.

The MND concluded that special status plant and wildlife species are not expected to occur on the highly urbanized MDC project site. There are several non-native volunteer shrubs along the east side of Parcel 224-40-001 that may provide habitat and food sources for native migratory birds and raptors.

There are no trees and limited landscaping present on the MDC site. The limited landscaping includes several non-native volunteer shrubs along the east side of the project site, including Canary Island date palm, Mexican avocado, tree of heaven, and silk tree.

4.5.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified, as described in Section 2, and the only ground disturbing activities would be limited to underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard.

4.5.3 Environmental Impact Evaluation

4.5.3.1 Would the MBGF 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?

The MBGF will not have a substantial effect on any protected species. The MND concluded that, because of the development history in the project area, no natural or sensitive habitats are present on the MDC project site and, therefore, it was unlikely that any protected species would be present in the area. As a result, the MND concluded that no substantial impacts on natural plant communities or habitats would occur as a result of development of the MDC.

4.5.3.2 Would the MBGF 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?

The MBGF would not have a substantial adverse effect on any riparian habitat or any other sensitive natural community. The MND concluded that the nearest waterways to the MCD site, San Tomas Aquino Creek and Guadalupe River, both of which are highly disturbed and located more than one mile from the project site, would not be affected by the MDC.

4.5.3.3 Would the MBGF 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?

The MBGF would not have a substantial adverse effect on wetlands. The MND concluded there were no wetlands within or near the MDC site boundaries.

4.5.3.4 Would the MBGF 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?

The MND concluded that the MDC site did not support any protected species or established wildlife corridors. However, the MND did conclude that construction activities for the MDC could potentially impact protected raptors and/or migratory birds that could be present at the site. Loss of fertile eggs or individual nesting birds, or nest abandonment, would constitute a significant impact. The City adopted the following mitigation measure and concluded that the potential impact was mitigated to less than significant levels.

MM BIO-1.1: The following measures shall be implemented prior to and during ground disturbance and preliminary grading activities at the project site.

- Avoidance of Nesting Bird Season. To the extent feasible, construction shall be scheduled outside the avian nesting season to avoid impacts on nesting birds (including raptors) protected under the MBTA and CFGC. The nesting season for birds in Santa Clara County generally extends from January 1 through September 1.

- Pre-construction/Pre-disturbance Surveys for Nesting Birds. If construction activities cannot be scheduled outside of the nesting season noted above, pre-construction surveys for nesting birds shall be completed by a qualified biologist to identify any active nests that could be disturbed during project implementation. Surveys shall be completed no more than 7 days prior to the initiation of ground disturbance and preliminary grading. During this survey, the biologist shall inspect the volunteer shrubs along the eastern perimeter of the project site. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50 to 100 feet for other species), to ensure that no nests of species protected by the MBTA and CFGC will be disturbed during project construction.
- A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the Director of Community Development prior to the start of ground disturbance, grading, and/or tree removal activities.

Since the construction of the MBGF will take place within the MDC site after all grading activities have taking place, construction of the MBGF has no potential to impact potential nesting sites. The addition of another generation yard and 16 additional generators for the MBGF within the same site does not change this conclusion.

4.5.3.5 Would the MGBF conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The MGBF will not conflict with any local policies or ordinances protecting biological resources. The MND for the MDC concluded that the development of the MDC is consistent with local policies and ordinances and specifically because the site does not support trees protected by the City tree ordinance. The addition of another generation yard and 16 additional generators for the MBGF within the same site does not change this conclusion.

4.5.3.6 Would the MBGF conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The MBGF would not conflict with any provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional or state habitat conservation plan. The MND for the MDC concluded that no such plans exist within the project area.

4.5.4 Mitigation Measures

Since there are no significant impacts resulting from the construction or operation of the MBGF, no mitigation other than what is proposed in the MDC MND is necessary.

4.5.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with biological resource-related LORS.

4.6 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Cultural Resources				
Would the project:				
1) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.6.1 Setting

According to the Santa Clara General Plan, all areas of the City hold potential for the presence of prehistoric and archaeological resources, with the exception of current and former stream channels and areas with artificial fill. All other native soil types present in

the City, flood basin, levee deposits on the west side of the Guadalupe River, and alluvial floodplains, have a high potential for the presence of buried prehistoric deposits. The MND concluded although there are no existing conditions or immediate evidence that would suggest the presence of historic or prehistoric resources, the MDC site is located in a culturally sensitive area due to the known prehistoric and historic occupation of Santa Clara.

4.6.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2 and the only ground disturbing activities would be limited underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard.

4.6.3 Environmental Impact Evaluation

4.6.3.1 Would the MBGF cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

The MGBF would not cause a substantial adverse change in the significance of a historical resource. As part of analysis, the properties within the existing industrial warehouses, manufacturing, and office facilities on the MDC site (APNs 224-40-001 and 224-40-002) were recorded during a cultural resources survey on October 25, 2016, evaluated for listing in the CRHR, National Register of Historic Places (NRHP), and the local Santa Clara Historic Preservation Resource Inventory, and documented on Department of Parks and Recreation (DPR) 523 forms. The DPR forms are included in Appendix B (Appendices C.1 and C.2 of the IS). The evaluation concluded that the properties within the project site do not meet the criteria for listing in the CRHR, NRHP, or the local inventory and, thus, they do not qualify as historical resources under CEQA.

4.6.3.2 Would the MBGF cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The MND concluded that, although there are no known prehistoric or historic archaeological deposits on or directly adjacent to the MDC site, future development under the project could result in the exposure or destruction of as yet undiscovered subsurface prehistoric archaeological resources. If the exposure or destruction of subsurface prehistoric resources were to occur, it would be considered a significant

impact. To mitigate this impact to less than significant the MND adopted the following mitigation measures.

MM CR-1.1: A qualified archaeologist shall be on site to monitor grading of native soil once all pavement is removed from the project site. The project applicant shall submit the name and qualifications of the selected archeologist to the Director of Community Development prior to the issuance of a grading permit. After monitoring the grading phase, the archaeologist shall make recommendations for further monitoring if it is determined that the site has cultural resources. Recommendations for further monitoring shall be implemented during any remaining ground-disturbing activities. If the archaeologist determines that no resources are likely to be found on site, no additional monitoring shall be required. A letter report summarizing the results of the initial monitoring during site grading and any recommendations for further monitoring shall be provided to the Director of Community Development prior to onset of building construction.

MM CR-1.2: In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a qualified archaeologist or paleontologist shall examine the find and make appropriate recommendations. Recommendations could include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery during monitoring shall then be submitted to the Director of Community Development.

Although the MDC site will be graded prior to construction of any of the MBGF facilities, trenching to install the underground cabling for the electrical interconnection between each generator yard and the MDC building it serves could uncover cultural resources that were not discovered during grading and construction activities performed for the MDC site and buildings. However, with the implementation of the above mitigation measures any potential impacts from the trenching activities for the MBGF would be reduced to less than significant levels.

4.6.3.3 Would the MBGF disturb any human remains, including those interred outside of formal cemeteries?

The MND identified that the City is rich with archaeological and paleontological resources, including the Santa Clara Mission, Native American burial grounds, the Berryessa Adobe, and many others listed in the Santa Clara General Plan. The Santa Clara General Plan ensures that archaeological and cultural resources are protected, now and into the future, and that appropriate mitigation measures for unforeseen impacts are enforced in the event unknown resources are encountered. General Plan Policy 5.6.3-P5 requires that, in the event that archaeological/paleontological resources are discovered, work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist. General Plan Policy 5.6.3-P6 indicates that, in the event human remains are discovered, work with the appropriate Native American representative is to be conducted following the procedures set forth in State law. To ensure appropriate treatment would be provided in the unlikely event that human remains were discovered during grading and excavation activities performed for the MDC, the MND adopted the following mitigation measure.

MM CR-1.3: In the event that human remains are discovered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

Although the MDC site will be graded prior to construction of any of the MBGF facilities, trenching to install the underground cabling for the electrical interconnection between each generator yard and the MDC building it serves could uncover human remains that were not discovered during grading and construction activities performed for the MDC site and buildings. However, with the implementation of the above mitigation measure any potential impacts from the trenching activities for the MBGF would be reduced to less than significance levels.

4.6.4 Mitigation Measures

No additional mitigation measures beyond those proposed by the MND are necessary to ensure that impacts would be less than significant for the MBGF.

4.6.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with cultural resource-related LORS.

4.7 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Geology and Soils				
Would the project:				
1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a) 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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.7.1 Setting

The project site is in the Santa Clara Valley, a relatively broad and level alluvial basin, bounded by the San Francisco Bay to the north, the Santa Cruz Mountains to the west and southwest, and the Diablo Mountain Range to the east and southeast. The Santa

Clara Valley's basin contains alluvial deposits derived from the Diablo Range and the Santa Cruz Mountains.

The majority of the project site is underlain by Holocene age (less than 11,000 years old) Basin Deposits (Qhb). The basin deposits are generally described as dark-colored clay with very fine silty clay, rich in organic material, and deposited beyond the levees and flood plains in the flood basins where stilling flood waters drop their finest sediment. Based on borings conducted at the project site, the site is underlain predominately by fine-grained alluvium consisting of clays and silts interbedded with discontinuous layers of coarse-grained alluvium consisting of sands and gravels. The maximum cumulative thickness of coarse-grained alluvium encountered was approximately 35 feet. The fine-grained alluvium encountered is predominantly medium stiff to hard and the coarse-grained alluvium is predominantly medium dense to very dense. The weaker medium stiff compressible clay layers appear to be discontinuous across the site and vary in thickness. The near-surface material at the project site is highly expansive.

There are no unique geologic features on or adjacent to the project site. The topography of the project site and the surrounding area is relatively flat.

4.7.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2 and the only ground disturbing activities would be limited underground trenching to support underground cabling for its electrical interconnection to each MDC building served by each generator yard.

4.7.3 Environmental Impact Evaluation

4.7.3.1 Would the MBGF expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

4.7.3.1.1 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 MND concluded that the MDC site is located within the seismically active San Francisco Bay region. The Hayward fault is six miles from the site and is the closest active fault to the project site. However, because the fault is not within the limits of an Alquist-Priolo Earthquake Fault Zone, surface fault rupture is unlikely.

4.7.3.1.2 Strong seismic ground shaking?

Although the MDC site is not located on or adjacent to a major earthquake fault, severe ground shaking is probable during the useful life of the project.

4.7.3.1.3 Seismic-related ground failure, including liquefaction?

The site is located within an earthquake-induced liquefaction hazard zone, so there is potential for some of the looser granular and low-plasticity soil layers underlying the project site to liquefy during a major earthquake event.

4.7.3.1.4 Landslides?

The MND concluded that there is low potential for landslides to occur at the MDC site because the topography of the project site is flat and there are no open faces or slopes near the site.

4.7.3.2 Would the MBGF result in substantial soil erosion or the loss of topsoil?

The MND did conclude that MDC construction activities (e.g., excavation and grading) could temporarily increase sedimentation and erosion by exposing on-site soils to wind and runoff. To mitigate this potential impact the MND adopted the following mitigation measures.

MM GEO-1.1: All excavation and grading work shall be scheduled in dry weather months, or the construction sites shall be weatherized to withstand or avoid erosion.

MM GEO-1.2: Stockpile and excavated soils shall be covered with secured tarps or plastic sheeting.

MM GEO-1.3: Vegetation in disturbed areas shall be replanted as quickly as possible.

Construction of the MBGF would involve a small amount of trenching. The trenching alone would not result in measurable soil erosion. However, in the event that excavated soils are stockpiled during the trenching activities, compliance with the Mitigation Measure MM GEO-1.2 would mitigate any potential soil erosion impacts to less than significant levels.

4.7.3.3 Would the MBGF 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 MND did identify that the MDC could experience seismic shaking and potential liquefaction during a strong seismic event, which could result in differential settlement.

The MND concluded that the design of the MDC, including the building foundations, would accommodate any such differential settlement. The MND identified two options for the building foundations: a deep pile system consisting of auger cast displacement piles; and a rigid mat foundation combined with a deep ground improvement method. The MDC and the structures to support the MBGF would be designed and constructed in accordance with the current (2016) California Building Code and standard engineering safety techniques, including site preparation, compaction, trench excavation, and drainage. In addition, the MND identified that Vantage would be required to prepare a geotechnical engineering report with project-specific design specifications, subject to review and approval by the City Building Official prior to issuance of permits. The MND concluded that, with implementation of seismic design guidelines in the current California Building Code and project-specific recommendations in a final geotechnical engineering report, the MDC would not expose people or property to significant impacts associated with geologic or seismic conditions onsite. This conclusion is not affected by the addition of 16 generators and one generator yard to the MBGF.

4.7.3.4 Would the MBGF 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 MND identified that the near-surface material at the MDC site is highly expansive. The at-grade structures or hardscape outside of the proposed buildings would be susceptible to seasonal expansive soil movement. The MND concluded that, however, with implementation of the recommendations presented in the *Geotechnical Investigation*, including implementation of either of the proposed foundation options (a deep pile system consisting of auger cast displacement piles or a rigid mat foundation combined with a deep ground improvement method), shrink and swell of the surficial soil would not have a significant impact on the structural integrity of the proposed improvements. The MDC would be designed to withstand soil hazards at the project site (e.g., expansive soils) and the MDC, therefore, would not result in substantial risks to life or property. This conclusion is not affected by the addition of 16 generators and one generator yard to the MBGF.

4.7.3.5 Would the MBGF directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The MND concluded that, based on data from the *Geotechnical Investigation* prepared for the project (Appendix B, Appendix D to the MND) and current paleontological literature, the subsurface geologic unit in the study area was assigned a paleontological sensitivity of High Potential according to the Society of Vertebrate Paleontology's

Standard Guidelines. Significant vertebrate fossils have been recovered from this geologic unit. Thus, similar fossils could be recovered at the MDC site when undisturbed soil formations are encountered. To mitigate this potential impact, the MND adopted the following mitigation measure.

MM CR-2.1: Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and shall follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate its significance.

If a fossil is found and determined by the qualified paleontologist to be significant and avoidance is not feasible, the paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The City shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

Although the MDC site will be graded and any excavation for deep foundations would be completed prior to installation of any of the MBGF facilities, the MBGF would perform trenching to install the underground cabling for the electrical interconnection between each generator yard and the MDC building it serves. This trenching is most likely to occur in previously disturbed soils. However, with the implementation of the above mitigation measure, any potential impacts from the trenching activities for the MBGF would be reduced to less than significant levels in the unlikely event the trenching activities encounter potential paleontological resources.

4.7.4 Mitigation Measures

No additional mitigation measures beyond those adopted in the MND are necessary to ensure the MBGF does not result in significant impacts to geological and paleontological resources.

4.7.5 Governmental Agencies and Permits

The MBGF would be required to obtain building permits which would be issued by the City. The issuance of the building permits and oversight provided by the City would ensure that the MBGF complies with the applicable building codes. There are no other geological or paleontological resource-related LORS applicable to the MBGF.

4.8 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Greenhouse Gas Emissions				
Would the project:				
1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.8.1 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2.

4.8.2 Environmental Impact Evaluation

4.8.2.1 Would the MBGF generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

As more fully described in the AQTR contained in Appendix E-1, the MBGF will generate greenhouse gas emissions in the amount of 5,460 MT CO₂e/year. This is below the BAAQMD CEQA significance threshold of 10,000 MT CO₂e/year.

4.8.2.2 Would the MBGF conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City Council of Santa Clara adopted a Climate Action Plan (CAP) as part of its General Plan on December 3, 2013 (City of Santa Clara 2013).¹³ However, the CAP does not specifically address backup generating facilities. Thus, since the purpose of the MBGF is to provide backup generation in the case of an electricity outage only, and the CAP does not specifically directly regulate the MBGF’s purpose, the MBGF itself will not conflict with the CAP.

The CAP does include a goal for the MDC and the MND determined that the MDC would not conflict with it.

4.8.3 Mitigation Measures

No mitigation is necessary to support a Commission finding that the MBGF will not result in significant greenhouse gas emission impacts.

4.8.4 Governmental Agencies and Permits

No governmental agency approval or permits for greenhouse gas emissions are required although the BAAQMD will be conducting a technical evaluation in the processing of the ATC application.

4.9 TRANSMISSION LINE SAFETY AND NUISANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Transmission Line Safety and Nuisance				
Would the project:				
1) Result in perceptible and non- perceptible field and nonfield impacts from current flow in the utilized transmission line?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.9.1 Setting

Silicon Valley Power (SVP) will provide power to the MDC through a substation being constructed in the southwestern portion of the MDC site.

¹³<http://www.santaclaraca.gov/government/departments/community-development/planning-division/general-plan>

4.9.2 Project Changes Relevant to MBGF

The MBGF would consist of 48 generators located in three generator yards. Each generator yard will be located immediately adjacent to the MDC building it serves. Each generator yard will be electrically interconnected to the building it serves through combination of underground and above ground conduit/cabling to a location within the building that houses electrical distribution equipment. The MBGF will not construct a transmission line to the SVP transmission system. The MBGF will only operate when power is unavailable from the SVP system.

4.9.3 Environmental Impact Evaluation

4.9.3.1 Would the MBGF result in perceptible and non-perceptible field and nonfield impacts from current flow in the utilized transmission line?

The MBGF would not construct a transmission line to connect to the SVP system. It would only operate when power is unavailable from the SVP system. Using MBGF power would thus eliminate the field and nonfield 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 MBGF 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 and, therefore, the MBGF would not result in perceptible and non-perceptible field and nonfield impacts from current flow.

4.9.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse transmission line safety and nuisance impacts.

4.9.5 Governmental Agencies and Permits

The only governmental approval or permits would be the building permits approved by the City which would work with SVP to ensure that the electrical interconnections and equipment are designed and constructed according to the applicable building codes.

4.10 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Hazards and Hazardous Materials				
Would the project:				
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.10.1 Setting

The MDC site is 0.3 miles west of the Norman Y. Mineta San Jose International Airport and is within its Airport Influence Area. The site is encompassed within the Airport's Comprehensive Land Use Plan (CLUP).

As identified in the MND, the City's Emergency Operations Plan, adopted on June 21, 2016, provides an all hazard, all risk framework for collaboration among responsible entities and coordination of emergency activities during large-scale incidents in the City.

The City primary Emergency Operations Center (EOC) is located adjacent to the Santa Clara Police Department (SCPD) firing range. The alternate EOC is the Fire Department Training Center Classroom. In area-wide emergencies, one or more Incident Command Posts may be established to assist in managing emergency operations. In the event of an emergency, law enforcement (e.g., the SCPD) will establish evacuation routes in collaboration with other City departments, as needed.

4.10.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2. The only MBGF modification relevant to hazardous materials is the additional diesel storage for the 16 additional generators.

4.10.3 Environmental Impact Evaluation

4.10.3.1 Would the MBGF create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The MBGF would not routinely transport, use or dispose of hazardous materials. No reportable quantities of acutely or extremely hazardous materials will be transported, stored or used at the site. The MBGF generators will use diesel fuel during emergencies, as well as testing and maintenance. Each generator is supported by a dedicated tank. Since testing and maintenance involves no more than 50 hours of operation for each turbine, deliveries of diesel fuel to the site would be infrequent.

During the construction phase of the MBGF, 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.

As described in Section 2.2.10, the storage, delivery and use of diesel on site would be subject to a Spill Prevention, Control and Countermeasure Plan (SPCC). A draft plan for Vantage's Campus Data Center is included in Appendix D and represents a similar strategy to be employed at the MBGF.

4.10.3.2 Would the MBGF 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?

The MBGF would not create a significant hazard to the public or environment due to an accidental release of diesel fuel. During operations, diesel fuel will be stored in belly tanks underneath each generator. Each tank is capable of holding 6,300 gallons. The amount of diesel fuel is sufficient for 24 hour emergency operation of each generator at steady state continuous load. Since the total diesel fuel to support the total generation proposed by the MBGF is not concentrated in one tank, the potential for multiple failures at the same time is extremely unlikely and, therefore, it is unlikely that an accident would create offsite impacts.

Each generator unit and its integrated fuel tanks have been designed with doublewalls. The interstitial space between the walls of each tanks is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an alarm system in the security office that alerts personnel if a leak is detected. Additionally the standby generator units are housed within a self-sheltering enclosure that prevents the intrusion of storm water.

Diesel fuel will be delivered on an as-needed basis in a compartmentalized tanker truck with maximum capacity of 8,500 gallons. The tanker truck parks at the gated entrances to the generator yard for re-fueling.

There are no loading/unloading racks or containment for re-fueling events; however, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, drains will be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with stormwater, to the extent feasible, fueling operations will be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks will be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off will be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures will be posted at the loading and unloading areas.

4.10.3.3 Would the MBGF 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. The closest school to the project site is Scott Lane Elementary School at 1925 Scott Boulevard, 0.5 mile southwest of the project site.

4.10.3.4 Is the MBGF 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 MBGF result in a safety hazard for people residing or working in the project area?

The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport (SJI Airport), and is within the Airport Influence Area. The project site is subject to the Comprehensive Land Use Plan (CLUP) for the SJI Airport.

The MND concluded that the MDC is outside of all airport safety zones identified in the CLUP, with the exception of the traffic pattern zone, which restricts development types with high concentrations of people (e.g. sports stadiums). The use and storage of diesel fuel for the MBGF does not pose a significant risk to the SJI airport traffic due to a release because of the extremely low risk of any impacts outside of the site boundary from a release.

Additionally, neither the MDC nor the MBGF stacks would intrude upon the Part 77 airspace surface for the Airport which, as the MND concluded, establishes a maximum structure height of 212 feet (above mean sea level) for the project site. Please see further discussion of thermal plumes in Section 4.18 below.

4.10.3.5 Is the MBGF within the vicinity of a private airstrip, would the MBGF result in a safety hazard for people residing or working in the project area?

The MBGF is not within the vicinity of a private airstrip.

4.10.3.6 Would the MBGF impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The MBGF would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The MND found that during construction of the MDC, traffic levels would experience a minimal increase that is not expected to degrade traffic performance significantly. The MBGF would be installed after the grading and access entrances are completed as part of construction of Phase I of the MDC (Site work and Building A). The MND concluded that the MDC would not

involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No streets would be closed, rerouted, or substantially altered. Thus, the MDC would not interfere with the coordination of the City's Emergency Operations Plan at the EOC or alternate EOC, nor would the project interfere with any evacuation routes. Adequate emergency access to the project site and surrounding industrial area would be maintained, and the project would not interfere with the City's emergency operations plan or any statewide emergency response or evacuation plans. The addition of 16 generators and a generator yard would not change this conclusion.

4.10.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse hazardous materials impacts.

4.10.5 Governmental Agencies and Permits

As described above in order to comply with federal and state law relating to the storage of diesel fuel at the site, the MBGF will prepare a SPCC and emergency response plans to be reviewed and approved by the local fire department.

4.11 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Hydrology and Water Quality				
Would the project:				
1) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10) Result in inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Setting

As identified in the MND, according to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the MDC site is located within Zone X. Zone X is defined as areas of 0.2 percent annual chance of flood, areas of one percent chance of annual flood with average depths of less than one foot, or with drainage areas less than one square mile, and areas protected by levees from one percent annual chance of flood. The MDC site is not within a 100-year flood area zone.

The existing elevation of the MDC site is approximately 52 feet above mean sea level (amsl). In addition, the MDC site is not within an area mapped as vulnerable to sea level rise in the Santa Clara General Plan.

4.11.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2. The only MBGF modification relevant to hydrology and water quality is the additional diesel storage for the 16 additional generators.

4.11.3 Environmental Impact Evaluation

4.11.3.1 Would the MBGF violate any water quality standards or waste discharge requirements?

The MBGF will not have any discharge and, therefore, would not violate any water quality standards or waste discharge requirements.

4.11.3.2 Would the MBGF 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 MBGF generators are air cooled and will not use either surface or groundwater.

4.11.3.3 Would the MBGF 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?

The MBGF will not substantially alter the existing drainage pattern of the MDC site and will not result in substantial on- or off-site erosion or siltation. The MBGF does not involve grading as all grading will be done to the MDC site prior to construction and installation of any of the MBGF facilities. The minor trenching between each generator yard and the MDC building for the underground electrical interconnection involves short distances because the generator yards are located immediately adjacent to the buildings they serve. Therefore the trenching would result in insignificant, if any, amounts of soil erosion.

4.11.3.4 Would the MBGF 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?

The MBGF will not substantially alter the existing drainage pattern of the MDC site nor will it substantially increase the rate or amount of surface water. The MBGF does not involve grading, as all grading will be done to the MDC site prior to construction and installation of any of the MBGF facilities.

4.11.3.5 Would the MBGF 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?

The MBGF will not contribute to stormwater runoff created by the development of the MDC nor will it create additional sources of polluted runoff. The MND concluded that the MDC would not result in any increase in impervious surface at the MDC site, and therefore, development of the MDC would not cause any increase in stormwater runoff that would exceed the capacity of the existing storm drainage system. In addition, the Municipal NPDES permit required for the MDC requires that redevelopment not result in a net increase in stormwater flow exiting the project site. As a result, runoff from the MDC site would not exceed the capacity of the local drainage system.

4.11.3.6 Would the MBGF otherwise substantially degrade water quality?

The MBGF would not substantially degrade water quality. It will not have a discharge of waste. The MBGF generator yards will not be constructed until after the grading for Phase I of the MDC is completed. The minor trenching to support the underground electrical interconnection from each generator yard to the MDC building it supports is

minor because the generator yards are located adjacent to the MDC buildings. This temporary and minor trenching activity would result in insignificant soil erosion, and therefore, would not result in a degradation of surface of groundwater resources.

As described in Section 2.2.10, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, drains will be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with stormwater, to the extent feasible, fueling operations will be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks will be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off will be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures will be posted at the loading and unloading areas.

4.11.3.7 Would the MBGF 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?

The MBGF does not involve residential housing.

4.11.3.8 Would the MBGF place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The MND concluded that the MDC is not within a 100-year flood hazard zone nor would it be inundated due to sea level rise.

4.11.3.9 Would the MBGF 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 MND concluded that there are no dams or levee systems in the area within the vicinity of the MDC site; however, the site is within the dam failure inundation area for Lexington Reservoir (Leniham Dam). Lexington Reservoir is maintained by the Santa Clara Valley Water District (SCVWD) and the dam is continuously monitored for seepage and settling and inspected when an earthquake occurs. The MND concluded that due to the monitoring and inspection and the distance from the MDC site, the probability of such a failure is extremely remote. Therefore, the MDC site and the MBGF would not be subject to a significant risk of inundation from dam failure.

4.11.3.10 Would the MBGF result in inundation by seiche, tsunami, or mudflow?

The MND concluded that the MDC site is not located near a large body of water and is not near the ocean. Due to the location of the MBGF within the MDC site, the project would not be subject to inundation by seiche, tsunami, or mudflow.

4.11.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse hydrology or water quality impacts.

4.11.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with the hydrology and water quality-related LORS.

4.12 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Land Use				
Would the project:				
1) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12.1 Setting

The 8.97-acre project site is in an existing industrial area of the City. The project site is comprised of three parcels developed with existing industrial warehouse, manufacturing, and office facilities, as well as associated surface parking undergoing demolition in preparation for construction of Phase I of the MDC. The MDC site is

bounded by Mathew Street to the south, the Southern Pacific Railroad to the east, and other commercial and industrial properties to the north and west. The site is primarily surrounded by industrial and commercial land uses.

4.12.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2. The MBGF will be developed entirely within the same parcels evaluated for land use impacts in the MND.

4.12.3 Environmental Impact Evaluation

4.12.3.1 Would the MBGF physically divide an established community?

The MND concluded that the development of the MDC at the site would not physically divide an established community. The addition of 16 generators and a generator yard within the same parcels would not change that conclusion.

4.12.3.2 Would the MBGF 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 MND concluded that the MDC did not conflict with any applicable land use plan, policy or regulation or an agency with jurisdiction of the project. The addition of 16 generators and a generator yard within the same parcels would not change that conclusion.

The MND concluded that the MDC site is designated Heavy Industrial by the Santa Clara General Plan. The Heavy Industrial designation allows for primary manufacturing, refining and similar activities. It also accommodates warehousing and distribution, as well as data centers.

The Zoning Designation is MH. The MND concluded that, with approval of a zoning administrator modification for height of the MDC buildings, the project would be consistent with the development standards for the MH zoning designation and the proposed data center uses would be consistent with allowed uses for the MH zoning designation.

4.12.3.3 Would the MBGF conflict with any applicable habitat conservation plan or natural community conservation plan?

The MND concluded that the MDC site is not subject to an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.12.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse land use impacts.

4.12.5 Governmental Agencies and Permits

If the CEC grants the SPPE, the City would have jurisdiction over the MDC and the MBGF and, therefore, would need to approve the additional generators and generator yard along with the additional modifications being proposed to the MDC as described in Section 2.3. Other than the City, there are no governmental approvals or permits necessary to comply with land use-related LORS.

4.13 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Mineral Resources				
Would the project:				
1) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.13.1 Setting

The City is located in an area zoned MRZ-1 for aggregate materials by the State of California. MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists

for their presence. The area is not known to support significant mineral resources of any type. No mineral resources are currently being extracted in the City.

4.13.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified, as described in Section 2. The MBGF will be developed entirely with the same parcels evaluated for mineral resources impacts in the MND.

4.13.3 Environmental Impact Evaluation

4.13.3.1 Would the MBGF 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?

The MDC site is in a developed urban area and does not contain any known or designated mineral resources.

4.13.3.2 Would the MBGF 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?

The MDC site is in a developed urban area and does not contain any known or designated mineral resources.

4.13.4 Mitigation Measures

No mitigation measures are required to support a finding by the Commission that the MBGF will not result in significant adverse mineral resource impacts.

4.13.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with the mineral resources-related LORS.

4.14 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
NOISE				
Would the project:				
1) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Setting

The City General Plan outlines the levels of exterior noise that are considered “normally acceptable,” “conditionally acceptable with required design and insulation to reduce noise levels,” and “normally unacceptable” for residential, educational, recreational, commercial, industrial, and open space land uses (subject to further regulation by the Santa Clara Municipal Code). For residential uses, exterior noise levels of 55 dBA CNEL are considered normally acceptable, while levels between 55 dBA CNEL and 70 dBA CNEL are considered conditionally acceptable, as long as reduction measures are implemented to reduce interior noise to 45 dBA. Noise levels above 70 dBA CNEL are

considered normally unacceptable for residential land uses. For commercial land uses, noise levels up to 65 CNEL are considered normally acceptable, with levels between 65 and 75 CNEL being considered conditionally acceptable, as long as reduction measures are implemented to reduce interior noise to 50 dBA CNEL; noise levels above 75 CNEL are considered unacceptable. For industrial land uses, noise levels of up to 70 CNEL are considered normally acceptable, and levels between 70 CNEL and 80 CNEL are considered conditionally acceptable, as long as reduction measures are implemented to reduce interior noise to 50 dBA CNEL.

Chapter 9.10 of the Santa Clara Municipal Code applies to the regulation of noise and vibration. The purpose of the noise ordinance is to protect the public welfare by limiting unnecessary, excessive, and unreasonable noise or vibration. Section 9.10.040 specifies the exterior noise limits that apply to land use zones within the City. The City's exterior noise limit for heavy industrial land use zones is 75 dBA Lmax (anytime), the exterior noise limit for commercial land uses is 65 dBA Lmax (daytime), and the exterior noise limit for residential land uses is 55 dBA Lmax (daytime). The MND identifies that the City noise limits for stationary noise sources are not applicable to emergency work, including the operation of emergency generators; however, the generators will be tested intermittently, and these tests are subject to the local noise regulations defined in the City Noise Ordinance.

The MBGF site is surrounded by industrial and commercial land uses, with the nearest residential land use located approximately 400 feet west of the MDC site boundary.

4.14.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2. The only modification relevant to an evaluation of potential noise impacts is the addition of generators.

4.14.3 Environmental Impact Evaluation

4.14.3.1 Would the MBGF result in 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 proposed emergency generators located in the three generation yards above would provide backup power to the data center buildings in the event that an equipment failure or other conditions result in an interruption of the electricity provided by SVP. As

discussed above, the City's exterior noise limit for heavy industrial land use zones is 75 dBA Lmax (anytime), the exterior noise limit for commercial land uses is 65 dBA Lmax (daytime), and the exterior noise limit for residential land uses is 55 dBA Lmax (daytime). As described in the MND, the City noise limits for stationary noise sources are not applicable to emergency work, including the operation of emergency generators; however, the generators will be tested intermittently, and these tests are subject to the local noise regulations defined in the City Noise Ordinance.

The MND found that operating generators for testing and maintenance would cause exceedances of the City's noise limits at the nearest land uses. The MND adopted the following mitigation measure.

MM NOI-1.1: The project applicant shall prepare and implement measures to ensure that outdoor mechanical equipment does not generate noise levels in excess of the City's applicable noise standard for the applicable zoning category (i.e. 75 dBA noise standard at the nearest heavy industrial uses, 65 dBA at the nearest commercial land uses, and 55 dBA at the nearest residential land uses). All sound, noise, or vibration measurements shall be taken at the closest point to the noise or vibration source on the adjacent real property, or on any other property, affected by the noise or vibration. Measures included in this noise control plan that could help to accomplish this standard include, but are not limited to:

- Installing sound enclosures or barriers around noise-generating mechanical equipment (including but not limited to emergency generators and pumps). The generators may need to be fully enclosed to meet the applicable noise standards.
- Reducing the number of generators tested at once.
- Utilizing mufflers to reduce noise from mechanical equipment, and
- Utilizing quieter equipment (e.g. smaller, quieter generators) that meets this standard.

Prior to the issuance of an occupancy permit, the project applicant shall prepare a report, identifying measures that shall be implemented to ensure that exterior noise levels from mechanical equipment comply with the City's noise

standards, to the satisfaction of the Director of Community Development.

The MND concluded that, with the mitigation measure, noise impacts from the operation of the generators during testing and maintenance activities would be reduced to less than significant levels. The additional generators proposed by the MBGF would be subject to this mitigation measure and, likewise, the noise impacts associated with the additional generators will be reduced to less than significant levels.

4.14.3.2 Would the MBGF result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

The MBGF will not create excessive ground-borne vibration or ground-borne noise levels. As discussed above, construction activity associated with the MBGF will be minor compared to the construction activities of the MDC. The MND concluded that the construction activities of the MDC would not result in excessive ground-borne vibration or ground-borne noise levels.

4.14.3.3 Would the MBGF result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

For the reasons discussed in Section 4.14.3.1 above, the MND adopted MM NOI-1.1. The MND concluded that with implementation of this mitigation measure the MDC would not have significant noise impacts. The additional generators proposed by the MBGF would also be subject to MM NOI-1.1 and, therefore, the MBGF would not result in a substantial permanent increase in ambient noise levels in the project vicinity.

4.14.3.4 Would the MBGF result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The MBGF construction noise would be temporary but it creates less noise than the construction activities of the MDC because of the substantially reduced activities and equipment. The MND concluded that the MDC would not result in a substantial temporary or periodic increase in ambient noise levels. Therefore, the MBGF, with less noise contribution, would also not create temporary or periodic noise impacts.

4.14.3.5 Is the MBGF 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 MBGF expose people residing or working in the project area to excessive noise levels?

The MND concluded that the MDC Site is located approximately 0.3 mile (1,750 feet) west of the Norman Y. Mineta San Jose International Airport, the nearest airport, and is located just outside Airport's noise zone (the 65 CNEL contour, as set forth by state law)

as defined in the CLUP for the airport. The 65 CNEL contour extends as far as Mathew Street near the project site, but the MDC site itself is located outside of this contour. As previously stated, for industrial land uses, noise levels of up to 70 CNEL are considered normally acceptable. Thus, persons would not be exposed to excessive noise levels from this or any other nearby public airports.

4.14.3.6 Is the MBGF within the vicinity of a private airstrip, would the MBGF expose people residing or working in the project area to excessive noise levels?

The MBGF is not in the vicinity of a private airstrip.

4.14.4 Mitigation Measures

No additional mitigation measures beyond those adopted in the MND are necessary to ensure the MBGF does not result in significant noise impacts from its operation of the generators for testing and maintenance.

4.14.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with the noise-related LORS.

4.15 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Population and Housing				
Would the project:				
1) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Setting

The MDC site is currently undergoing demolition of existing buildings. Construction of Phase I will begin in 2018.

4.15.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2.

4.15.3 Environmental Impact Evaluation

4.15.3.1 Would the MBGF 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 MND for the MDC concluded that the MDC did not induce substantial population growth. Specifically, at full build-out, the MDC is anticipated to employ approximately 29 employees. This number of employees would have a negligible effect on induced population and housing growth in the City. The additional generation proposed for the MBGF to support a slight increase in size of the MDC would not change that conclusion.

4.15.3.2 Would the MBGF displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

The MDC site is entirely industrial with no housing. Therefore, neither the MDC nor the MBGF would displace existing homes.

4.15.3.3 Would the MBGF displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The MND concluded that the MDC would not displace substantial numbers of people due to the low number of permanent employees at the MDC. The additional generation proposed for the MBGF would not change that conclusion.

4.15.4 Mitigation Measures

No mitigation is necessary to support a Commission finding that the MBGF would not have significant population or housing impacts.

4.15.5 Governmental Agencies and Permits

There are no governmental agency approvals or permits required to comply with the population or housing-related LORS.

4.16 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Public Services				
<p>Would the project: 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:</p>				
1) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.16.1 Setting

4.16.1.1 Fire Protection

Fire protection and emergency medical response services for the project site are provided by the Santa Clara Fire Department (SCFD). Santa Clara County Emergency Medical Services contracts with Rural Metro to provide emergency medical transport services for the City.

4.16.1.2 Police Protection

Police protection services for the project site are provided by the Santa Clara Police Department (SCPD). In the case of extreme emergency, there is a mutual aid agreement with surrounding jurisdictions.

4.16.1.3 Schools

The Santa Clara Unified School District (SCUSD) provides public education services to students in the City. The SCUSD consists of 16 elementary, three middle, two high schools, one K–8 school, one continuation high school, one alternative high school, one community day school, and one educational options/adult education campus.

4.16.1.4 Parks

The closest parks to the project site are Reed Street Dog Park (located 0.3 mile south of the project site) and Larry J. Marsalli Park (located 0.6 mile south of the project site).

4.16.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2.

4.16.3 Environmental Impact Evaluation

4.16.3.1 Would the MBGF 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:

4.16.3.1.1 Fire Protection

The MND concluded that the MDC would be located on a site that is already served by fire and emergency. The 29 employees that would be generated by the MDC would have a negligible effect on the service populations of the fire stations that serve the MDC and MBGF area. The project would be completed in conformance with the Santa Clara Municipal Fire and Environmental Code to reduce potential fire hazards. The additional generators will not substantially increase the number of fire fighters needed to fight a fire at the facility and therefore will not alter the MND's conclusion. The MBGF will not result in significant impacts on fire protection services.

4.16.3.1.2 Police Protection

Similar to the analysis the MND completed to evaluate potential impacts on fire and emergency services, the employees generated by the MDC would have a negligible effect on the service populations of the police stations that serve the site. Because of the nature of the data center function, the entire project site would be secured by

fencing, which minimizes criminal activity. The project would also include security cameras and secure lobby entrances with full-time coverage to monitor the site and provide support services, which would further minimize criminal activity. The MBGF would not change the conclusion reached in the MND and, therefore, the MBGF also would not result in significant impacts on police protection services.

4.16.3.1.3 Schools

The MND conclude that the MDC would not include new residential uses in the City and, thus, would not directly generate any students and therefore would not trigger the need for expansion or construction of new schools. This conclusion is similarly valid for the MBGF.

4.16.3.1.4 Parks

The MND also concluded that the MDC would not impact parks because it does not generate employees in a sufficient quantity to result in a significant impact to park resources.

4.16.3.1.5 Other Public Facilities

The addition of the 16 generators to MBGF would not require additional employees and therefore other public facilities such as libraries, day care facilities and hospitals will not be impacted.

4.16.4 Mitigation Measures

No mitigation is necessary to support a Commission finding that the MBGF will not result in significant impacts to public services.

4.16.5 Governmental Agencies and Permits

No governmental agency approval or permit is required for the MBGF to comply with applicable public services-related LORS.

4.17 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Recreation				
Would the project:				
1) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.17.1 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2.

4.17.2 Environmental Impact Evaluation

4.17.2.1 Would the MBGF 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?

The MND concluded that the MDC would not increase the use of existing neighborhood and regional parks or other recreational facilities substantially because of the relatively low number of employees generated by the MDC. The increase in generation by the MBGF would not substantially increase employees at the MDC and, therefore, the MND's conclusion is still valid.

4.17.2.2 Would the MBGF include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The MBGF does not include, nor require expansion of, recreational facilities.

4.17.3 Mitigation Measures

No mitigation is necessary to support a Commission finding that the MGBF will not have significant impacts to recreation facilities.

4.17.4 Governmental Agencies and Permits

No governmental agency approval or permit is required.

4.18 TRAFFIC AND TRANSPORTATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Traffic and Transportation				
Would the project:				
1) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.18.1 Setting

Regional access to the MDC site is provided by US 101 and Central Expressway (discussed below). Local access is provided by Lafayette Street and Mathew Street. Transit service in the area includes rail service provided by Caltrain and Altamont Corridor Express (ACE), and local bus and shuttle service provided by Santa Clara Valley Transportation Authority (VTA).

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. There are no sidewalks along Mathew Street, which forms the southern boundary of the project site. A sidewalk is provided along the western side of Lafayette Street. The existing sidewalks in the vicinity of project site have adequate connectivity and provide pedestrians with safe routes to most surrounding land uses in the area.

The closest bicycle facility to the project site is the Class II bicycle lane on Central Expressway.

The MDC site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport (SJI), and is within the SJI Airport Influence Area.

4.18.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2. The increase of 16 generators and the reconfiguration of the generator yards may cause upward thermal plumes.

4.18.3 Environmental Impact Evaluation

4.18.3.1 Would the MBGF 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 MND relied on a Traffic Evaluation contained in Appendix B (Appendix G of the IS) and concluded that the construction and operation impacts of the MDC would be less than significant. Since the MBGF does not substantially increase construction workers or permanent employees, the Traffic Evaluation is still valid to support the conclusion that the MBGF would not result in construction or operation traffic impacts.

4.18.3.2 Would the MBGF 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 MND conducted a level of service analysis of both construction and operation traffic for the MDC. The MDC concluded that, while the MDC is not required to develop and implement a Transportation Demand Management (TDM) Program to reduce project trips, the MDC would include the following elements, or alternative equivalents, in a TDM Program:

- Pre-tax deductions for employee transit costs;
- Flexible work schedules and opportunities to telecommute;
- Bicycle parking and storage facilities;
- Showers for employees walking, biking, or taking alternative modes of transportation to work;
- Video conferencing software;
- Four electric vehicle charging stations that would serve nine electric vehicle parking spots;
- Preferred carpool/vanpool and electric vehicle parking; and
- On-site food and beverage amenities to reduce off-site traffic trips.

The MND concluded that overall, due to the minimal amount of employees and visitors at the project site as well as the proposed TDM Program, the MDC would have minimal traffic impacts during operation. Since the MBGF does not increase operations employees at the MDC the MND's is valid. Therefore the MBGF will not result in significant operations traffic impacts.

4.18.3.3 Would the MBGF 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?

Airport Influence Zones and FAA Surfaces

The project site is located approximately 0.3 mile west of the Norman Y. Mineta San Jose International Airport, and is within the Norman Y. Mineta San Jose International Airport Influence Area. The height of the MDC to the top of the rooftop chiller stack would be approximately 120 feet above ground surface. The MBGF stacks would be approximately 45 feet above the ground surface. The MND evaluated Airport safety hazards associated with the SJI Airport according to airport safety zones and Federal Aviation Regulations Part 77 airspace surfaces.

The MDC is outside of all airport safety zones with the exception of the traffic pattern zone, which restricts development types with high concentrations of people (e.g. sports stadiums). Additionally, neither the MDC nor the MBGF stacks would intrude upon the Part 77 airspace surface for the SJI Airport, which as the MND concluded establishes a maximum structure height of 212 feet above mean sea level (amsl) for the project site.

Thermal Plumes

A thermal plume analysis was performed to evaluate whether the additional generation and the new configuration of the MBGF results in thermal plumes that could affect airport operations at the nearby SJI. A technical report assessing thermal plumes is included in Appendix E. Under worst-case ambient conditions and calculation methodology, predicted vertical velocities are below 5.3 m/s for emergency generators at a height of 108 feet aboveground or 160 feet amsl. This is below the FAA surface of 212 feet amsl so airplanes are not expected to fly lower than 212 amsl.

There is a takeoff procedure that is shown in the SJI CLUP with aircraft climbing over the site and likely at elevations significantly greater than 212 amsl. There are no published approach procedures that would take aircraft over the site. Therefore, there are no significant impacts to air traffic of the SJI traffic patterns from potential worst case upward thermal plumes generated by the MBGF.

Commission Staff also requested that upward plumes be modeled for the building chillers. The results of this modeling, although not part of the Commission jurisdiction, are also included in Appendix E.

4.18.3.4 Would the MBGF substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The MBGF does not involve any design features or incompatible uses that would substantially increase any traffic hazards.

4.18.3.5 Would the MBGF result in inadequate emergency access?

Emergency access would be provided by any of the three entrances to the site. All three entryways have been designed to accommodate emergency vehicles and a fire loop road has been designed to provide access the MDC and to the generator yards.

4.18.3.6 Would the MBGF conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The MBGF would not affect adopted policies, plans or programs related to traffic and transportation facilities.

4.18.4 Mitigation Measures

No mitigation measures are necessary to support a Commission finding that the MBGF will not result in significant traffic and transportation impacts.

4.18.5 Governmental Agencies and Permits

The only governmental agency approval or permit that may be required would be FAA Notice of Propose Construction Activities for structures and construction equipment that may penetrate the FAA thresholds.

4.19 UTILITIES AND SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Utilities and Services				
Would the project:				
1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.19.1 Setting

The MBGF will be constructed entirely within the City. It will not require any public services except for minimal solid waste disposal.

4.19.2 Project Changes Relevant to MBGF

The MND for the MDC site evaluated two generator yards and 32 generators as part of the MDC. The MBGF is an expansion of the backup generating facilities to include 16 additional generators located with an additional generator yard. The configuration and the locations of the generators have been modified as described in Section 2.

4.19.3 Environmental Impact Evaluation

4.19.3.1 Would the MBGF exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The MGBF will not create any wastewater and, therefore, would not be subject to Regional Water Quality Control Board requirements.

4.19.3.2 Would the MBGF 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?

The MBGF does not consume water as the generators are air cooled and, as described above, will not create wastewater. Therefore, the MBGF will not require new or expanded water or wastewater treatment facilities.

4.19.3.3 Would the MBGF 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?

The MBGF will be constructed on the MDC site after Phase I grading is completed. Construction of Phase I will include stormwater design to collect runoff from the entire site. MBGF will not contribute significantly to the MDC stormwater runoff. The MBGF will not require in new or expanded stormwater facilities.

4.19.3.4 Would the MBGF have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The MBGF will not consume water.

4.19.3.5 Would the MBGF 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?

The MBGF will not create wastewater.

4.19.3.6 Would the MBGF be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The MBGF would create very little solid waste. The MND for the MDC concluded that neither construction nor operation wastes would place significant impacts on solid waste disposal facilities. The amount of solid waste associated with the addition of 16 generators and a generation yard will not be a sufficient increase to invalidate the conclusion of the MND. Therefore, the MBGF would not result in impacts to solid waste facilities.

4.19.3.7 Would the MBGF comply with federal, state, and local statutes and regulations related to solid waste?

Vantage has committed to complying with the City's Construction and Demolition Program by diverting 50 percent of the construction and demolition waste from landfilling. Vantage's commitment extends to the MBGF. Therefore, the MBGF will comply with local regulations applicable to solid waste.

4.19.4 Mitigation Measures

No mitigation measures are necessary to support a Commission finding that the MBGF will not result in significant impacts to public and utility services.

4.19.5 Governmental Agencies and Permits

No governmental agency approvals or permits related to public utilities and services are required to construct and operate the MBGF.

5 ALTERNATIVES

5.1 EVALUATION CRITERIA

The overall objective of the MBGF was to provide the most reliable and flexible backup generating system to support its McLaren Data Center (MDC) clients. Central to Vantage's mission is to provide data centers that provide the highest quality uninterruptible power supply. With this overall objective, Vantage conducted an alternative analysis and used the following criteria as a means of evaluating and ranking alternatives:

- **Commercial Availability and Feasibility** -The selected alternative must currently be in use and proven as an accepted industry standard for technology. It must be operational within a reasonable timeframe where permits and approvals are required.
- **Technical Feasibility** - The selected alternative must utilize technology systems that are compatible with one another.
- **Reliability** – The selected alternative must utilize technology that is reliable in the case of an emergency.
- **Industry Standard** – The selected alternative must be considered industry standard or best practice. The customers of Vantage are informed consumers and will request Vantage to provide a detailed description of the type of backup generation that Vantage provides as part of the customer's due diligence. If the alternative does not meet the customer's requirements they will not put their servers in the MDC.

As part of the development of the MDC and the MBGF, Vantage considered alternatives to the backup generators as proposed. As discussed more fully below, Vantage considered a smaller capacity system as well as alternative generating technologies. For completeness purposes, a discussion of the No Project Alternative is also included.

5.2 REDUCED CAPACITY SYSTEM

Vantage considered a backup generating system with less emergency generators but like the No Project Alternative discussed below, any generating capacity less than the total demand of the data center at maximum occupancy would not allow Vantage to provide the critical electricity that would be needed during an emergency. It is important to note that in addition to the electricity that is directly consumed by the servers themselves, the largest load of the data center is related to cooling the rooms where the servers are located. In order for the servers to reliably function, they must be kept within temperature tolerance ranges. The industry standard is to design and operate a

building that can meet those ranges even during a loss of electricity provided by the existing electrical service provider. Therefore, in order for Vantage to provide the reliability required by its clients it was necessary to provide a backup generating system that could meet the maximum load during full occupancy and include redundancy as described in Section 2.2.3. A reduced capacity system would not fulfill the basic objectives of the MGBF.

5.3 ALTERNATIVE GENERATING TECHNOLOGIES

Vantage considering using three alternative technologies: gas-fired turbines; flywheel; and batteries. None of the three alternatives considered could meet the overall project objective because they were commercially or technically infeasible and/or were not reliable during an emergency.

5.3.1 Flywheel

Vantage considered the use of a flywheel alternative, but concluded them to not be a viable option for the following reasons: The Flywheel alternative does not perform within the required reliability levels of Vantage and is prone to system failure. The Flywheel alternative also requires an extensive amount of maintenance to keep them functioning. Finally, the flywheel system still requires back up generation to maintain the electrical load.

5.3.2 Gas Fired Engines

Vantage considered using natural gas-fired engines instead of diesel generators to supply the backup generation for the MDC. This alternative was rejected because it was not technically feasible. The highly-efficient rotary UPS systems described in Section 2.3 require back up generation that starts very quickly, and natural gas engines are too slow to start. In addition, storage of sufficient natural gas on site to maintain electricity service to the high critical loads during an outage was not tenable given the volume of natural gas fuel required. A natural gas pipeline would be required. Loss of natural gas delivery capabilities such as broken pipe or loss of supply is a reasonable and foreseeable emergency that could be the reason SVP could not deliver electricity to the site. Storing fuel on-site and having the ability to have it delivered to the site during an emergency is a critical component of the diesel fired generators. Finally natural gas-fired engines are not considered industry standard for Data Centers.

5.3.3 Battery Storage

The primary reason batteries alone were rejected by Vantage was one of duration. Batteries can provide power quickly and that is why Vantage has incorporated them into its overall electricity protection scheme. As described in Section 2.3, batteries would be

initiated at the first sign of electricity interruption. However, the current state of battery technology does not allow for very long durations of discharge at building loads as high as planned for the MDC. Once the stand alone batteries are completely discharged, the only way they can be recharged without onsite generation is if the electrical system is capable of delivering electricity to the site. In which case, the batteries would no longer be needed. Since it is not possible to predict the duration of an electricity outage, historical losses of electricity exceeding days have been experienced. With the emergency generators, it is possible to refill the diesel tanks to allow the emergency generators to operate as long as they have available fuel. Therefore because battery storage cannot provide the duration that may be necessary during an emergency, it was rejected as technically and commercially infeasible.

5.4 NO PROJECT ALTERNATIVE

Consumer demand for data storage has grown substantially in recent years. The MDC, including The MBGF, is proposed in response to this heightened demand. The “No Project” Alternative would leave the MDC exposed to electricity outages. Simply put, Vantage’s clients would not locate their servers in the MDC without a highly reliable backup generating facility to support it.