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Petition for Post-Certification Amendment
MRP San Joaquin Energy LLC
Henrietta Peaker Project (01-AFC-18)

99.4-Megawatt
Battery Energy Storage System Project

Henrietta BESS LLC

August 2022

16027 25th Avenue
Kings County, CA 92154

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1.0 INTRODUCTION

MRP San Joaquin Energy LLC hereby files this amendment on behalf of and for the benefit of Henrietta BESS LLC. Henrietta BESS LLC proposes to implement a 99.4-megawatt ("MW") Battery Energy Storage System ("BESS") Project (the "Henrietta BESS" or the "BESS"). The proposed Henrietta BESS Project is located at the existing nominal 99.4 MW Henrietta Peaker Plant ("HPP") located near the City of Lemoore at 16027 25th Avenue in unincorporated Kings County, California (see Figures 1 and 2).

The HPP is owned and operated by MRP San Joaquin Energy LLC. The HPP was licensed by the California Energy Commission ("CEC") in 2002 (CEC Docket No. 01-AFC-18). HPP is authorized by the California Independent System Operator ("CAISO") under its Generator Interconnection Agreement (as amended) to provide up to net of 99.4 MW to the grid. Given the relationship between the HPP and the proposed Henrietta BESS, the CEC has determined that the CEC has jurisdiction over the permitting of the Henrietta BESS project. MRP San Joaquin Energy LLC on behalf of Henrietta BESS LLC hereby requests an amendment to the certification for the HPP (CEC Docket No. 01-AFC-18) pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

The HPP and BESS will be co-located on the same CEC-jurisdictional site. Specifically, the entire Assessor Parcel No. 024-190-070-000 is owned by MRP San Joaquin Energy LLC. A lease or easement will be provided to Henrietta BESS LLC, which will own and operate the BESS within that same parcel.

While they will be co-located, the HPP and BESS will not be operated in a coordinated "hybrid" configuration. Instead, the HPP and the BESS will operate independently and will be entirely separate resources. The HPP and the BESS will each have their own metering equipment and CAISO Resource ID numbers. The HPP will remain responsible for the operations of the natural gas facility and will remain as the party responsible for compliance with the Commission Conditions and applicable laws, ordinances, regulations, and standards ("LORS") for the HPP. In like fashion, Henrietta BESS LLC will have legal responsibility for the operation of the BESS and will be the responsible party for compliance with the Commission Conditions and applicable LORS for the BESS.

The Henrietta BESS Project will connect to the grid through the existing generator step-up transformers ("GSUs") at the adjacent gas-fired Henrietta Peaking Plant. The two plants will share the GSUs, Gen-tie, and a common point of interconnect ("POI") with the CAISO controlled/Pacific Gas and Electric Company ("PG&E") owned transmission system (the "Common Facilities").

Because the operational outputs of the HPP and the BESS will be coordinated, the facilities will not change the CAISO Aggregate Capability Constraint ("ACC") of 99.4 MW at the POI.

The Henrietta BESS Project would be charged exclusively from the grid, particularly when excess renewable energy is available, storing this energy for peak periods when renewable energy is less available, resulting in lower total greenhouse gas ("GHG") emissions. Furthermore, dispatches from the Henrietta BESS Project would displace energy that would otherwise be generated, most likely from other more GHG and criteria pollutant intensive "system" power resources.

The requested amendment would allow for the Henrietta BESS Project to be constructed and operated adjacent to the HPP. The Henrietta BESS Project will be constructed in part to support California's current need for additional electrical energy storage available for dispatch during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's ("CPUC's") policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The Henrietta BESS Project offers the CAISO a reliable dispatchable energy resource to the electrical grid.

The proposed Henrietta BESS Project will not result in an increase in the HPP's hourly or annual air emissions above currently permitted limits. The environmental impact assessment presented in Section 5 and Appendices B through H hereto concludes no potentially significant environmental impacts are associated with the implementation of the actions specified in this Petition for Post-Certification Amendment, and that the Project, as specified herein, will comply with all applicable LORS.

Given the relationship between the HPP and the BESS, the CEC Staff has determined that the CEC has permitting jurisdiction over Henrietta BESS LLC and the BESS project. Accordingly, MRP San Joaquin Energy LLC makes the following requests.

First, MRP San Joaquin Energy LLC requests an amendment to the certification for the HPP (CEC Docket No. 01-AFC-18) pursuant to Title 20, California Code of Regulations, Section 1769(a)(1) to allow for interconnection of the Henrietta BESS LLC project. The amendment is a change to project description that includes the interconnection of the BESS at the low sides of the existing GSUs at the HPP and the use of the Common Facilities.

Second, MRP San Joaquin Energy LLC on behalf of Henrietta BESS LLC requests an amendment to the HPP certification identifying Henrietta BESS LLC as the party that will have legal responsibility for the operation of the BESS and will be the responsible party for compliance with the Commission Conditions of Certification and applicable LORS for the BESS. A list of proposed BESS-only Conditions of Certification resulting from this request is attached hereto as Appendix H.

1.1 Background

The Henrietta BESS Project site is located within Assessor Parcel No. 024-190-070-000. The project site is zoned AX – Exclusive Agriculture. In accordance with Article 4 of the Kings County Development Code, "Electrical Energy Storage Facilities" are considered to be a conditionally permitted use on land zoned AX and shall be located within 1 mile of an existing public utility substation. The Pacific Gas & Electric ("PG&E") Henrietta Substation is located directly adjacent to the north of the HPP property and the Henrietta BESS Project. The Henrietta BESS Project site area within the overall 20-acre HPP parcel is located on previously disturbed and undeveloped land to the east of the HPP and to the north of an existing 230 kilovolt ("kV") transmission line right-of-way. The Henrietta BESS Project site is located within the area previously permitted by the CEC as part of the HPP licensing process for use as temporary construction laydown during construction of the HPP.

The entire Assessor Parcel No. ("APN") 646-130-58 is owned by MRP San Joaquin Energy LLC. A lease or easement will be provided to Henrietta BESS LLC, which will own and operate the Henrietta BESS Project. The Henrietta BESS Project will have its own metering equipment and CAISO Resource ID. Henrietta BESS LLC will have legal responsibility for the operation of the Henrietta BESS Project. The Henrietta BESS Project will connect to the grid through the existing GSUs for the adjacent gas-fired Henrietta Peaking Plant, and the two plants will share the GSUs, Gen-Tie, and a common POI with the CAISO controlled/PG&E owned transmission system Common Facilities. The proposed Project would not increase the output of the HPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint ("ACC") of 99.4 MW at the POI.

The battery system will be controlled by an Energy Management System ("EMS") controller, which will be connected to the existing Power Plant Control ("PPC") system at the Henrietta Peaking Plant. The direct current ("DC") block EMS will ramp up and down as directed by the HPP PPC to not exceed 99.4 MW at the POI. The PPC active power control at the HPP consists of power curtailment, ramp rate control, frequency control, power limit control and plant start and shutdown. The PPC controls active power injection at the point of interconnection such that plant never exceeds the maximum MW based on interconnection request. The power curtailment feature of the PPC maintains active power at POI below the curtailment setpoint. The HPP and BESS would operate simultaneously during ramp up and ramp down between BESS and BPP operation, but the combined output would never exceed 99.4 MW at the POI.

Technology selection post-Certification will not affect the BESS's potential impacts or footprint, given that all technologies are enclosed, housed systems. Technology selection post-Certification

will not affect the BESS's potential impacts or footprint, given that all technologies are enclosed, housed systems.

MRP San Joaquin Energy LLC owns the HPP property (APN 646-130-58) which occupies 20 acres. The HPP facilities occupy 7-fenced acres within the property. The planned Henrietta BESS facilities will be located on an approximately 3.1-acre area east of the existing HPP in the northeast portion of the overall 20-acre HPP property (see Figure 2). The approximately 3.1-acre site, including battery storage system enclosures and switchyard, has been previously disturbed. The past disturbance has been associated with historical agricultural use, development of the HPP in the early 2000's, and annual maintenance to control vegetation. The proposed Henrietta BESS Project site has not been used for agricultural production since at least 2016. The Henrietta BESS Project also includes use of approximately 1.5 acres of the HPP site for temporary construction laydown and construction personnel parking, and approximately 0.8 acre for a new stormwater detention basin.

The HPP is interconnected to the adjacent PG&E Henrietta Substation to the north via an existing approximately 650-foot-long nominal 70 kV transmission line. The Henrietta BESS Project will include an onsite 13.8 kV switchyard. An approximately 690-foot-long 13.8 kV overhead dual circuit distribution line will connect the BESS switchyard to the 13.8 kV sides of the existing HPP GSUs. The dual circuit line will physically connect to HPP's existing 13.8 kV buss duct in the area between the combustion turbine generator terminals and the low side of the GSUs. This connection will be made such that one circuit will connect to the Unit 1 buss duct and the other circuit will connect to the Unit 2 buss duct. Connecting the Henrietta BESS to the low sides of the HPP GSUs will allow the BESS to provide energy and capacity at transmission voltage to the PG&E Henrietta Substation without requiring any high voltage modifications at the HPP switchyard. Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged exclusively from the electrical grid and not the HPP. The BESS and the HPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the CAISO's Automated Dispatching System ("ADS"), but the combined output will be control limited to never exceed a net of 99.4 MW per the Generator Interconnection Agreement.

The proposed BESS facility would consist primarily of modular battery storage system enclosures and inverters installed on concrete pad foundations or piles. Battery technologies being considered are lithium iron phosphate ("LFP") and lithium nickel manganese cobalt oxide ("NMC") or other technologies that may be available as the Henrietta BESS Project undergoes final design. Batteries would be installed in enclosures that are electrically connected together to reach the desired output of BESS. The medium voltage transformers and inverters would be located adjacent to the enclosures they serve. Approximate dimensions for the battery enclosures vary but are typically in the range of 8-feet wide by 23-feet long by 9.5-feet high. It is

possible that enclosure dimensions could vary and be up to 40-feet long depending on the supplier. Battery output degrades over time requiring replacement and/or additional battery bank modules ("augmentation"). Allowance for this work and the physical enclosures required will be made during construction of the BESS. The Henrietta BESS Project includes upgrades to the existing HPP plant perimeter roadway (outside the HPP fence line) on the southern and central portions of the HPP parcel to provide stable access to the Henrietta BESS site and construction laydown area for construction and operation of the facilities.

The subject property is bordered to the north by the PG&E Henrietta 70 kV substation, beyond which is agricultural land and recently developed utility-scale solar fields. The subject property is bordered to the east and south by fragmented agricultural land and utility-scale solar fields. The subject property is bordered to the west by 25th Avenue, beyond which is a Recurrent Energy solar field and agricultural land.

Historical research indicates that the overall HPP property was undeveloped grassy land from at least the mid-1950s until the late 1950s, and by 1960 it was developed with row crops. By 1984, an overhead transmission line tower had been constructed along the eastern portion of the subject property. In 2002, the northwestern portion of the subject property was developed with the HPP power plant. The HPP portion of the subject property has remained relatively unchanged from 2002 to present day. The area where the Henrietta BESS is proposed was utilized for construction laydown when the HPP was constructed and then returned to agricultural production until approximately 2015-2016 when agricultural production was terminated. The Henrietta BESS site has remained undeveloped, fallow land since 2016.

The CEC approved a previous Petition for Post-Certification Amendment for a once proposed conversion of the HPP to a combined-cycle facility in 2010. The combined cycle conversion project was not pursued, and the associated license amendment approvals were all withdrawn by the CEC as of 2014.

1.2 20 CCR Section 1769 Information Requirements

The following sections contain the information required pursuant to Title 20, California Code of Regulations (CCR), Section 1769(a)(1).

2.0 DESCRIPTION OF PROPOSED CHANGES

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(A).

2.1 Henrietta BESS Project Overview: Description of the Proposed Modification

2.1.1 Existing Facility Overview

The HPP fenced area encompasses approximately 7 acres within the western portion of the 20-acre site and includes two combustion turbine generator ("CTG") units, a switchyard, a Control Building, and a Gas Compressor Building. The power plant utilizes two natural gas-fired CTG units and associated ammonia and water aboveground storage tanks ("ASTs"), transformers, a diesel-fueled emergency generator, an oil-water separator unit, and an in-ground compressed natural gas holding tank. The remainder of the subject property consists of fallow land. An in-ground septic tank is located on the west side of the subject property between the Control Building and Gas Compressor Building, a septic mound and associated leach field are located in the southern portion of the plant, and a stormwater retention basin is located in the eastern portion of the plant (central portion of the subject property) to the west of the proposed BESS facility.

The HPP is approved to use up to 158 acre-feet per year of water for plant operations. The source of this water is from the federal Central Valley Project and State Water Project allocations which are transported to the HPP via a Westlands Water District pipeline that runs along 25th Avenue. The HPP also utilizes a permanent, single-pass reverse osmosis system for water deionizing treatment.

2.1.2 Planned Modifications

In summary, the planned Henrietta BESS Project includes the following components:

- 99.4 MW of batteries with 99.4 MW hours ("MWh") of energy production per hour per cycle (e.g., 99.4 MWh for 1 or 2 hours).
- The proposed BESS facilities will be located on an approximate 3.01-acre site area encompassing the BESS site and the BESS switchyard within the overall 20-acre site owned by MRP San Joaquin Energy LLC. The 99.4 MW Henrietta BESS site area and facilities, including site access roadways, switchyard, overhead 13.8 kV connection line route, stormwater detention basin, and construction laydown area are shown on Figure 2 (Preliminary Site Layout).
- The overall 20-acre HPP parcel site includes the existing nominal 99.4 MW HPP that was previously permitted by the CEC in 2002 (CEC Docket No. 01-AFC-18). The HPP occupies approximately 7 acres on the western portion of the 20-acre parcel (APN 024-109-070-000). The BESS facilities will be located on the northeast and eastern portions of the overall 20-acre site.
- The battery storage technologies being considered are LFP and NMC or other technologies that may become commercially available as the Henrietta BESS Project

undergoes final design. Technology selection post-Certification will not affect the BESS's potential impacts or footprint, given that all technologies are enclosed, housed systems.

- The batteries and inverters will account for the bulk of the associated BESS equipment and will be located in enclosures with approximate dimensions of 8-feet wide by 21-feet long by 9.5-feet high. It is possible that enclosure dimensions could vary and be up to 40-feet long depending on the supplier.
- The Henrietta BESS Project site is located within an existing open area to the east of the HPP stormwater basin and to the north of an existing 230 kV transmission line right-of-way ("ROW") that traverses the eastern portion of the site in a northeasterly/southwesterly direction as shown on Figure 2. The northern portion of the BESS project site area has been previously disturbed and used for construction laydown when the HPP was built in the early 2000s.
- Access to the Henrietta BESS Project site area will be via 25th Avenue and the existing HPP perimeter access road near the southern and eastern fence lines of the HPP (see Figure 2). The proposed Henrietta BESS Project includes extensions and improvements to the existing HPP access perimeter road to support the construction and operation needs of the BESS project.
- Site development for the BESS facilities, including the BESS switchyard and stormwater detention basin will occur on approximately 3.9 acres of flat land and will involve site grading and excavation of soil and re-compaction to accomplish site stormwater control and to support concrete pad foundations. Based on the results of the preliminary site geotechnical investigation, it is currently anticipated that excavation/soil conditioning depths will average approximately 2-3 feet for both the BESS site and the BESS switchyard. The stormwater detention basin is planned to be approximately 5 feet deep. In addition, minor grading will be required to extend and improve approximately 1,300 feet of the existing HPP access roads for access to the Henrietta BESS Project site and construction laydown area. Improvements will include grading to a standard 25-foot width, compaction, and surfacing with gravel for stability and dust control.
- An approximately 690-foot-long 13.8 kV overhead dual circuit distribution line will be constructed to connect the BESS switchyard to the 13.8 kV sides of the existing GSUs at the HPP (see Figure 2). The dual circuit line will physically connect to HPP's existing 13.8 kV bus duct in the area between the combustion turbine generator terminals and the low side of the GSU's. This connection will be made such that one circuit will connect to the Unit 1 bus duct and the other circuit will connect to the Unit 2 bus duct. Connecting the Henrietta BESS to the low sides of the HPP GSUs will allow the BESS to provide energy and capacity at transmission voltage to the PG&E Henrietta Substation without requiring any high voltage modifications at the HPP switchyard.
- The 99.4 MW, 1- to 2-hour Henrietta BESS Project, submitted to the CAISO will transform the existing generating facility by providing battery energy storage capabilities in

combination with its existing technology. This will provide the CAISO with an additional renewable energy storage capability. The Henrietta BESS Project will be charged from the grid, not from the HPP.

- This Henrietta BESS Project will be submitted into CAISO's Post-COD Modification Review Process. The applicant is expected to make this submittal in the 3rd Quarter of 2022.

2.2 Construction

Construction of the Henrietta BESS Project will occur over an approximately 8- to 9-month period. Construction site mobilization is currently anticipated to begin in the third quarter of 2023. Construction hours are expected to typically start at 7 a.m. and end at 7 p.m., Monday through Saturday. Typical worker hours and equipment usage will be 8 hours/day within the 7 a.m. to 7 p.m. window.

The construction phase will be followed by commissioning, testing, and commercial operation which is planned to occur in the second quarter of 2024.

The primary construction activities are planned as follows:

- Upgrade existing peaker plant perimeter site access road from 25th Avenue to the Henrietta BESS/switchyard sites and construction laydown area (approximately 1,300 feet of roadway)
- Site grading of the BESS to create level development area with proper site drainage
- Site grading of the planned stormwater detention basin
- Install BESS equipment and switchyard foundations
- Install 13.8 kV electrical cabling and communication lines
- Set battery modules, inverters, and switchgear
- Install foundations and structures at point of interconnection (i.e., peaker plant GSUs)
- Complete electrical/wire connections
- Mechanical completion

Key project details for the Henrietta BESS Project as currently defined are summarized in Table 1. Estimated ground disturbance and excavation/fill quantities and construction equipment usage are summarized in Tables A-1 and A-2 in Appendix A.

Table 1
99.4 MW Henrietta BESS Project Details

Item	Henrietta 99.4 MW	Comments
BESS Site Acreage, including Switchyard	3.1 acres	Vegetation on the area is maintained on an annual basis for fire prevention, as needed. Grading and excavation will be required for site levelling, drainage control, and foundations. Assumed average cut/fill depth is 2.5 feet.
Stormwater Detention Basin	0.77 acre	Vegetation on the area is maintained on an annual basis for fire prevention, as needed. Grading and excavation will be required to create basin. Planned basin depth is approximately 5 feet.
Temporary Construction Laydown Area Acreage	1.5 acres	Vegetation on this area is maintained on annual basis, as needed, for fire prevention. No grading or excavation will be required for the laydown area
Peak Workforce	40-50	
Ave. Workforce	30-35	
Truck Trips	Ave 25/day for the first 4-5 weeks, 15/day for 5-6 weeks	Truck trips will include incoming equipment and material deliveries. Concrete and gravel suppliers are located within a 12-mile road distance from the Henrietta BESS site.
	Ave 5/day for additional 3-6 months	Truck trips will include incoming equipment and material deliveries.
Earthwork/Cut and Fill required for soil conditioning and Final Grading	Site grading required to improve existing HPP access roads, level and condition soils on the BESS site, prepare foundations, and provide stormwater drainage control. Estimated maximum earthwork at ~15,500 cubic yards.	Site preparation is currently anticipated to include minor grading, leveling, soil conditioning, and compaction for the BESS site/switchyard pad foundations, drainage control and access road improvements. In addition, minor excavation for the 13.8 kV overhead line pole structure foundations for 3 poles and dead-end/transition structures on each end. Earthwork will be balanced onsite to the extent practical. The final grading and drainage plan, including grading limits and quantities will consider the results of forthcoming engineering studies including a geotechnical investigation.
Foundation Type	Concrete pad	Assumed that concrete pad foundations will be utilized unless pending geotechnical investigation indicates pile foundations are appropriate for this site.

Item	Henrietta 99.4 MW	Comments
Construction Water Usage/Day	<5,000 gal/day	Short-term construction water needs to be met by using a small portion of the HPP's existing Central Valley Project and State Water Project allocations. Water for dust control and other construction needs is estimated at up to 5,000 gallons per day for the first 1 to 2 months during site grading and leveling activities and to average 2,000 – 3,000 gallons per day for the balance of construction activities involving ground disturbance and other dust generating activities.
Construction Equipment	Various	During construction, a variety of equipment and vehicles would operate on the BESS project site and construction laydown area. Construction equipment to be utilized would be expected to include motor graders, backhoes, water trucks, sheep's foot compactors, front end loaders, concrete trucks, dump trucks, trash trucks, flatbed trailers, and a portable electric generator. Cranes, rough terrain forklifts, man-lifts, portable welding units, line trucks, and mechanic trucks will also be required. All equipment and vehicles would comply with applicable noise requirements of Kings County. In addition, the BESS project will utilize construction equipment with Tier 4, CARB certified off-road diesel engines and diesel particulate filters, as applicable.
Construction Hours	7 am – 7 pm	Construction activity noise will be limited to the hours of 7 a.m. to 7 p.m. so as not to be disturbing, excessive or offensive before 7 a.m. or after 7 p.m.
Tentatively Planned Construction Schedule	Start Date 3rd Quarter 2023	Key construction activities involving ground disturbance (~ 2 months): (1) site mobilization in 3rd Quarter of 2023; (2) grading activities in 3rd Quarter of 2023; and (3) install foundations from late 3rd Quarter of 2023 to early 4th Quarter of 2023.
Planned Commercial Operation Date	2nd Quarter of 2024	Subject to change depending on market conditions.
Maintenance Workforce	2 workers, 1 day per week	
Noise Levels (Ops)		Packaged inverters and accompanying medium voltage transformers may be supplied by Power Electronics or other manufacturers capable of providing equipment of similar design and capacity. Manufacturer's specifications indicate that these units generate a noise level of between 75 and 79 dBA at 1 meter. BESS battery enclosures would be provided as self-contained packaged units manufactured by CATL or other Tier 1 battery manufacturers. Battery manufacturer's specifications

Item	Henrietta 99.4 MW	Comments
		indicate that these units generate a noise level of 75 dBA at 1 meter.
Operational Phase Water Supply/Usage	Unmanned facility	Assumed that water may be required for Fire Water and for landscaping, as applicable. HPP water supply is from existing Central Valley Project and State Water Project allocations. It is assumed that the Henrietta BESS Project's minor operational water supply needs would be met using a small portion of the HPP's existing allocations. Water supply needs to be determined once landscaping plans are developed, as applicable.
Battery Augmentation	Add modules every 2-5 years	The pad foundations for the future module additions will be installed at the time of construction.
Planned Project Life	40 years	

2.3 Operation and Maintenance

Once constructed, the Henrietta BESS Project would be capable of operating seven days per week and 365 days per year. The BESS facilities would be designed to be operated remotely and limited customers or visitors are expected. Periodic inspections and maintenance activities would occur. No permanent onsite BESS staff are anticipated. Security would be maintained through installation of chain-link fencing. The Henrietta BESS Project facilities would also be protected by the existing security measures at the Henrietta Peaker Plant.

Operation and maintenance of the Henrietta BESS Project would generate minimal noise, primarily from fans used to cool electrical equipment and transformers. The Henrietta BESS Project facilities will be designed to comply with applicable Kings County noise standards. Periodic on-site maintenance is expected to be required following commissioning. Operations and maintenance activities would require several workers performing visual inspections, monitoring BESS performance, executing minor repairs, and responding to needs for BESS adjustment.

It is anticipated that battery module augmentation via installation of additional battery enclosures will be required to make up for decreased battery performance over time. The frequency and extent of such augmentations over the life for the Henrietta BESS Project is currently estimated to occur every 4 to 5 years. The expected infrequent maintenance activities would generate little traffic during operations. The areas surrounding the inverters and switchgear would be graveled and would have adequate space for parking several vehicles. Operations and maintenance vehicles would include light duty trucks (e.g., pickup, flatbed) and other light equipment and hand tools for maintenance. Heavy equipment would not be utilized

during normal operation. Large or heavy equipment may be brought to the facility infrequently for equipment repair or battery replacement.

Sanitary disposal needs for operations would be provided through the existing Henrietta Peaker Plant's facilities (porta potties). Other wastes from equipment replacement or other work would be removed from the site at the end of the day, or as needed. As applicable, spent batteries removed during infrequent battery module augmentation events would be handled and transported as Universal Waste prior to offsite recycling. Normal operation of the Henrietta BESS Project is not expected to require use of new hazardous materials and/or to generate additional hazardous wastes in reportable quantities.

As applicable over time, combustible vegetation on and around the Henrietta BESS Project boundaries would continue to be actively managed to minimize fire risk. Additionally, the Henrietta BESS project would comply with all applicable County fire standards.

2.4 Decommissioning

The proposed Henrietta BESS Project is currently anticipated to be capable of operating for 40 years or more. Once BESS operations are terminated, the facility would be decommissioned in accordance with then-applicable laws, ordinances, regulations, and standards. Many of the parts of the proposed BESS systems are recyclable including a substantial percentage of the battery and other electrical components. Spent batteries would be managed and transported as Universal Waste prior to offsite recycling at an approved location. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil such as oil filled transformers, as applicable, would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil.

3.0 NECESSITY OF PROPOSED CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(B).

The requested amendment would allow for the Henrietta BESS Project to be constructed and operated adjacent to the HPP. The Henrietta BESS Project will be constructed in part to support California's current need for additional renewable electrical energy supply especially during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's ("CPUC's") policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The Henrietta BESS Project offers the CAISO a renewable dispatchable energy resource to the electrical grid and responds to the CAISO requirement to provide additional Resource Adequacy capacity and capability to California's existing transmission system.

4.0 NEW INFORMATION OR CHANGE IN CIRCUMSTANCES THAT NECESSITATED THE CHANGE

This section addresses the requirements of Title 20, CCR, Section 1769(a)(1)(C).

The proposed modifications are not based on information that was known during the certification proceeding in 2002. California's current need and goals for additional renewable electrical energy supply and energy storage were not known in 2002. In addition, the battery technology that is planned to be utilized was not available in 2002.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This section and Appendix B address the requirements of Title 20, CCR, Section 1769(a)(1)(D). Supporting technical study documentation is also presented in Appendices C through H.

The CEC's Final Commission Decision for the GWF Henrietta Peaker Project incorporated the CEC Staff Assessment dated December 18, 2001 by reference and the Commission certified the Project on January 31, 2002. The CEC Final Decision is dated March 6, 2002. The HPP began commercial operation on July 1, 2002. The Commission-approved Henrietta Peaker Project complied with all applicable requirements of federal law, including but not limited to the federal Clean Air Act, Clean Water Act, and the Endangered Species Act.

The CEC Final Commission Decision for the Henrietta Peaker Project addressed the following environmental topic areas: Air Quality; Biological Resources, Cultural Resources, Geology, Hazardous Materials, Land Use, Noise, Public Health, Socioeconomic Resources, Soil and Water Resources, Traffic and Transportation, Visual Resources, Waste Management, Water Quality/Soils, Water Resources, and Worker Safety.

An assessment of the effects that the proposed Henrietta BESS Project will have on the environment with consideration of the topics addressed in the Final Commission Decision/Staff Assessment and current regulations is attached hereto as Appendix B. The assessment of potential effects presented in Appendix B (as supported with technical assessments in Appendices C through H) also considers input provided by CEC staff in 2022.

As set forth in detail in Appendix B (as supported with technical assessments in Appendices C through G), the Henrietta BESS Project will avoid or minimize potentially significant effects on the environment.

6.0 MODIFICATIONS IMPACT ON LORS COMPLIANCE

CEC Siting Regulations, Title 20, CCR, Section 1769(a)(1)(E) requires "An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards". As discussed in detail in Section 5, approval of the modifications associated with implementation of the Henrietta BESS Project will not impact compliance with applicable LORS.

7.0 POTENTIAL EFFECTS ON PUBLIC

This section discusses the potential effects on the public that may result from the modifications proposed in this Petition for Post-Certification Amendment, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(F)).

With implementation of the proposed modifications to the MRP San Joaquin Energy LLC Henrietta Peaker Plant facility and property, the Henrietta BESS Project will have no adverse effect on the public. The installation and operation of the BESS facilities will comply with applicable LORS and will not result in any potentially significant impacts. Therefore, no adverse effects on the public will occur because of the changes to the MRP San Joaquin Energy LLC Henrietta peaker facility as proposed in this Petition for Post-Certification Amendment.

8.0 PROPERTY OWNERS

Section 1769(a)(1)(G) requires a "list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site." Consistent with privacy considerations, a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 1,000 feet of the project site will be provided directly to the Compliance Project Manager.

9.0 MODIFICATIONS IMPACT ON THE PUBLIC AND NEARBY PROPERTY OWNERS

This section addresses potential effects of the project changes proposed in this Petition for Post-Certification Amendment on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769 (a)(1)(H)).

The Henrietta BESS Project additions to the HPP project site will not result in new potentially significant effects on adjacent landowners. The project region has changed since the Henrietta Peaker Project was licensed and constructed in 2002 and now includes multiple large utility scale

photovoltaic ("PV") solar farms that have been constructed to the north, east, south, and west of the Henrietta Peaker property. The previously agricultural nature of the project vicinity is now dominated by solar PV energy production. The Henrietta BESS site which is on the eastern portion of the overall HPP property is now vacant, disturbed land with an existing 230 kV transmission line corridor traversing the site in a northeasterly direction. The subject property is bordered to the north by the existing PG&E Henrietta Substation. The subject property is bordered to the east and south by solar PV development and on the west by 25th Avenue. The Lemoore Naval Air Station ("NAS") is located approximately 1.1 miles to the north on the north side of SR 198. The Lemoore NAS wastewater treatment ponds are located approximately 1,930 feet to the east of the Henrietta Peaker/BESS site property.

Henrietta BESS Project construction will be short term and will not result in any potentially significant effects on the public and nearby property owners. Implementation of the Henrietta BESS Project will increase the permanently developed area on the eastern and southern portions of the approximately 20-acre Henrietta Peaker property by approximately 4.6 acres. The primary structures to be installed are low profile BESS enclosures. Normal operation of the BESS facility will not have associated air emissions and noise levels will be within applicable noise thresholds. The Henrietta BESS Project facility will be remotely operated and will not require additional onsite workers or associated traffic generation except during maintenance and infrequent battery augmentation events. Although the Henrietta BESS Project facility will be remotely operated, HPP maintenance personnel are present at the adjacent peaker facility on a regular basis.

The Henrietta BESS Project site is located within the eastern portion of the HPP parcel (Assessor Parcel No. 024-190-070-000) and is zoned AX – Exclusive Agriculture. In accordance with Article 4 of the Kings County Development Code, "Electrical Energy Storage Facilities" are considered to be a conditionally permitted use on land zoned AX and shall be located within 1 mile of an existing public utility substation. The PG&E Henrietta Substation is located directly adjacent to the north of the HPP property and the Henrietta BESS Project. The Henrietta BESS Project site area within the overall 20-acre HPP parcel is located on approximately 3.1 acres of undeveloped land to the east of the HPP and to the north of an existing 70 kV transmission line right-of-way (see Figure 2). The approximately 3.1-acre site, including battery storage system enclosures and switchyard has been previously disturbed associated with historical agricultural use, development of the HPP in the early 2000's, and annual mowing and disking to control vegetation. The proposed Henrietta BESS Project would be consistent with the Kings County Development Code and zoning designation for the parcel.

10.0 APPLICABLE CEQA EXEMPTIONS

Section 1769(a)(1)(I) requires a discussion of any exemptions from the California Environmental Quality Act, commencing with section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

The CEC's power plant siting process is a certified state regulatory program under the California Environmental Quality Act (Pub. Resources Code, § 21080.5; 14 C.C.R. §§ 15250-15253.) As such, it is exempt from the procedural elements of CEQA, though it must adhere to the substantive requirements of CEQA. The CEC's detailed certification process is commonly described as "CEQA-equivalent." CEQA defines a "Project" in pertinent part as "…an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Pub. Resources Code § 21065.)

In this case, the Henrietta Peaker Project was subject to environmental review in accordance with the CEC's certified regulatory program. The current operations of the Henrietta peaker plant are not a new CEQA "project," but are part of the existing environmental baseline. Once a project is approved, CEQA does not require that it be analyzed anew every time an action is required to implement the project. Where an EIR, or in this case the CEC's CEQA-equivalent certification, has been prepared for a project, CEQA expressly prohibits agencies from requiring a subsequent or supplemental EIR, except in specified circumstances, e.g., where the project will have more severe impacts as a result of substantial changes to the project or the circumstances under which it is undertaken. (14 C.C.R. § 15162). As discussed below, the operations of the Henrietta BESS Project with the MRP San Joaquin Energy LLC Henrietta Peaker Project do not trigger any such requirement.

Even assuming that the Henrietta BESS Project was a CEQA "project," the activities are categorically exempt. First, the modifications are categorically exempt pursuant to Title 14, Section 15301 of the California Code of Regulations as a minor alteration to an existing facility. The Henrietta BESS Project described herein includes activities that constitute a minor modification to the peaker plant operations and property. The changes will all be interior to the property boundary and will involve no expansion of the existing use of the Henrietta peaker for power generation.

Second, CEQA Guidelines section 15303 exempts construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The Henrietta BESS Project system

will consist primarily of modular battery enclosures, inverters with MV transformers, a switchyard, and electrical controls and connections.

In addition, the proposed modifications associated with the Henrietta BESS Project are also categorically exempt from CEQA pursuant to Section 15061(b)(3), the "Common Sense Exemption." This exemption provides that "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." (14 C.C.R. § 15061(b)(3).) In this case, there is no possibility that the proposed change may have a significant effect on the environment. The proposed project will not result in an increase in the HPP's hourly or annual emissions above the existing permitted potential to emit (PTE) limits and will not require any revisions to its hourly, daily, or annual emissions or operational limits to accommodate the project. There would be no substantial adverse changes to existing baseline conditions at the HPP site from the proposed Henrietta BESS Project. Therefore, the proposed temporary modifications are categorically exempt from CEQA pursuant to the "Common Sense Exemption."

11.0 CONCLUSIONS

For all the reasons set forth herein, MRP San Joaquin Energy LLC and Henrietta BESS LLC respectfully request that the CEC approve the requested Henrietta BESS Project modifications to the MRP San Joaquin Energy LLC Henrietta Peaker Project pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

FIGURES

The following figures are attached:

- Figure 1 General Location Map
- Figure 2 Preliminary Site Layout
- Figure 3 Photograph of Typical BESS Enclosures

HENRIETTA PEAKER PLANT UNITS 1 AND 2
16027 25th AVENUE
LEMOORE, KINGS COUNTY, CA 93245

REV	DATE	DESCRIPTION	DRWN BY	CHK BY	ENG'R	PROJECT ENG'R	APPR'D BY
1	07-23-2022	PRELIMINARY	CM	CJP			

PATCH SERVICES
CALIFORNIA * ENGINEERING * TEXAS
333 SUNSET AVE.
SUITE: 210
SUISUN CITY, CA 94585
PHONE: 707-425-4949
FAX: 707-425-4553
21175 TOMBALL PARKWAY
SUITE: #306
HOUSTON, TX 77070
PHONE: 281-330-1466
FAX: 832-698-2835

HENRIETTA BESS LLC

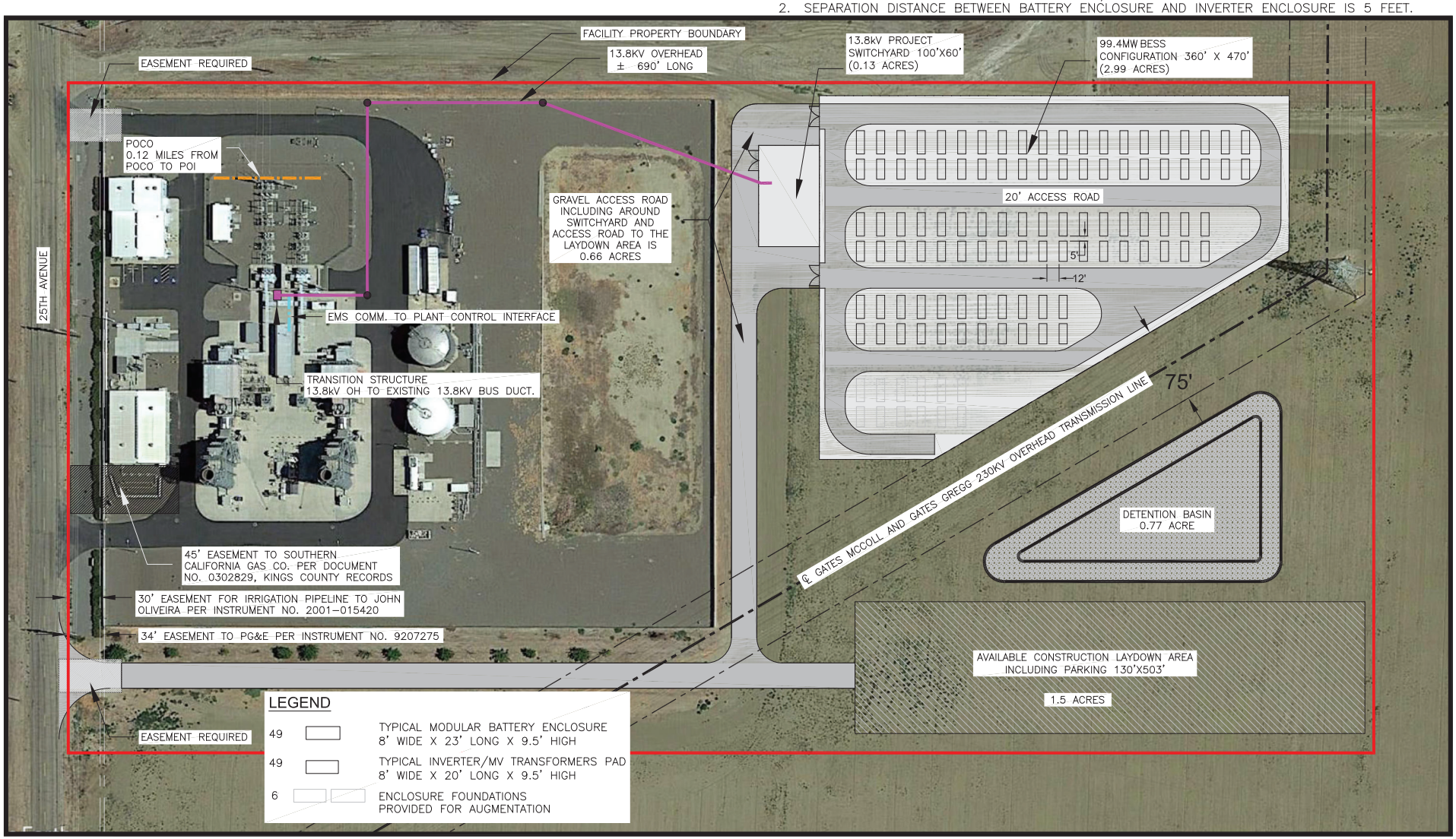
FIGURE 1

GENERAL LOCATION MAP

SCALE:	AS SHOWN
JOB NO:	9221
DATE:	07-23-2022
DRAWN BY:	CM
CHECKED BY:	CJP

DRAWING NUMBER	SHEET NUMBER	REV
D-9221-2117		1

NOTE:
1. THE EAST–WEST DISTANCE BETWEEN BATTERY/INVERTER ENCLOSURES IS 12 FEET.
2. SEPARATION DISTANCE BETWEEN BATTERY ENCLOSURE AND INVERTER ENCLOSURE IS 5 FEET.



GWF HENRIETTA PEAKER PLANT UNITS 1 AND 2
16027 25th AVENUE
LEMOORE, KINGS COUNTY, CA 93245

REV	DATE	DESCRIPTION	DRWN BY	CHK BY	ENG'R	PROJECT ENG'R	APPR'D BY
5	07–20–2022	REVISED ADDED DETENTION BASIN	CM	CJP			
4	04–18–2022	REVISED SITE LOCATION AND BATTERY FOUNDATION	CM	CJP			
3	04–11–2022	REVISED LOGO TO HENRIETTA BESS LLC	CM	CJP			
2	04–01–2022	ADDED TAGS	CM	CJP			
1	03–31–2022	PRELIMINARY	CM	CJP			

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SUISUN CITY, CA 94585
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21175 TOMBALL PARKWAY
SUITE: #306
HOUSTON, TX 77070
PHONE: 281–330–1466
FAX: 832–698–2835

HENRIETTA BESS LLC

FIGURE 2.

PRELIMINARY SITE LAYOUT

SCALE:	AS SHOWN
JOB NO:	9221
DATE:	03–31–2022
DRAWN BY:	CM
CHECKED BY:	CJP

DRAWING NUMBER	SHEET NUMBER	REV
D–9221–2104		5

GWF HENRIETTA PEAKER PLANT UNITS 1 AND 2
16027 25th AVENUE
LEMOORE, KINGS COUNTY, CA 93245

REV	DATE	DESCRIPTION	DRW'N BY	CHK BY	ENG'R	PROJECT ENG'R	APPR'D BY
1	07-23-2022	PRELIMINARY	CM	CJP			

PATCH SERVICES
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HENRIETTA BESS LLC

FIGURE 3

PHOTOGRAPH OF TYPICAL BESS ENCLOSURES

SCALE:	N.T.S
JOB NO:	9221
DATE:	07-23-2022
DRAWN BY:	CM
CHECKED BY:	CJP
DRAWING NUMBER	D-9221-2115
SHEET NUMBER	
REV	1

APPENDIX A

PROJECT DETAILS

This appendix presents supplemental project details for the Henrietta BESS Project as currently defined. Estimated ground disturbance and excavation/fill quantities are presented in Table A-1. Estimated construction equipment usage is summarized in Table A-2.

Table A-1
Summary of Ground Disturbance and Earthwork

Project Component	Approximate Quantity (+/-)	Comments
Site Access Road Improvements -Acreage -Cut and fill (ave. 2.5 feet) -Gravel import for road surface (1-foot depth)	 0.83 acre 3,350 cubic yards 1,340 cubic yards	Approximately 1,300 feet of new or improved access road construction will be performed by grading to a uniform width of 25 feet, compacting the road surface, and adding up to an approximately 1-foot-thick layer of gravel surface for stability and dust control.
BESS Site/Switchyard/Detention Basin -Acreage -Cut and soil conditioning (ave. 2.5 feet depth) -Gravel import for pad areas (1-foot layer) -Concrete import for pads (assume 18-inch pad) -Engineered fill import for concrete pads support (assume 1-foot depth)	 3.91 acres ~15,500 cubic yds 5,000 cubic yards 1,500 cubic yards (assume ~110 foundations at 10' wide by 25' long by 1.5' thick) 1,000 cubic yards	Vegetation on the area is maintained on an annual basis, as needed, for fire prevention. Grading and excavation will be required for site levelling, drainage control, and foundations. Assumed average cut and replacement of existing soil required for reconditioning, extends to a depth of 2-3 feet (assumed average of 2.5 feet). Earthwork/soil conditioning material will be balanced onsite, as practical. Assumed concrete pad foundations for BESS enclosures, inverters/transformers, and BESS Switchyard. If pile foundations were utilized instead of concrete pad foundations, it is estimated that ~8 piles (e.g., H-Frame, +/-15'long) would be required per BESS and Inverter/Transformer enclosure (~880 piles total).
Temporary Laydown -Acreage	 1.5 acres 425 cubic yards	Vegetation on the area is maintained on an annual basis, as needed, for fire prevention. No grading is proposed. It is assumed that approximately 600

Project Component	Approximate Quantity (+/-)	Comments
-Gravel import for temporary internal laydown area access road (~600' long and 25 feet wide; 9 inches gravel)		linear feet of temporary internal access roadways will need to be established within the laydown area. It is further assumed that 9 inches of gravel surface will be placed on the access roadways for stability and to limit fugitive dust generation.
13.8 kV Overhead Line Pole Foundations -Assumed 15 feet deep, 4-foot diameter hole (~7 cubic yards per pole foundation)	~35 cubic yards	Approximately 690-foot-long overhead 13.8 kV line with assumed maximum 80-foot-tall dual circuit poles. Currently assume 3 poles required plus 2 dead-end structures.

Table A-2
Estimated Equipment Usage

Planned Tier 4 Equipment	Estimated No. of Equipment Pieces by Construction Activity/Period					
	Access Road Repair	Site Prep/ Grading	Install Foundations and Equipment	Set Modules, Inverters, Switchgear	Elec Wire Install/ Finished Grading	Commis-sioning/ Testing
	Month 1	Months 1-2	Months 2-3	Months 3-6	Months 4-9	Months 9-11
Backhoes	1	1	1		1	
Compactors	1	1	1		1	
Compressors		2	2	1	1	
Cranes, Hydraulic		1	1	2	1	
Dozers	1	1	1		1	
Loaders, Front-end	1	1	1		1	
Off-highway trucks (1-ton flatbeds)		1	2	2	1	1
Rough Terrain Forklifts		1	2	1	1	
Sweepers/ Scrubbers		1	1	1	1	
Pickup Trucks (gasoline)	1	2	3	3	3	3
Welders			2	2	2	2

Planned Tier 4 Equipment	**Estimated No. of Equipment Pieces by Construction Activity/Period**					
	Access Road Repair	Site Prep/ Grading	Install Foundations and Equipment	Set Modules, Inverters, Switchgear	Elec Wire Install/ Finished Grading	Commis-sioning/ Testing
	Month 1	Months 1-2	Months 2-3	Months 3-6	Months 4-9	Months 9-11
Portable Electric Generator			1	1	1	
Pile Driver[1]			2[1]			

[1]Pile foundations are not currently proposed pending the results of the forthcoming geotechnical investigation and final design. If pile foundations are selected in lieu of the currently proposed concrete pad foundations for BESS and inverter/transformer enclosures, it is expected that 8 piles per enclosure would be required. It is expected that percussion pile drivers could install approximately 16 piles per day per rig. Assuming 880 piles required for 110 enclosures and 32 piles installed per day for 2 rigs, the pile driving operation would require approximately 28 working days.

APPENDIX B

ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

Section 1769(a)(1)(D) requires "An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects." This Appendix addresses each discipline considered in the original CEC certification for the Henrietta Peaker Plant ("HPP").

Note: The sections and subsections of this Appendix A are numbered "5" to coincide with the numbering in the main body of the Petition for Post-Certification Amendment.

5.0 ANALYSIS OF THE EFFECTS THAT THE PROPOSED CHANGE WILL HAVE ON THE ENVIRONMENT AND MITIGATION MEASURES PROPOSED

This Appendix B and Section 5 of the Petition for Post-Certification Amendment address the requirements of Title 20, CCR, Section 1769(a)(1)(D).

5.1 Background

MRP San Joaquin Energy LLC hereby files this amendment on behalf of and for the benefit of Henrietta BESS LLC. Henrietta BESS LLC proposes to implement a 99.4-megawatt ("MW") Battery Energy Storage System ("BESS") Project (the "Henrietta BESS"). The proposed Henrietta BESS Project is located at the existing nominal 99.4 MW Henrietta Peaker Plant ("HPP") located near the City of Lemoore at 16027 25th Avenue in unincorporated Kings County, California (see Figures 1 and 2). The HPP is owned and operated by MRP San Joaquin Energy LLC. The HPP was licensed by the California Energy Commission ("CEC") in 2002 (CEC Docket No. 01-AFC-18). HPP is authorized by the California Independent System Operator ("CAISO") under its Generator Interconnection Agreement (as amended) to provide up to net of 99.4 MW to the grid. Given the relationship between the HPP and the proposed Henrietta BESS, the CEC has determined that the CEC has jurisdiction over the permitting of the Henrietta BESS project. MRP San Joaquin Energy LLC on behalf of Henrietta BESS LLC hereby requests an amendment to the certification for the HPP (CEC Docket No. 01-AFC-18) pursuant to Title 20, California Code of Regulations, Section 1769(a)(1).

The HPP and BESS will be co-located on the same CEC-jurisdictional site. Specifically, the entire Assessor Parcel No. 024-190-070-000 is owned by MRP San Joaquin Energy LLC. A lease or easement will be provided to Henrietta BESS LLC, which will own and operate the BESS within that same parcel.

The Henrietta BESS Project will have its own metering equipment and CAISO ID. Henrietta BESS LLC will have legal responsibility for the operation of the Henrietta BESS Project. The Henrietta BESS Project will connect to the grid through the existing generator step-up transformers

("GSUs") at the adjacent gas-fired Henrietta Peaking Plant, and the two plants will share a common point of interconnect.

The requested amendment would allow for the Henrietta BESS Project to be constructed and operated adjacent to the HPP. The Henrietta BESS Project will be constructed in part to support California's current need for additional electrical energy storage available for dispatch during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's ("CPUC's") policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The Henrietta BESS Project offers the CAISO a reliable dispatchable energy resource to the electrical grid. The Henrietta BESS Project would be charged exclusively from the grid, particularly when excess renewable energy is available, storing this energy for peak periods when renewable energy is less available, resulting in lower total greenhouse gas ("GHG") emissions. Furthermore, dispatches from the Henrietta BESS Project would replace energy that would otherwise be generated by the adjacent gas-fired Henrietta Peaking Plant.

The proposed Henrietta BESS Project will not result in an increase in the HPP's hourly or annual air emissions above currently permitted limits. The environmental impact assessment presented herein and in Appendices C through H hereto concludes no potentially significant environmental impacts are associated with the implementation of the actions specified in this Petition for Post-Certification Amendment, and that the Project, as specified herein, will comply with all applicable laws, ordinances, regulations, and standards ("LORS").

The Henrietta BESS Project site is located within Assessor Parcel No. 024-190-070-000. The project site is zoned AX – Exclusive Agriculture. In accordance with Article 4 of the Kings County Development Code, "Electrical Energy Storage Facilities" are considered to be a conditionally permitted use on land zoned AX and shall be located within 1 mile of an existing public utility substation. The Pacific Gas & Electric ("PG&E") Henrietta Substation is located directly adjacent to the north of the HPP property and the Henrietta BESS Project. The Henrietta BESS Project site area within the overall 20-acre HPP parcel is located on previously disturbed and undeveloped land to the east of the HPP and to the north of an existing 230 kilovolt ("kV") transmission line right-of-way. The Henrietta BESS Project site is located within the area previously permitted by the CEC as part of the HPP licensing process for use as temporary construction laydown during construction of the HPP.

The Henrietta BESS would be capable of providing up to 99.4 MW of BESS electricity for short duration (e.g., 1-2 hours). If the 99.4 MW of capacity is needed for dispatch to the electrical grid for more than short duration, the peaker plant would then be called upon to meet the need. The proposed Henrietta BESS Project would not increase the output of the HPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint ("ACC") of

99.4 MW. The planned Henrietta BESS facilities will be located on an approximately 3.1-acre area east of the existing HPP in the northeast portion of the overall 20-acre HPP property. The approximately 3.1-acre site, including battery storage system enclosures and switchyard, has been previously disturbed. The past disturbance has been associated with historical agricultural use, development of the HPP in the early 2000's, and annual maintenance to control vegetation. The proposed Henrietta BESS Project site has not been used for agricultural production since at least 2016. The Henrietta BESS Project also includes use of approximately 1.5 acres of the HPP site for temporary construction laydown and construction personnel parking, and approximately 0.8 acre for a new stormwater detention basin.

The HPP is interconnected to the adjacent PG&E Henrietta Substation to the north via an existing approximately 650-foot-long nominal 70 kV transmission line. The Henrietta BESS Project will include an onsite 13.8 kV switchyard. An approximately 690-foot-long 13.8 kV overhead dual circuit distribution line will connect the BESS switchyard to the 13.8 kV sides of the existing HPP GSUs. The dual circuit line will physically connect to HPP's existing 13.8 kV buss duct in the area between the combustion turbine generator terminals and the low side of the GSUs. This connection will be made such that one circuit will connect to the Unit 1 buss duct and the other circuit will connect to the Unit 2 buss duct. Connecting the Henrietta BESS to the low sides of the HPP GSUs will allow the BESS to provide energy and capacity at transmission voltage to the PG&E Henrietta Substation without requiring any high voltage modifications at the HPP switchyard. Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged from the electrical grid and not the HPP. The BESS and the HPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the CAISO's Automated Dispatching System ("ADS"), but the combined output will be control limited to never exceed a net of 99.4 MW per the Generator Interconnection Agreement.

The proposed BESS facility would consist primarily of modular battery storage system enclosures and inverters installed on concrete pad foundations or piles. Battery technologies being considered are lithium iron phosphate ("LFP") and lithium nickel manganese cobalt oxide ("NMC") or other technologies that may be available as the Henrietta BESS Project undergoes final design. Batteries would be installed in enclosures that are electrically connected together to reach the desired output of BESS. The medium voltage transformers and inverters would be located adjacent to the enclosures they serve. Approximate dimensions for the battery enclosures vary but are typically in the range of 8-feet wide by 23-feet long by 9.5-feet high. It is possible that enclosure dimensions could vary and be up to 40-feet long depending on the supplier. Battery output degrades over time requiring replacement and/or additional battery bank modules ("augmentation"). Allowance for this work and the physical enclosures required will be made during construction of the BESS. The Henrietta BESS Project includes upgrades to the existing HPP plant perimeter roadway (outside the HPP fence line) on the southern and

central portions of the HPP parcel to provide stable access to the Henrietta BESS site and construction laydown area for construction and operation of the facilities.

The subject property is bordered to the north by the PG&E Henrietta 70 kV substation, beyond which is agricultural land and recently developed utility-scale solar fields. The subject property is bordered to the east and south by fragmented agricultural land and utility-scale solar fields. The subject property is bordered to the west by 25th Avenue, beyond which is a Recurrent Energy solar field and agricultural land.

Historical research indicates that the overall HPP property was undeveloped grassy land from at least the mid-1950s until the late 1950s and by 1960 it was developed with row crops. By 1984, an overhead transmission line tower had been constructed along the eastern portion of the subject property. In 2002, the northwestern portion of the subject property was developed with the HPP power plant. The HPP portion of the subject property has remained relatively unchanged from 2002 to present day. The area where the Henrietta BESS is proposed was utilized for construction laydown when the HPP was constructed and then returned to agricultural production until approximately 2015-2016 when agricultural production was terminated. The Henrietta BESS site has remained undeveloped, fallow land since 2016.

The CEC approved a previous Petition for Post-Certification Amendment for a once proposed conversion of the HPP to a combined-cycle facility in 2010. The combined cycle conversion project was not pursued, and the associated license amendment approvals were all withdrawn by the CEC as of 2014.

5.2 Environmental Topic Areas Addressed in Final Commission Decision in July 2001

The CEC's Final Commission Decision for the GWF Henrietta Peaker Project incorporated the CEC Staff Assessment dated December 18, 2001 by reference and the Commission certified the Project on January 31, 2002. The CEC Final Decision is dated March 6, 2002. The HPP began commercial operation on July 1, 2002. The Commission-approved Henrietta Peaker Project complied with all applicable requirements of federal law, including but not limited to the federal Clean Air Act, Clean Water Act, and the Endangered Species Act.

The CEC Final Commission Decision for the Henrietta Peaker Project addressed the following environmental topic areas: Air Quality; Biological Resources, Cultural Resources, Geology, Hazardous Materials, Land Use, Noise, Public Health, Socioeconomic Resources, Soil and Water Resources, Traffic and Transportation, Visual Resources, Waste Management, Water Quality/Soils, Water Resources, and Worker Safety/Fire Protection. In addition, the CEC Staff Assessment also addressed Facility Design and Transmission System Engineering.

An assessment of the effects that the proposed Henrietta BESS Project will have on the environment with consideration of the topics addressed in the Final Commission Decision/Staff Assessment and current regulations is presented herein. The assessment of potential effects also considers input provided by CEC staff in 2022. As requested by the CEC in 2022, an assessment is included herein for Vehicle Miles Traveled ("VMT") which has been incorporated with Traffic and Transportation section. In addition, an analysis of Wildfire Hazard which was not specifically addressed in the CEC Staff Assessment/Final Commission Decision for the Henrietta Peaker Plant has been added.

The balance of this analysis is organized as follows:

- 5.3 Air Quality and Greenhouse Gas
- 5.4 Biological Resources
- 5.5 Cultural Resources
- 5.6 Geology and Paleontological Resources
- 5.7 Hazardous Materials Management
- 5.8 Land Use
- 5.9 Noise and Vibration
- 5.10 Public Health
- 5.11 Socioeconomic Resources
- 5.12 Soil and Water Resources
- 5.13 Traffic and Transportation/VMT
- 5.14 Visual Resources
- 5.15 Waste Management
- 5.16 Worker Safety/Fire Protection
- 5.17 Wildfire

Separate technical appendices are also provided for: Air Quality and Greenhouse Gas (Appendix C), Biological Resources (Appendix D), Cultural Resources (Confidential)(Appendix E), Noise and Vibration (Appendix F), and Vehicle Miles Traveled (Appendix G).

As set forth herein, the Henrietta BESS Project will avoid or minimize potentially significant effects on the environment.

5.3 Air Quality and Greenhouse Gas (GHG)

5.3.1 CEC Certification of HPP

The CEC air quality analysis conducted for the Henrietta Peaker Plant (CEC 2001, CEC 2002) evaluated the expected air quality impacts of the emissions of criteria air pollutants due to the construction and operation of the proposed HPP. In carrying out the analysis, the CEC staff evaluated the following major points:

- Whether the HPP was likely to conform with applicable Federal, State and San Joaquin Valley Air Pollution Control District air quality laws, ordinances, regulations and standards, as required by Title 20, California Code of Regulations, section 1744 (b);
- Whether the HPP was likely to cause significant air quality impacts, including new violations of ambient air quality standards or contributions to existing violations of those standards, as required by Title 20, California Code of Regulations, section 1742 (b); and
- Whether the mitigation proposed for the HPP was adequate to lessen the potential impacts to a level of insignificance, as required by Title 20, California Code of Regulations, section 1744 (b).

The CEC Final Decision (CEC 2002) stated that the San Joaquin Valley Air Pollution Control District ("SJVAPCD") prepared its Preliminary Determination of Compliance ("PDOC") on November 23, 2001. The District's analysis of the project was sent to the California Air Resources Board, the Energy Commission, and US EPA Region IX. No comments were received on the PDOC. Thus, the District issued it Final Determination of Compliance on January 10, 2002.

The CEC Commission Decision (CEC 2002) identified construction related air emissions as potentially significant impacts and stipulated Conditions of Certification to mitigate impacts to less than significant levels. The CEC noted that power plant construction requires the use of large earth moving equipment, which generate considerable combustion emissions themselves, along with creating fugitive dust emissions during grading, site preparation, foundations, underground utility installation, and building erection. According to the Commission Decision, the applicant (GWF) and the Energy Commission staff agreed that any construction impacts would be mitigated to the extent feasible by "boilerplate" construction Conditions of Certification. Although construction of the project and ancillary facilities was predicted to result in unavoidable short-term impacts, the Henrietta Peaker Project location among agricultural production and away from residences were determined to prevent the general public from being exposed to the construction impacts associated with the project. Nevertheless, CEC staff believed that the impact from the construction of the project could contribute to existing PM_{10} ambient air quality standard violations, and should be avoided or mitigated, to the extent feasible (Staff Assessment ["SA"] Air Quality, pp. 3.1-23, 25-

26 [CEC 2001]). The Commission Decision stated that the project would undertake one or more of the following measures to reduce emissions during construction activities:

To control exhaust emissions from heavy diesel construction equipment:

- Limit engine idle time and shutdown equipment when not in use.
- Perform regular preventative maintenance to reduce engine problems.
- Use of catalyzed diesel particulate filters ("CDPF").
- Use CARB Low-Sulfur fuel for all heavy construction equipment.
- Ensure that all heavy construction equipment complies with EPA 1996 Diesel standards.

To control fugitive dust emissions:

- Use water application or chemical dust suppressant on unpaved travel surfaces and parking areas.
- Wetting or covering of stored earth materials on site.
- Require all trucks hauling loose material to either cover or maintain a minimum of two feet of freeboard.
- Use gravel pads and wheel washers as needed.
- Use wind breaks and chemical dust suppressant or water application to control wind erosion from disturbed areas.

With the implementation of these mitigation measures, the Commission Decision determined that construction air quality impacts for the HPP would be mitigated to the extent feasible and, when combined with the temporary nature of the construction, would be insignificant (SA Air Quality, pp. 3.1-23, 24, 26 [CEC 2001]).

The CEC Decision (CEC 2002) stipulated the following mitigation for construction related emissions:

- The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: AQ-C1.
- The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of catalyzed diesel particulate filters, use of ultra-low sulfur diesel fuel, and/or use of EPA and CARB 1996 certified diesel engines. This Condition required preparation of a Diesel Construction Equipment Mitigation Plan. Condition: AQ-C2.

It is expected that CEC Conditions AQ-C1 and AQ-C2 will be applicable to the Henrietta BESS Project and that potential construction air quality impacts will be mitigated accordingly. Refer to Section

5.3.5 for more information on the assessed applicability of CEC Conditions stipulated previously for the HPP relative to the Henrietta BESS Project.

5.3.2 Environmental Analyses

The proposed Henrietta BESS Project site is located within the jurisdiction of the SJVAPCD, which has primary responsibility for assuring that federal and state ambient air quality standards are attained and maintained in the San Joaquin Valley Air Basin. The proposed Henrietta BESS Project would result in air pollutant emissions that are regulated by the air district. The most significant volume of air emissions expected to be generated during project construction is associated with equipment use on the site, fugitive dust emissions from site grading, and from vehicle trips to and from the site. During the operation of the proposed Henrietta BESS project, no area source emissions are expected with the exception of vehicle emissions from infrequent worker trips to and from the project site for maintenance and infrequent battery augmentation events. Emissions from Henrietta BESS Project construction and operations are calculated to be below air district thresholds established to attain and/or maintain conformance with state and federal air quality standards. At the time the HPP project was permitted in 2002, greenhouse gas ("GHG") assessments were not included in the environmental review and permitting process. A GHG assessment has been prepared for the Henrietta BESS Project as requested by the CEC and is considered herein. CEC Condition AQ-C1 for the HPP required that a Fugitive Dust Mitigation Plan be prepared including the specific requirements. CEC Condition AQ-C1 for the HPP required that the project owner shall prepare a Diesel Construction Equipment Mitigation Plan to mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. It is assumed that the same Conditions AQ-C1 and AQ-C2 will apply to the Henrietta BESS Project.

In summary, no potentially significant impacts related to air emissions, including GHG, associated with construction or operation of the Henrietta BESS Project will occur. For a more detailed analysis, see Appendix C, Air Quality and Greenhouse Gas (GHG) Study (Rincon 2022a).

5.3.3 Mitigation Measures

The Henrietta BESS project will not result in significant impacts related to air quality and GHG emissions that will require additional mitigation measures.

5.3.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable LORS related to air quality and GHG emissions.

5.3.5 Conditions of Certification

The proposed modifications do not require additions to the CoCs for air quality. CEC Conditions AQ-C1, Fugitive Dust Mitigation Plan and AQ-C2, Diesel Construction Equipment Mitigation Plan, as stipulated for the HPP project are applicable to the Henrietta BESS Project. In addition, CEC Conditions AQ-42 and AQ-45 related to suppressing fugitive dust emissions from construction activities are also assumed to be applicable to the Henrietta BESS Project. CEC Condition AQ-C3 (Emission Offsets), and Conditions AQ-1 through AQ-57 for the HPP are not applicable to the Henrietta BESS Project because they relate to the air permit for the natural gas-fired turbines at the HPP. The Henrietta BESS will not have any stationary emission sources requiring air permits. Refer to Appendix C, Air Quality and Greenhouse Study (Rincon 2022a) for more information.

5.3.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Rincon Consultants, Inc. (Rincon). 2022a. Henrietta 99.4 MW Battery Energy Storage System (BESS) Project. Air Quality and Greenhouse Gas (GHG) Study. Prepared for Hermes BESS LLC. July.

5.4 Biological Resources

5.4.1 CEC Certification of HPP

The CEC Final Decision (CEC 2001) and Staff Assessment ("SA")(CEC 2002) included descriptions of biological resources of potential concern associated with the HPP. Brief summaries of pertinent biological resource findings for the HPP follow.

5.4.1.1 Protected Species Habitat

The CEC Commission Decision (CEC 2002) determined that the HPP power plant site and the transmission line route and pipeline corridor were farmland or unvegetated soil and did not have any sensitive species of biological resources present on-site. Thus, the CEC determined that there would be no direct, on-site biological resource impacts (SA Biological Res., p. 3.2-6).

5.4.1.2 Long-term Habitat Loss/Degradation

The CEC Commission Decision (CEC 2002) determined that the HPP project would result in the permanent loss of up to 7 acres of intensely managed farmland, thus requiring incidental take permits and 10 acres of habitat compensation to mitigate the loss of potential kit fox habitat (SA Biological Res., p. 3.2-6-7).

5.4.1.3 Short-term Construction Disturbance

The CEC Commission Decision (CEC 2002) determined that the HPP power plant site was unvegetated soil and did not have any biological resources. The gas and water pipelines are located adjacent to the 25th Avenue, along the highly disturbed agricultural lands. However, the CEC determined that 11.7 acres of farmland would be temporarily disturbed, and would therefore require mitigation for temporary impacts to agricultural land within the range of San Joaquin kit fox ("SJKF"). The CEC determined that there was the potential that species might become trapped overnight within fenced construction areas or in pipeline trenching. The CEC stipulated that the Project Owner would employ a Designated Biologist to prepare a Biological Resources Mitigation and Monitoring Plan ("BRMIMP"), to oversee its implementation, to conduct a worker environmental awareness program, and to address the entrapping of species within fenced construction areas or open pipeline trenches. Conditions: BIO-1 through BIO-4, plus BIO-6 and BIO-7 (SA Biological Res., p. 3.2-6-7) were stipulated for the HPP project.

5.4.1.4 Operation Impact

The CEC Commission Decision (CEC 2002) determined that noise, light, and wastewater discharge resulting from the operation of the HPP project would not impact any species or habitat. The CEC stipulated that transmission lines would be constructed to avoid bird electrocution. The CEC also stipulated that the Project Owner would construct transmission lines with sufficient spacing between conductors to avoid large bird electrocution. Condition: BIO-7 was stipulated (SA Biological Res., p. 3.2-9-7).

5.4.1.5 Incidental Take Permits/Mitigation Credits

COC BIO-5 for the HPP required that prior to the start of any site mobilization activities the project owner had to acquire 10 credits from the Kern Water Bank Habitat Conservation Plan ("KWBHCP") to satisfy the requirements for Federal and State Incidental Take Permits issued by the U.S. Fish and Wildlife Service ("USFWS') and California Department of Fish and Wildlife ("CDFW"), respectively.

5.4.2 Environmental Analyses

5.4.2.1 Methods

The biological resources study for the Henrietta BESS Project consisted of a review of relevant literature and background information, followed by a field reconnaissance survey and a consistency analysis of the 2001 biological review as part of the HPP licensing in the context of current existing conditions and the status of those biological resources protected under current state and federal laws and regulations. The potential for special status species to occur in the area of potential impact for the Henrietta BESS Project is based on the literature review and a survey designed to assess habitat suitability for special status species. A biological resources reconnaissance survey (survey) was conducted on April 4, 2022 in the study area to assess the habitat suitability for potential special status species, map the existing vegetation communities and land cover types present, map any evident biological resources currently on the Henrietta BESS Project area, document the presence of potential jurisdictional waters and/or wetlands, document any wildlife connectivity/movement features, and record all observations of plant and wildlife species within the study area. The assessment of biological resources for the Henrietta BESS Project is documented in the Biological Resources Technical Report presented in Appendix D (Rincon 2022b).

5.4.2.2 Vegetation

Based on the 2022 survey efforts, no native vegetation communities are present within the Henrietta BESS Project study area. The study area is in a highly industrialized area. Because the site has been historically graded, mowed, and disked for agricultural purposes as recently as 2015, most of the land in the study area that is not developed or landscaped is completely barren and without vegetation. The area surrounding the study area is characterized by solar energy and other industrial uses. Comparatively, at the time of the 2001 biological review for the HPP licensing, the study area where the Henrietta BESS Project is proposed was entirely comprised of active agricultural crop production.

5.4.2.3 Wildlife

The Henrietta BESS Project study area and its surroundings provide habitat for wildlife species that commonly occur in industrialized and disturbed habitats within the Central Valley. Avian species observed/detected on or adjacent to the site include killdeer (*Charadrius vociferus),* American crow (*Corvus brachyrhynchos*), American raven (*Corvus corax*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), Eurasian-collared dove (*Streptopelia decaocto*), and mourning dove (*Zenaida macroura*). One reptile species, western fence lizard (*Sceloporus occidentalis*), was observed

within the study area. The study area contained minimal California ground squirrel (*Otospermophilus beecheyi*) burrows, and all of the burrows observed were either less than 3 inches in diameter or were completely closed a few inches from the entrance of the burrow.

5.4.2.4 Jurisdictional Waters

The study area including the Henrietta BESS Project site does not support any wetlands, drainages, or other potentially jurisdictional features associated with waters of the United States or waters of the State. Standing water was not observed during the reconnaissance survey. No wetlands or other water features occur within the project area.

5.4.2.5 Special Status Species

No federal or state listed plants were observed during the reconnaissance-level field survey. The database and literature review performed for the project indicated that 22 special status wildlife species have been documented within the *Westhaven, California* USGS 7.5-minute quadrangle and eight surrounding quadrangles, six of which have been documented within 5 miles of the study area. No federal or state listed or other special status wildlife species were observed during the survey. Of the 22 wildlife species evaluated, Rincon determined that one species, loggerhead shrike (*Lanius ludovicianus*; species of special concern [SSC]), is present in the study area because it was observed during the reconnaissance survey. One species, San Joaquin kit fox (*Vulpes macrotis*; Federally Endangered and State Threatened), has a low potential to occur and one species, Swainson's hawk (*Buteo swainsoni*; State Threatened), has a moderate potential to occur. Despite the determination to have a low potential to occur, a specific assessment of the San Joaquin kit fox is included in this report because the biological review previously conducted as part of the 2001 HPP CEC licensing included a CoC related to the species.

Swainson's Hawk is state listed as a threatened species. No Swainson's hawks were observed during the reconnaissance survey and the closest California Natural Diversity Database ("CNDDB") occurrence has been recorded over 5 miles from the study area. There are no trees suitable for nesting in the project area; however, there are utility towers within 0.5-mile of the study area that could potentially provide suitable nesting habitat for Swainson's hawk. This highly mobile species has the potential to move transiently or forage in the study area.

The San Joaquin kit fox is federally listed as endangered and state listed as a threatened species. Suitable habitat associated with San Joaquin kit fox includes arid grasslands and scrublands, many of which have been extensively modified, in the San Joaquin Valley. Types of modified habitats include those with oil exploration and extraction equipment and wind turbines, agricultural mosaics of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands. Oak

woodland, alkali sink scrubland, and vernal pool and alkali meadow communities also provide habitat for the species. Dens are scarce in areas with shallow soils because of the proximity to bedrock, high water tables, or impenetrable hardpan layers. The Endangered Species Recovery Program ("ESRP") states the current range of the species is highly fragmented and includes the Elk Hills and Buena Vista Valley of western Kern County and the Carrizo Plain Natural Area in San Luis Obispo County.

No San Joaquin kit foxes were observed during the reconnaissance survey and the closest CNDDB occurrence has been recorded over 5 miles from the study area (CDFW 2022). Minimal burrows were observed during the reconnaissance survey and all California ground squirrel burrows observed were either less than 3-inches wide or completely closed within a few inches from the entrance of the burrow. As a result, no suitable burrows for San Joaquin kit fox were observed during the full-coverage reconnaissance survey of the project area. Atypical dens exist in the study area in the form of culverts and other man-made structures; however, all potential atypical dens were observed within the existing HPP, which is fenced off from surrounding habitat. It is not anticipated that the San Joaquin kit fox will utilize these or any dens in the study area. Although the species is highly mobile, it is also nocturnal and, therefore, there is low potential for this species to be present while moving through or foraging in the study area.

Significantly, the BESS project will be sited on an industrial site without any significant habitat values and the BESS structures will not result in any potentially significant effects.

5.4.2.6 Nesting Birds

The study area contains potentially suitable nesting habitat for bird species protected under the Migratory Bird Treaty Act ("MBTA") and California Fish and Game Code ("CFGC") Section 3503. Species of birds that are common to the area and typically utilize open disturbed habitats for foraging may nest in landscaped or developed portions of the study area. The nesting season generally extends from February through August but can vary based upon annual climatic conditions. During the survey, one active killdeer nest and one potentially active Brewer's blackbird nest was observed within the study area but, not on the Henrietta BESS Project site. Refer to Appendix D for more information.

5.4.2.7 Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be

regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. Wildlife movement corridors can be both large and small scale. Regionally, the Henrietta BESS Project study area is not located within an Essential Connectivity Area, as mapped in the report, *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010). The study area is located near Lemoore in Kings County and is not located within a significant habitat linkage or corridor. The project site is highly disturbed and developed with infrastructure associated with the existing power plant and is surrounded by industrial uses. Therefore, the study area is not considered an important regional wildlife movement area.

5.4.2.8 Summary of Impacts

Construction-related activity and ground disturbance from the Henrietta BESS Project will be limited to the highly disturbed land along the southern boundary and eastern end of the study area. The CoCs developed for the original HPP project will be required conditions, as applicable, under the licensing of the Henrietta BESS Project. As discussed previously, conditions have changed within the Henrietta BESS Project footprint from active agriculture at the time of the 2001 HPP licensing to the current condition of developed and barren land.

Existing HPP CoCs BIO-1 through BIO-7 are summarized herein as follows:

- BIO-1: Designated Biologist Qualifications
- BIO-2: Designated Biologist Duties
- BIO-3: Construction Manager Duties
- BIO-4: Worker Environmental Awareness Program
- BIO-5: KWBHCP Mitigation Credits/Incidental Take Permits
- BIO-6: Biological Resources Mitigation and Implementation Plan (“BRMIMP”)
- BIO-7: Mitigation Measures to be included in Final BRMIMP

All of the CEC CoC listed above for the HPP are applicable to the Henrietta BESS Project except for CoC BIO-5. Ten mitigation credits were purchased prior to the construction of the HPP from the KWBHCP in compliance with BIO-5. As no impacts to federally listed species are anticipated associated with the Henrietta BESS Project, and no incidental take permits are required, no mitigation credit purchase is proposed for the project. Therefore, HPP CoC measure BIO-5 does not apply to the Henrietta BESS Project.

The BRMIMP was developed per CoC BIO-6 in advance of the HPP construction. The BRMIMP will be updated for the Henrietta BESS Project and appropriate previously established measures to avoid and minimize impacts to species, including, but not limited to pre-construction surveys and compliance reporting. These measures will be adhered to for the Henrietta BESS Project and new measures will be established as necessary based on current site conditions. Via the implementation of the measures in the BRMIMP, potentially significant impacts to special status plants and wildlife are not anticipated.

Due to the lack of suitable burrows or dens, the Henrietta BESS Project study area does not contain suitable denning habitat for San Joaquin kit fox. In addition, man-made structures such as culverts that could be used as an atypical den by San Joaquin kit fox are mostly fenced off and inaccessible. Potentially suitable movement and foraging habitat exists within the study area. However, being that the San Joaquin kit fox is nocturnal, the species is not likely to be present during daytime construction activities. As a result, direct impacts to the species in the form of mortality, injury, or general harassment from project-related vehicle traffic or construction if the species is passing by or foraging in the study area is not anticipated. Furthermore, being that the species is not likely to be present during construction activities, indirect effects to this species in the form of noise, vibrations, and other construction-related activities that may impact the species' normal behavior is not anticipated. Based on these determinations, the project would be considered unlikely to potentially significantly affect San Joaquin kit fox due to lack of habitat suitability and the unlikelihood for the species to be present during daytime construction activities. The prior licensing of the HPP required mitigation to offset impacts to these species but is not proposed for the Henrietta BESS Project. Implementation of the measures outlined in the BRMIMP, as required in BIO-6 and BIO-7, will ensure compliance with state and federal law and to avoid impacts San Joaquin kit fox.

In summary, with implementation of the CEC CoC BIO-1 through BIO-4, and BIO-6 and BIO-7, no potentially significant impacts to biological resources will occur.

5.4.3 Mitigation Measures

The Henrietta BESS project will not result in significant impacts related to biological resources that will require additional mitigation measures. The existing applicable CEC Conditions of Certification for biological resources for the HPP are considered adequate to protect biological resources associated with implementation of the Henrietta BESS Project. Refer to Section 5.5.5, Conditions of Certification, and Appendix D for more information including an assessment of the applicability of the existing CEC Conditions.

5.4.4 Consistency with LORS

The Project conforms to applicable LORS related to biological resources.

5.4.5 Conditions of Certification

The proposed modifications do not require additions to the HPP CoCs for biological resources. As discussed in Section 5.4.2.8, existing CEC Conditions BIO-1 through BIO-4, and BIO-6 and BIO-7 are assumed to be applicable and the Henrietta BESS Project will comply with these Conditions. CEC Condition BIO-5 is assessed to not be applicable to the Henrietta BESS Project given the current conditions with the project impact area. Refer to Appendix D, Biological Resources Technical Report (Rincon 2022b) for more information.

5.4.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Database (CNDDB), Rarefind 5.

Rincon Consultants, Inc. (Rincon). 2022b. Biological Resources Technical Report for the Henrietta BESS Project in Kings County, California. Prepared for Henrietta BESS LLC. July.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

5.5 Cultural Resources

5.5.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) and Staff Assessment (CEC 2001) concluded that there were no known prehistoric resources, historic resources, or human remains at the highly disturbed power plant site in the existing agricultural area. At most, the CEC concluded that there was a moderate potential for discovery of some unknown resource during construction. This conclusion was based on the results of literature review and site-specific survey of the 20-acre

parcel and buffer zone as well as the disturbed nature of the site associated with historical farming at the site.

No Native American cultural resource sites were identified by the Native American Heritage Commission or other Native American representatives during the CEC licensing for the HPP in 2001/2002. No human remains had been identified within the HPP project area. However, the CEC stipulated that should such resources be identified, the local Native American representatives must be contacted (following notification to the County Coroner) and all requirements of state and federal law must be complied with, as appropriate.

Although the CEC concluded that the proposed HPP would not impact any known archaeological resources, buried archaeological resources could be encountered during project construction. Due to its proximity to ancient shores of Tulare Lake, the project area was determined to have a moderate level of archaeological sensitivity. Native Americans in the area expressed their concerns regarding the discovery of previously unknown archaeological resources. In addition, there are references in anthropological literature to the existence of several ethnographically identified village sites in the vicinity of the proposed HPP. To mitigate potential impacts to undiscovered cultural resources, CEC staff recommended cultural resource monitoring and Native American monitoring to ensure that any potential impacts to cultural resources would be mitigated below a level of significance. Due to the prior intensive agricultural use of this site, staff recommended monitoring in areas of the project site where ground disturbance would exceed the depth of previously disturbed soils. This mitigation measure was expected by the CEC to ensure that any impacts to archaeological resources would be mitigated below a level of significance.

In order to protect potentially present cultural resources during construction of the HPP, the CEC stipulated that the Project Owner designate a cultural resource specialist to monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources (SA Cultural Resources pp. 3.3-4-6).

The Commission Decision for the HPP stipulated six CoC for cultural resources (CULT-1 through CULT-6) all of which are assessed herein to be applicable to the Henrietta BESS Project.

5.5.2 Environmental Analyses

As directed by CEC Staff in 2022, the Applicant arranged for a current cultural resources investigation to be performed for Henrietta BESS Project. Rincon Consultants, Inc. cultural resources staff performed an analysis to support this Petition for Post-Certification Amendment that followed Title 20, CCR, Appendix B guidelines, and includes a general description of the proposed site and related facilities, maps of the proposed Project area and related facilities,

cultural resources records search, archival research, Sacred Lands File ("SLF") search, field survey, desktop historical built environment analysis, and recommendations. The Confidential Cultural Resources Technical Report (Rincon 2022c) contains sensitive and confidential information concerning archaeological resources and is not for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]). Sections of the report contain locational maps and other sensitive information. Distribution should be restricted appropriately. A copy of the Confidential Cultural Resources Technical Report has been provided to the CEC and is on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield.

The cultural resources study as documented in the Confidential Cultural Resources Technical Report was completed according to Title 20, CCR Section 1769 (a)(1) and includes discussion and assessment of the proposed Project changes, cultural resources present, and Project compliance with applicable laws, ordinances, regulations, and standards. The report also assesses whether the original CEC Conditions of Certification for cultural resources are applicable to the BESS project.

This report refers to California Register of Historical Resources ("CRHR") thresholds for assessing significance of cultural resources. The proposed area of direct impact and project activities for the Henrietta BESS Project is located on approximately 5.5 acres located primarily within the eastern undeveloped portion of the approximately 20-acre HPP property. In the early 2000s, the existing HPP facilities were licensed by the CEC and built in the western portion of the Project area. Prior to site development for the HPP, the entire property had been subject to extensive plowing, tilling, and grading activities since the early 1900s. The portion of the BESS Project site area north of the existing transmission line corridor that traverses the general BESS site area from southwest to northeast was used for construction laydown during construction of the HPP and was subsequently used for agricultural crop production until 2015.

The cultural resources records search performed in 2022 for the Henrietta BESS Project identified six previously recorded cultural resources within the 1-mile records search radius (one Native American isolate and five historic-period structures), three of which are located within the Project area (P-16-000134, P-16-000199, and P-16-000362). Resources P-16-000134 and P-16-000362 are historic-period transmission lines, and P-16-000199 is a Native American isolate consisting of a basalt pestle and mortar fragments. No other cultural resources were identified within or adjacent to the Project area as a result of the records search.

The pedestrian survey conducted for the Henrietta BESS Project included the entire approximately 20-acre property, including the existing HPP facilities in the western portion and the approximately 5.5-acre area of direct impact which is located primarily in the eastern portion of the 20-acre HPP parcel, but also includes upgrades to the HPP southern perimeter road as well as several 13.8 kV power poles to be installed in the HPP portion of the parcel. The entire Project area appears to have been extensively graded during the construction of the HPP facilities and associated infrastructure; many surficial disturbances were noted. Both previously recorded transmission lines (P-16-000134 and P-16-000362) were relocated during the pedestrian survey and found to be in the same condition as originally recorded. The isolate (P-16-000199) was not relocated.

Both P-16-000134 and P-16-000362 were previously evaluated and found ineligible for the CRHR. Rincon concurs with this determination; regardless, the proposed project will have no effect on these resources. Isolate P-16-000199 is ineligible for listing in the CRHR; regardless of whether it still exists and is buried within the Project area. Therefore, P-16-000199, P-16-000134, and P-16-000362 do not qualify as historical resources under CEQA. These resources require no further management consideration.

A response from the Native American Heritage Commission ("NAHC") was received on May 24, 2022, stating that the results of the Sacred Lands File ("SLF") search were negative, meaning no tribal heritage resources are noted in the Henrietta BESS Project vicinity. A list of five individuals from five tribal groups in the region was provided (documentation in Appendix B of the Confidential Cultural Resources Technical Report; Rincon 2022c).

The proposed Henrietta BESS Project changes have a moderate potential to impact intact cultural resources. The property has been subject to extensive plowing, tilling, and grading activities since the early 1900s. However, the depth of ground disturbance related to such activities is typically no greater than 1.5 to 2 feet below surface. The depth of ground disturbance for the current project consists of up to 3 feet of grading and 15 feet for 13.8 kV pole foundations/placement, the majority of which will occur in areas east of the current HPP facility and disturbances associated with that facility's development. In addition, excavation to a depth of approximately 5 feet will be required to construct the new approximately 0.8-acre stormwater detention basin. Although no Native American resources aside from isolate P-16-000199 have been identified within 1 mile of the Project area, buried site sensitivity is high based on alluvial sediments. The presence of an isolated Native American resource coupled with the alluvial sediments, location, and topography of this area indicates moderate sensitivity for the presence of subsurface Native American resources.

The majority of the Project-related changes are consistent with the previous impact assessment for the existing HPP facilities. However, despite the disturbed nature of the Henrietta BESS Project area, there is a moderate risk of encountering subsurface archaeological deposits due to the alluvial sediments, presence of a previously identified pre-contact era resource, and the likely depth of previous disturbances in comparison to anticipated disturbances for the current Henrietta BESS Project. The lack of integrity of the surficial archaeological materials identified through the records search does not preclude the existence of intact subsurface deposits.

The Conditions of Certification (CUL-1 through CUL-6) for the original CEC certification for the HPP include Worker Environmental Awareness Program, Native American and Archaeological Monitoring, and preparation of a Cultural Resources Monitoring and Mitigation Plan. The original Conditions of Certification are considered sufficient to protect cultural resources for the current Henrietta BESS Project amendment. Adherence to standard conditions for the treatment of unanticipated discoveries of both archaeological resources and human remains also apply.

With implementation of CEC Conditions CUL-1 through CUL-6, no significant impacts to cultural resources from implementation of the Henrietta BESS Project are anticipated.

5.5.3 Mitigation Measures

CEC Conditions CUL-1 through CUL-6 as stipulated for the HPP are adequate for protecting cultural resources associated with implementation of the Henrietta BESS Project and no supplemental mitigation is needed.

5.5.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable LORS related to cultural resources.

5.5.5 Conditions of Certification

No changes to the original HPP CEC Conditions CUL-1 through CUL-6 are required to protect potentially present sensitive cultural resources for the Henrietta BESS Project. The following Cultural Resource Conditions will be implemented for the Henrietta BESS Project:

- CUL-1: Designated Cultural Resources Specialist
- CUL-2: Project Maps Showing Ground Disturbance
- CUL-3: Cultural Resources Monitoring and Mitigation Plan (“CRMMP”)
- CUL-4: Cultural Resource Awareness Training
- CUL-5: Cultural Resource Specialist Authority
- CUL-6: Cultural Resource Specialist Duties

5.5.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Rincon Consultants, Inc. (Rincon). 2022c.

Rotella, Brianna, Theadora Fuerstenberg, and Christopher Duran. 2022. Cultural Resources Technical Report for the Henrietta 99.4 Megawatt Battery Energy Storage System Project. Rincon Consultants, Inc., Project No. 22-12592. Report on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield.

5.6 Geology and Paleontological Resources

5.6.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) and Staff Assessment (CEC 2001) for the HPP addressed geologic hazards, mineral resources, tsunami flood, and paleontological resources under the topic of geology. Pertinent summaries follow.

5.6.1.1 Geologic Hazards

The CEC Commission Decision (CEC 2002) concluded that the proposed HPP was located in an area subject to strong ground shaking from earthquakes (Seismic Zone 3 at the time of the assessment) and that the HPP would need to be designed and constructed accordingly. The CEC also concluded that the site is underlain by alluvial clay-rich soils and that there is a negligible potential for liquefaction. The CEC identified the general HPP site area as being subject to subsidence due to groundwater withdrawal. The CEC also noted that clay rich soils above the water table are subject to expansion with additional moisture where below the water table such soils are subject to settlement requiring consideration of appropriate structural foundation design.

5.6.1.2 Mineral Resources

The CEC Commission Decision (CEC 2002) concluded that there were no known geologic (mineral) resources at the site.

5.6.1.3 Flood

The CEC Commission Decision (CEC 2002) concluded that the power plant site is not subject to inundation from tsunami.

5.6.1.4 Fossils (Paleontology)

The CEC Commission Decision (CEC 2002) concluded that there are no known paleontological resources at the power plant site, but that procedures need to be in place in the event of an unanticipated discovery of paleontological resources during site excavation. The CEC stipulated procedures for the recovery of unknown paleontological resources at the power plant site in order to prevent a significant impact to paleontological resources. The CEC Commission Decision (CEC 2002) for the HPP stipulated Conditions PAL-1 to PAL-6 to protect paleontological resources and these measures are applicable to the proposed Henrietta BESS Project as well.

It is expected that similar geologic resource related mitigation and impact findings will be applicable to the Henrietta BESS Project, including proper facility design for seismic and settlement hazards and paleontological resources mitigation measures (COC PAL-1 to PAL-6) to protect potentially present resources.

5.9.2 Environmental Analyses

The proposed Henrietta BESS facilities are located primarily on the eastern portion of the HPP property in an area that is level and has been previously disturbed from historical agricultural operations and during construction and operation of the current HPP. Vegetation on the area is mowed and disced on an annual basis for fire prevention. Construction of the proposed Henrietta BESS Project will require grading and excavation for site levelling, drainage control, and foundations on the BESS site and switchyard areas. Based on the results of the preliminary site geotechnical investigation, it is currently anticipated that excavation/soil conditioning depths will average approximately 2-3 feet for both the BESS site and the BESS switchyard. Henrietta BESS Project facilities, including battery enclosures and inverters will be installed on concrete pad or pile foundations. The stormwater detention basin is planned to be approximately 5 feet deep. Three 13.8 kV pole foundations associated with the 13.8 kV connection from the Henrietta BESS switchyard to the HPP GSU BUSS connections are expected to be up to approximately 4 feet in diameter and 15 feet deep.

The final engineering design for Henrietta BESS Project facility will consider the results of the geotechnical investigation conducted for the project site and the design will comply with applicable building codes, including the 2022 California Building Standards Code (Cal. Code Regs, Title 24) which will become effective January 1, 2023.

The Henrietta BESS Project site and area are not located in a 100-year flood zone (Zone X, Minimal Flood Hazard) (FEMA 2022). The Henrietta BESS Project Drainage Plan will ensure that stormwater is properly handled on the site.

Compliance with applicable building codes during the design and construction of the Henrietta BESS Project facilities along with adherence to the requirements of paleontological resource Conditions PAL-1 through PAL-6 will ensure that impacts related to geologic hazards and sensitive paleontological resources are reduced to insignificant levels. In summary, no potentially significant impacts related to geologic hazards or paleontological resources associated with construction or operation of the Henrietta BESS Project will occur.

5.6.3 Mitigation Measures

The Henrietta BESS Project will not result in significant impacts related to geologic resources/hazards or paleontological resources that will require additional mitigation measures.

5.6.4 Consistency with LORS

The project conforms to applicable LORS related to geological and paleontological resources.

5.6.5 Conditions of Certification

No changes to the original HPP CEC Conditions PAL-1 through PAL-6 are required to protect potentially present sensitive paleontological resources for the Henrietta BESS Project. The following Paleontological Resource Conditions will be implemented for the Henrietta BESS Project:

- PAL-1: Designated Paleontological Resources Specialist
- PAL-2: Paleontological Resources Monitoring and Mitigation Plan
- PAL-3: Worker Paleontological Resources Awareness Program
- PAL-4: Designated Paleontological Resources Specialist Duties
- PAL-5: Paleontological Resource Recovery
- PAL-6: Paleontological Resource Report

5.6.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Federal Emergency Management Agency (FEMA). 2022. National Flood Hazard Layer FIRMette. Database website Accessed July 31, 2022. https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/mscprintb_gpserver/jdcf5f833bf8c43cfa6dcd0300e29e692/scratch/FIRMETTE_a77fc6b9-6bf0-4d6e-bec7-3ecf85004315.pdf

5.7 Hazardous Materials Management

5.7.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) and Staff Assessment (CEC 2001) for the HPP addressed the following considerations under the topic of hazardous materials management: transportation, storage and use, and disposal. Pertinent summaries follow.

5.7.1.1 Transportation

The CEC Commission Decision (CEC 2002) stated that hazardous material deliveries during construction of the HPP would be limited to gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, lubricants, paint and paint thinner. Further, the CEC stated that no acutely hazardous materials would be transported to the site. The CEC also stated that hazardous material deliveries during operation would include aqueous ammonia. The CEC stipulated that hazardous material haulers must be specially licensed by the California Highway Patrol (CEC HPP Condition TRANS-3).

5.7.1.2 Storage and Use

The CEC Commission Decision (CEC 2002) stated that no acutely hazardous materials would be stored onsite at the power plant and that the hazardous materials listed above under "Transportation" pose an insignificant risk of offsite exposure related to onsite storage. The CEC stipulated that the project owner shall not store and use amounts of acutely hazardous materials in excess of proposed quantities (CEC HPP Condition HAZ-3) and that the project owner shall prepare a Hazardous Material Business Plan (CEC HPP Condition HAZ-4) and a Risk Management Plan (CEC HPP Condition HAZ-5).

5.7.1.3 Disposal

The CEC Commission Decision (CEC 2002) stipulated that the project owner shall implement an approved, comprehensive program to manage wastes in accordance with state and federal

regulations, including use of licensed waste haulers and disposal at appropriate waste disposal facilities.

It is expected that similar hazardous material handling, transportation, storage, and waste disposal related mitigation and impact findings will be applicable to the Henrietta BESS Project. Forthcoming coordination with the CEC will be expected to ascertain specific hazardous material related requirements for the Henrietta BESS Project.

5.7.2 Environmental Analyses

The Henrietta BESS Project will not result in the use of a new hazardous material onsite or increase the amount or delivery of hazardous materials used in excess of permitted quantities as assessed for the HPP. The Henrietta BESS Project will not involve the use of aqueous ammonia for emissions control or natural gas for fuel thus these CEC HPP Conditions related to transport, storage, and use of these materials are not applicable to the Henrietta BESS Project. In addition, the Henrietta BESS Project will not result in an increase of waste generation at the site. Batteries may be replaced during augmentation events in the operational phase due to battery degradation. Spent batteries would be handled as Universal Waste and recycled and/or disposed of offsite in an approved manner. Therefore, no impacts from hazardous materials handling or waste management are expected.

5.7.3 Mitigation Measures

The Henrietta BESS Project will not create a significant impact from hazardous materials handling that will require additional mitigation measures.

5.7.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to hazardous materials handling.

5.7.5 Conditions of Certification

The proposed Henrietta BESS Project does not require additions to the HPP CoCs for hazardous materials handling as listed below. CEC HPP CoCs HAZ-1, HAZ-2, and HAZ-5 are not applicable to the Henrietta BESS Project since aqueous ammonia and natural gas are not associated with the BESS. Current plans indicate that the operation of the Henrietta BESS Project will not involve use of hazardous materials in reportable quantities. Therefore, CEC HPP CoCs HAZ-3 and HAZ-4 may not result in the need for any hazardous material related reporting.

- HAZ-1: Tanker Truck Standards (Note: for aqueous ammonia transport)
- HAZ-2: Gas Pipeline Standards
- HAZ-3: Hazardous Materials Inventory

- HAZ-4: Hazardous Materials Business Plan
- HAZ-5: Risk Management Plan (Note: for aqueous ammonia)

As noted above, CEC HPP CoCs HAZ-1, HAZ-2, and HAZ-5 ae not applicable to the Henrietta BESS Project.

5.7.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

5.8 Land Use

5.8.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) made the following summary conclusions regarding Land Use considerations for the HPP.

General/Special Plans. The power plant conforms to the "Other Non-Agricultural Open Space Uses" category within the Exclusive Agriculture designation in the General Plan of Kings County.

Zoning. The Kings County Zoning Ordinance requires a Conditional Use Permit ("CUP") for a power generating facility.

Given CEC jurisdiction for permitting thermal power plants generating more than 49.9 MW under the Warren-Alquist Act, a CUP was not required by the Kings County Community Development Agency for permitting of the HPP.

Open Space. The CEC determined that the HPP power plant site does not impact any designated open space.

Agricultural Resources. The CEC determined that the HPP would permanently convert 7 acres of farmland to non-farm use, which was compensated for by acquisition of agricultural use easements with the American Farmland Trust. Kings County canceled the Williamson Act contract upon the payment of fees to recover property tax incentives.

Existing/Planned Uses. The CEC determined that the HPP was consistent with existing uses, including agricultural, the PG&E Henrietta Substation, and Lemoore Naval Air Station ("NAS") and

its related facilities. The CEC also determined that the HPP would not affect other potential uses, which will largely be limited due to the proximity to the Lemoore NAS with its attendant land use restrictions based upon aviation safety.

CEC Staff Conclusions for the HPP Project. The land use analysis in the CEC Staff Assessment (CEC 2001) for the HPP focused on two main issues: (1) the HPP project's consistency with land use plans, ordinances and policies; and (2) the HPP project's compatibility with existing and planned land uses (CEC 2001). The CEC Staff Assessment also made the following conclusions related to land use for the HPP project:

- The project will be consistent with the California Land Conservation Act upon the approval of the final Certificate of Cancellation and its CEQA document by the County of Kings.

- The project is consistent with the County of Kings General Plan, Zoning and Land Division Ordinances.

- The project presents a "less than significant impact with mitigation incorporated" under CEQA for the conversion of agricultural land to a non-agricultural use, pending mitigation for the conversion of seven acres of agricultural land.

- The HPP is compatible with the agricultural character of the site and surrounding area and is compatible with operations at Lemoore Naval Air Station.

- The project would not disrupt or divide the physical arrangement of an established community. The nearest community to the project site is located at Lemoore Naval Air Station, which is located approximately one mile from the site.

- The project would not preclude or unduly restrict agricultural land uses on neighboring properties.

- With mitigation, operation of the project would not cause any significant noise, dust, public health, traffic, or visual impacts to nearby land uses, nor would the operation of the HPP contribute substantially to any cumulative land use impacts.

The CEC stipulated the following three CoC for HPP related to land use:

- LAND-1: Prior to the start of construction, the project owner shall submit an agricultural mitigation plan subject to the approval of the CPM. The agricultural mitigation plan shall

include details as to how the on-site preservation of agricultural land on the subject property not converted for the power generation facility is to occur.

- LAND-2: Prior to the start of commercial operation, the project owner shall provide to the CPM, a copy of their signed, notarized and recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings, pursuant to Section 2 of Ordinance No, 546 (Right to Farm Ordinance) of the County of Kings.

- LAND-3: Prior to the start of construction, the project owner shall provide to the CPM a site plan with dimensions showing the locations of the proposed buildings and structures in compliance with the minimum yard area requirements (setbacks) from the property line as stipulated in Section 406.D. Yard requirements of the Kings County Zoning Ordinance.

5.8.2 Environmental Analyses

The proposed Henrietta BESS Project is located primarily on the eastern portion of the 20-acre HPP property. At the time when the HPP was permitted by the CEC in 2002, the HPP site and vicinity were agricultural with the exception of the adjacent PG&E Substation to the north. The proposed Henrietta BESS Project site north of the existing 230 kV transmission lines that traverse the parcel was used for construction laydown when the HPP was constructed in 2002. The HPP project compensated for the permanent conversion of 7 acres of agricultural land for the power plant site by acquiring agricultural use easements with the American Farmland Trust. Kings County canceled the Williamson Act contract for the 20-acre parcel upon the payment of fees to recover property tax incentives.

The eastern portion of the HPP property was returned to agricultural use following construction of the HPP and is currently classified as Farmland of Statewide Importance by the California Department of Conservation ("CDOC") Farmland Mapping and Monitoring Program ("FMMP"). The HPP site on the western portion of the parcel is classified as Urban and Built-Up Land by the FMMP (Hennessy 2022). Irrigated farming on the eastern portion of the HPP parcel where the proposed Henrietta BESS Project facilities are located ceased as of 2015. Based on discussion in 2022 with a California Department of Conservation representative (Hennessy 2022), the FMMP tracks the irrigation status of agricultural lands to accurately enforce the irrigation qualifier in the Farmland of Statewide Importance definition. During the 2016 FMMP update, FMMP noted the eastern half of APN 024-190-070-000 as non-irrigated grains for the first time. During the 2018 update, FMMP noted the site as non-irrigated grains for a second time (2 years from the last map date). If these non-irrigated or fallow conditions continue to exist on the site during the upcoming

2020 update, the land would be reclassified by FMMP from Farmland of Statewide Importance to Grazing Land on the future 2020 map and Geographic Information System ("GIS") data.

The four-year irrigation qualifier ended in 2020. Since the area where the proposed Henrietta BESS Site facilities are located has not been irrigated for over 4 years (not irrigated for over 6 years as of 2022), the eastern half of the HPP property will be reclassified as Grazing Land on the forthcoming 2020 Important Farmland Map for Kings County (note: the mapping and map issuance are delayed). The area is currently fallow and does not support agricultural production or grazing.

The CEC land use conclusions for the HPP are consistent for the proposed Henrietta BESS Project for the following considerations:

- The project is consistent with the County of Kings General Plan, Zoning and Land Division Ordinances.
- The project is compatible with the agricultural character of the site and surrounding area and is compatible with operations at Lemoore Naval Air Station.
- The project would not disrupt or divide the physical arrangement of an established community. The nearest community to the project site is located at Lemoore Naval Air Station, which is located approximately one mile from the site.
- The project would not preclude or unduly restrict agricultural land uses on neighboring properties.
- With mitigation, operation of the project would not cause any significant noise, dust, public health, traffic, or visual impacts to nearby land uses, nor would the operation of the project contribute substantially to any cumulative land use impacts.

The proposed Henrietta BESS Project would convert the eastern portion of the HPP parcel from fallow land that will be reclassified as Grazing Land by the FMMP to energy storage related use.

In summary, no potentially significant impacts related to land use compliance and consistency associated with construction or operation of the Henrietta BESS Project will occur.

5.8.3 Mitigation Measures

The Henrietta BESS project will not result in significant impacts related to land use that will require additional mitigation measures.

5.8.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable LORS related to land use.

5.8.5 Conditions of Certification

The proposed modifications do not require additions to the CEC HPP Conditions for land use. HPP CEC Condition LAND-1 is assessed as being non-applicable to the proposed Henrietta BESS Project.

5.8.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Hennessy, Patrick. 2022. California Department of Conservation, Division of Land Resource Protection. Personal correspondence (email) with Patch Services (R. Ray). April 27.

5.9 Noise and Vibration

5.9.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) made the following summary conclusions regarding noise and vibration considerations for the HPP.

Loudness/Time of Day. The CEC determined that most HPP construction activity would occur more than 3,000 feet away from the nearest residential property. Sound levels at the local residences from daytime or nighttime HPP construction were calculated to be less than the Kings County noise criteria.

During its operating life, the CEC determined that the HPP would represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level would occur during startup or shutdown, as the plant transitions to and from steady-state operation. Operational sound levels at local residences were estimated to conform to the CEC noise limitation of not more than a 5 decibels adjusted to human hearing (“dBA”) increase and were determined to comply with Kings County noise standards.

The CEC stipulated the following Conditions of Certification to mitigate potential HPP noise impacts:

- The Project Owner will notify neighboring residents and business owners of impending construction at the power plant site and disseminate and post a telephone "hotline" number to report any undesirable noise conditions. Condition: NOISE-1.
- Additionally, the Project Owner will create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: NOISE-2.
- Construction noise levels at any time will not exceed 60 dBA Leq daytime or 45 dBA Leq nighttime as measured at the nearest residential receptor. Condition: NOISE-6.

It should be noted that the CEC licensing process in 2001/2002 for the HPP considered the Kings County 1993 General Plan Noise Element standards which are now superseded by the 2035 Kings County General Plan Noise Element (Kings County 2010). The noise thresholds in the current Noise Element are less specific regarding absolute noise levels at the property boundary and are subject to interpretation by Kings County. These determinations are typically made during the zoning review process for a project (Hernandez 2022).

5.9.2 Environmental Analyses

The proposed Henrietta BESS Project will result in temporary noise impacts during the construction phase as well as a minor increase in noise levels at the Project site during the operational phase associated with BESS electrical equipment operation and maintenance activities. In order to assess potential Henrietta BESS Project noise impacts, ambient noise monitoring was conducted at the site on April 4, 2022 (short-term measurements) and May 3 and 4, 2022 (25-hour measurement). Using the ambient noise monitoring data collected, construction and operational noise levels were modeled and compared to applicable noise and vibration impact significance thresholds. The assessment is documented in the Noise and Vibration Study presented in Appendix F (Rincon 2022d). A summary of the impact findings for the proposed Henrietta BESS Project follows:

- The proposed project would generate both temporary construction-related noise and long-term noise associated with operation. Construction noise would not exceed noise standards at the nearby land uses and impacts from construction noise would be less than significant.
- The project's stationary noise sources (BESS units, transformers, and inverters) would not exceed applicable exterior noise standards at the nearest land uses. Therefore, stationary noise impacts would be less than significant.
- Project-generated traffic from the project would generate an increase of up to 0.4 dBA Community Noise Equivalent Level ("CNEL") on SR 198 near residences during project construction and less during project operation. This is below the threshold of 1.5 dBA CNEL; therefore, the off-site traffic noise increase would be less than significant.

- The project would generate groundborne vibration during construction, but vibration would not exceed the applicable thresholds at adjacent structures to the project sites. Therefore, construction-related vibration impacts would be less than significant.
- No substantial noise exposure from airport noise would occur to construction workers, maintenance workers, or infrequent visitors to the facility, and no impacts would occur.

In summary, construction and operation of the Henrietta BESS Project is not expected to result in any significant noise or vibration impacts as summarized below in Table 5.9-1. Refer to the Noise and Vibration Study presented in Appendix F for more information.

Table 5.9-1 Summary of Noise and Vibration Impact Findings

Issue	Proposed Project's Level of Significance	Applicable Recommendations
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than significant impact (Construction) Less than significant impact (Operation)	None
Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than significant impact (Construction) Less than significant impact (Operation)	None
For a project located within the vicinity of a private airstrip or 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?	No impact	None

5.9.3 Mitigation Measures

The Henrietta BESS Project will not create significant noise and vibration impacts that will require additional mitigation measures.

5.9.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to noise and vibration.

5.9.5 Conditions of Certification

The HPP was licensed by the CEC in 2002 and the Commission Decision (CEC 2002) included Conditions of Certification to minimize or avoid noise impacts from the HPP. The following CEC Conditions related to noise that are in place for the existing HPP also apply for the proposed Henrietta BESS project, as applicable.

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1: At least fifteen (15) days prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish and disseminate a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. The telephone number shall be posted at the project site during construction in a manner visible to passersby. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established.

NOISE COMPLAINT PROCESS

NOISE-2: Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- Use the Complaint Resolution Form or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to determine the source of noise related to the complaint;
- If the noise is project related, take all feasible measures to reduce the noise at its source; and
- If the noise is project related, submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five (5) days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, and with the CPM, documenting the resolution of the complaint. If mitigation

is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

OPERATING NOISE LIMITATION

NOISE-3: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed the ambient background noise level (L90) at residential receivers by more than 5 dBA, and that the noise due to plant operations will comply with the noise standards of the Kings County General Plan.

No new pure tone components may be produced by operation of the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Pressure relief valves shall be adequately treated or located to preclude noise that draws legitimate complaints.

Protocol: Within thirty (30) days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the same Site 1 used for the ambient noise survey (i.e., housing at NAS Lemoore). The survey shall also include the one-third octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that the project noise level at the residential location exceeds the standards and requirements cited above, additional mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

Verification: Within fifteen (15) days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of implementation of the mitigation measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

CONSTRUCTION TIME RESTRICTIONS

NOISE-4: Construction noise levels as measured at any affected residence shall be limited to 60 dBA Leq during daytime hours (7 a.m. to 10 p.m.) and 45 dBA Leq during nighttime hours (10 p.m. to 7 a.m.). If construction noise levels exceed an hourly average noise level of 60 dBA Leq daytime

or 45 dBA Leq nighttime, the construction equipment that is the source of the excessive noise shall be shut down or the noise mitigated to a noise level below 60 dBA Leq or 45 dBA Leq, respectively.

Verification: The Project Owner shall monitor noise levels at the nearest residential noise receptor at random evening times when nighttime construction activities are in progress. The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project and monitoring data.

In summary, the Henrietta BESS Project will not result in significant impacts related to noise or vibration that will require additional CoCs beyond those previously stipulated by the CEC for the HPP.

5.9.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Hernandez, Alex. 2022. Planner III, Kings County Community Development Department. Telephone and email communications with Patch Services (R. Ray), March and April, 2022.

Kings County. 2010. County of Kings 2035 General Plan, Noise Element, adopted January 26, 2010.

Rincon Consultants, Inc. (Rincon). 2022d. Noise and Vibration Study for the Henrietta 99.4 MW BESS Project. Prepared for Henrietta BESS LLC. July.

5.10 Public Health

5.10.1 CEC Certification of HPP

The CEC Staff Assessment and Commission Decision (CEC 2001, 2002) made the following summary conclusions regarding Public Health considerations for the HPP.

Construction Health Risks. Large construction equipment potentially contributes to existing violations of state 24-hour PM_{10} standards. To minimize PM_{10} emissions, the Project Owner shall

require its construction contractors to minimize emissions from diesel powered earthmoving equipment. Condition: AQ-C2.

Grading and excavation activities potentially produce dust which can be transported off-site by wind. To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. Condition: AQ-C1.

Cancer Risks. The conservative screening level health risk assessment for non-criteria air pollutants conducted for the HPP under California Air Pollution Control Officer's Association ("CAPCOA") guidelines found a maximum exposure to the highest level of carcinogenic project pollutants for 70 years had a cancer risk of 0.0296 in a million, below the 1 in a million benchmark for a potential health impact.

Non-Cancer Risks. The health risk assessment for non-criteria air pollutants conducted for the HPP under CAPCOA guidelines found an exposure to the highest level of project pollutants produced a chronic hazard index of 0.000785 and an acute hazard index of 0.0035. Both were below a threshold hazard index of 1.0, and thus not a significant health impact. Ongoing exceedances of the ozone standard and PM_{10} standard at the time of HPP licensing suggested a background health hazard. The CEC noted that the applicant had fully mitigated project ozone and PM_{10} impacts through offsets, thus making the project's ozone and PM_{10} contributions insignificant in terms of public health impact.

5.10.2 Environmental Analyses

The Henrietta BESS Project emissions during the operational phase will be minimal and will not include combustion turbine emissions as assessed by the CEC for the HPP. Public health impacts associated with toxic air contaminants ("TACs") are generally associated with long-term exposure. Due to the minimal emissions expected on-site from routine maintenance and off-site from two employees commuting to the Henrietta BESS Project site each week, there are no meaningful sources of TACs for the operating phase of the Henrietta BESS Project and, therefore, no reason to expect health impacts related to TACs. As such, the greatest potential for TAC emissions would be during construction and decommissioning which may result in a short-term but insignificant increase of TAC emissions. The Henrietta BESS Project will not result in potentially significant public health impacts.

5.10.3 Mitigation Measures

The Henrietta BESS Project will not create a significant impact on public health that will require additional mitigation measures.

5.10.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to public health.

5.10.5 Conditions of Certification

The proposed Henrietta BESS Project will not require changes to the applicable HPP CEC Air Quality CoCs stipulated in part to protect public health. Existing HPP CoCs AQ-C1 and AQ-C2 will be implemented for the Henrietta BESS Project. Refer to Section 5.3, Air Quality and Greenhouse Gas for more detail.

5.10.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

5.11 Socioeconomic Resources

5.11.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) made the following summary conclusions regarding Socioeconomic considerations for the HPP.

Employment. The HPP construction workforce, averaging 75 workers per day and peaking at 93 workers during the 5-month construction period, was determined to likely be more than was currently available (unemployed) in 2002 from approximately 1,000 total construction workers in Kings County. Therefore, the construction workforce was assumed to commute daily from Kern (50%), Fresno (35%), and Kings/Tulare (15%) counties. The HPP was determined to provide an employment benefit to area employment, though less so to Kings County.

The permanent operation workforce for the HPP was assumed to be shared with personnel from the MRP San Joaquin Energy LLC Hanford Peaker Plant.

Housing. The CEC determined that most of the HPP construction workforce was expected to commute daily to the project and that there were sufficient housing resources for any non-commuting workers including hotels, motels, and recreational vehicle parks. The operation workforce, consisting of existing employees, was expected to commute to the project.

Schools. The CEC determined that most of the HPP construction workforce was expected to commute to the project site and that there would be no impact to the schools in Kings County. No new, fulltime operation employees were expected to move into the project area and cause an impact to existing schools.

Although it was determined that the HPP would not impact schools in Kings County, the following mitigation was stipulated:

- The Project Owner shall pay a statutory School Impact Fee to Kings County. Condition: SOCIO-1.

Utility/Public Services. The CEC determined that HPP construction was expected to insignificantly increase demand on fire and police services and was not expected to create an additional demand for utilities, including landfill disposal or wastewater treatment. The CEC also determined that operation of the power plant was not expected to create an additional demand for public services, other than an insignificant increase for fire and police services.

Economy/Government Finance. The CEC determined that the total construction payroll for the HPP power plant was estimated to be $8.4 million. The cost for materials and supplies was estimated to be approximately $76 million. Approximately, $2.1 million was expected to be spent for construction materials and equipment in Kings County. No additional operation payroll was expected to be created since Hanford Project personnel would be dispatched to the HPP when it is was scheduled to operate. The total annual cost of operation and maintenance was expected to be $2.5 million. The HPP project was expected to provide approximately $900,000 in local tax revenues.

Environmental Justice.

Minority/Low Income Population. The CEC determined that within a 6-mile study area of the HPP site, revised census data showed the minority population exceeded 50 percent, and the low-income population was below 50 percent.

Potentially Disproportionately High and Potentially Significant Effect on Minority and Low-Income Populations. The CEC determined that there were no HPP-related potentially significant environmental or public health impacts. Potential air quality, public health, and hazardous materials handling impacts to the public were determined to be mitigated to less than significance through the Conditions of Certification in the 2002 Decision. The location of the HPP adjacent to an existing PG&E substation site was determined to cause no significant land use

impact. There were no significant cumulative project impacts determined for the HPP, nor any disproportionately high and adverse effects upon minority or low-income populations.

5.11.2 Environmental Analyses

The Henrietta BESS Project impacts related to socioeconomics and environmental justice are less than significant and similar to those described in the CEC's findings (CEC 2001, 2002) for the HPP. A comparative summary of expected Henrietta BESS Project socioeconomic resource and environmental justice impacts relative to the CEC impact findings for the HPP follow.

Employment. The CEC analysis for the HPP assumed an average and peak construction workforce of 75 and 94 workers, respectively. The Henrietta BESS workforce is expected to average 30-35 and peak at 40-50 workers (i.e., approximately 50% of the assumed HPP construction workforce).

Housing and Schools. The CEC analysis for the HPP assumed that the majority of construction workers would commute daily to the work site and that the adequate housing would be available for any non-commuting workers. Similarly, the operational workforce was assumed to commute to the site. These assumptions are valid for the Henrietta BESS Project construction workforce as well. The Henrietta BESS facility will be unmanned except for maintenance activities.

As with the CEC analysis for the HPP, no new, fulltime operation employees are expected to move into the area and cause an impact to existing schools associated with the Henrietta BESS Project.

Utility and Public Services. Similar to the CEC assessment for the HPP, construction and operation of the Henrietta BESS Project is not expected to create an additional demand for utilities and will result in an insignificant increased demand on fire and police services.

Economy/Government Finance. The estimated HPP related expenditures as determined by the CEC are presented above. Similar estimates for the Henrietta BESS Project are as follows:

- Total construction payroll for the Henrietta BESS Project is estimated to be $7.2 million.
- The cost for materials and supplies for the Henrietta BESS Project is estimated to be approximately $48 million.
- Expenditures for Henrietta BESS Project construction materials and equipment in Kings County is $5.2 million.
- The total annual cost of Henrietta BESS Project operation and maintenance is expected to be $357,000.
- The Henrietta BESS Project is expected to provide approximately $6.4 million in local tax revenues.

No additional operation payroll is expected to be created since the Henrietta BESS Project facility will be operated remotely by existing personnel.

Environmental Justice. Similar to the CEC's determination for the HPP, no significant Henrietta BESS Project related unmitigated potentially significant environmental or public health impacts are expected and thus no disproportionately high and adverse effects on minority or low-income populations will occur.

5.11.3 Mitigation Measures

The Henrietta BESS Project will not create a significant impact on socioeconomic resources or environmental justice populations that will require additional mitigation measures.

5.11.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to socioeconomics and environmental justice.

5.11.5 Conditions of Certification

The CEC stipulated the following measure for the HPP even though it was determined that the HPP project would not increase school enrollment. The Henrietta BESS LLC assumes that HPP CEC CoC SOCIO-1 will apply to the Henrietta BESS Project as well.

SOCIO-1: The project owner shall pay the one-time statutory school facility development fee as required at the time of filing for the in-lieu building permit with the Kings County.

Verification: The project owner shall provide proof of payment of the statutory development fee in the Monthly Compliance Report following the payment.

5.11.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

5.12 Soil and Water Resources

5.12.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) made the following summary conclusions regarding Soil and Water Resources/Supply considerations for the HPP.

5.12.1.1 Erosion and Sedimentation

The CEC's Decision determined that grading, excavation and other HPP related construction might create the potential for transport of loosened soils by rainwater or on-site release of fluids. The CEC noted that temporary containment barriers at the construction site can control potential sedimentation impacts. Grading and excavation activities potentially produce dust which can be transported off-site by wind. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Applicable Condition: WATER QUALITY-1.
- To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Applicable Condition: AQ C-1.

5.12.1.2 Drainage and Water Pollution

Stormwater drainage over compacted or graveled surfaces has the potential to impact off-site by carrying contaminants deposited on the surface or by channeling volumes of fast-moving water. The CEC stated that the HPP Project Owner proposed a no discharge plan by which surface run-off would be collected in a catchment system and either treated in the project's treatment plant or collected and sent to an onsite evaporation pond.

The CEC Decision stated that the HPP Project Owner will not release any substance onto the power plant site soils that would degrade either surface water quality or groundwater quality. The Project Owner will store any hazardous and acutely hazardous materials in secure areas and/or in tanks with catchment basins to retain spills or ruptures. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- The Project Owner will handle, treat, and discharge runoff in accordance with its Storm Water Pollution Prevention Plan and NPDES permit, if required. Conditions: WATER QUALITY-1 & WATER QUALITY-2.

5.12.1.3 Wastewater

The CEC Decision stated that wastewater would be generated at the HPP in various systems and that the Project Owner planned to collect all plant wastewater streams for treatment in the on-site treatment plant before reuse or disposal to a licensed facility. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- The project owner will handle and treat wastewater in accordance with its NPDES permit, if required. Condition: WATER QUALITY-2.

5.12.1.4 Sanitary Wastes

The CEC Decision stated that in the absence of a nearby sewage system, the HPP Project Owner will build and maintain an onsite sewage disposal system consisting of a septic tank and leach field. The shallow groundwater underlying the site puts additional restrictions on the sewage disposal system in order to prevent potentially significant impacts to groundwater. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- The Project Owner will design, build, and maintain its sewage disposal system in compliance with Kings County regulations and guidelines, including those regulations and guidelines pertinent to areas with shallow groundwater. Condition: WATER QUALITY-3.

5.12.1.5 Water Resources/Supply

Water Supply Policy. The CEC Decision determined that as a simple cycle facility, the HPP project would require very little power plant cooling, such as with a cooling tower. Instead, the project was projected to have a minimal water use of 160-acre feet annually for cooling of inlet air, air pollution control, and other processes. The CEC stated that the Westlands Water District and Kings County would supply water to the HPP project from the Central Valley Project and the State Water Project. The CEC also stated that since the site is converted farmland, the project is also entitled to a portion of the underlying water allocation. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- The Project Owner will meter annual project water use. Condition: WATER RES-1.

- The Project Owner shall prepare an annual water source summary. Condition: WATER RES-2.

5.12.2 Environmental Analyses

The Henrietta BESS Project impacts related to soils and water resources are less than significant and similar to, or less than, those described in the CEC's findings (CEC 2001, 2002) for the HPP. A comparative summary of expected Henrietta BESS Project soil and water resource related impacts relative to the CEC impact findings for the HPP follow.

5.12.2.1 Erosion and Sedimentation

Similar to the CEC analysis for the HPP, construction of the Henrietta BESS Project will involve grading, excavation and other HPP related construction activities on approximately 6 acres on the eastern and southern portions on the overall 20-acre HPP property. It is estimated that site preparation of the Henrietta BESS Project will involve up to approximately 15,500 cubic yards of balanced cut and fill. Construction activities have the potential to result in transport of loosened soils by rainwater, on-site release of fluids, and generation of fugitive dust. The Henrietta BESS Project includes installation of an approximately 0.8-acre stormwater detention basin to capture BESS site drainage. In addition, the proposed Henrietta BESS Project includes the following design features that will minimize soil erosion, sedimentation, and fugitive dust generation:

- Upgrade to approximately 1,300 feet of HPP perimeter compacted dirt access road including surfacing with gravel (approximately 1-foot depth)
- Addition of gravel (approximately 0.75-foot depth) to access road within temporary construction laydown area
- Gravel layer surfacing for BESS site and BESS switchyard pad areas (approximately 1-foot depth)
- Stormwater detention basin and site drainage designed in accordance with Grading and Drainage Plan

With implementation of applicable CEC Conditions as stipulated for the HPP (i.e., WATER QUALITY-1 and AQ-C1, AQ-42, and AQ-45), erosion and sediment related impacts from construction and operation of the Henrietta BESS Project would be less than significant.

5.12.2.2 Drainage and Water Pollution

The CEC Decision determined that drainage and water pollution impacts associated with the HPP would be mitigated via implementation of stipulated CEC CoC WATER QUALITY-1 (Erosion Control Plan) and WATER QUALITY-2 (General NPDES Permit/Construction Stormwater Pollution

Prevention Plan ["SWPPP"]). Henrietta BESS LLC will handle, treat, and discharge runoff in accordance with a Construction SWPPP. The Henrietta BESS Project includes installation of an approximately 0.8-acre stormwater detention basin to capture BESS site drainage. With implementation of applicable CEC Condition WATER QUALITY-1 and WATER QUALITY-2 as stipulated for the HPP, drainage and water quality impacts from construction of the Henrietta BESS Project would be less than significant.

5.12.2.3 Wastewater and Sanitary Wastes

The proposed Henrietta BESS Project will use portable toilets for construction and operation and does not plan to construct an onsite wastewater and/or sewage disposal system. CEC Condition WATER QUALITY-2 (NPDES Permit) and WATER QUALITY-3 (Sewage Disposal System Design) as stipulated for the HPP are not applicable to the Henrietta BESS Project.

5.12.2.4 Water Resources/Supply

Construction of the Henrietta BESS Project is expected to utilize less than 5,000 gallons per day for the first several months during site grading and levelling activities and to average 2,000 – 3,000 gallons per day for the balance of construction activities involving ground disturbance and other dust generating activities. The Henrietta BESS Project will use minimal water during the operational phase and plans to utilize a small portion of the HPP's existing Central Valley Project and State Water Project allocations for fire water and landscaping, if applicable. CEC Conditions WATER RES-1 and -2 as stipulated for the HPP to monitor water usage by source and report annually, respectively, are expected to be applicable to the proposed Henrietta BESS Project as well. No potentially significant impacts related to water use will occur related to construction or operation of the Henrietta BESS Project.

5.12.3 Mitigation Measures

The Henrietta BESS Project will not create a significant impact on soil or water resources that will require additional mitigation measures.

5.12.4 Consistency with LORS

The Project conforms to applicable laws related to soil and water resources.

5.12.5 Conditions of Certification

The proposed Henrietta BESS Project will not require additions to the CEC CoCs for soil and water resources/supply as stipulated for the HPP project in the CEC Decision (CEC 2002). An assessment

of the soil and water resources/supply related HPP Conditions of Certification that are expected to be applicable to the Henrietta BESS project follows.

EROSION CONTROL PLAN – *Applicable to Henrietta BESS Project*

WATER QUALITY-1: Prior to beginning any site mobilization activities, the project owner shall obtain CPM approval for an Erosion Control Plan that addresses all project elements. The plan submitted for CPM approval shall also contain provisions as needed, for containing and treating any contaminated soil or groundwater, and include any changes made to address the final design of the project. The plan shall apply to both construction and operation. It shall include final construction drainage design and all applicable Best Management Practices (BMP) for on and off-site project facilities, including final site drainage plans and locations of BMP's.

Verification: The Erosion Control Plan shall be submitted to the Compliance Project Manager (CPM) at least sixty (60) days prior to start of any site mobilization activities. Approval of the final plan by the CPM must be received prior to the initiation of any site mobilization activities.

NPDES PERMIT **–** *Applicable to Henrietta BESS Project*

WATER QUALITY-2: The project owner shall obtain a General NPDES permit for discharge of storm water associated with construction activity from the CVRWQCB, and obtain CPM approval of the related Stormwater Pollution Prevention Plan (SWPPP) for construction activity. The SWPPP shall include final construction drainage design, and specify BMP's for all on and off-site project facilities and shall comply with and incorporate Kings County Public Works Agency regulations, including those regulations and guidelines pertinent to areas with shallow groundwater. This includes final site drainage plans and locations of BMPs. The project owner shall submit site drainage plans detailing collection of storm water from roadways, parking areas and all other areas subject to vehicular use.

Verification: At least sixty (60) days prior to the start of any site mobilization activities, the SWPPP for Construction Activity shall be submitted to the CPM for approval. Prior to the start of site mobilization, the project owner shall receive and provide proof to the CPM of having received an NPDES permit for construction activities. The SWPPP must comply with and incorporate Kings County Public Works Agency Grading Permit requirements. A letter from the Kings County Building Department addressing compliance with their grading permit requirements must be submitted with the SWPPP. A narrative and construction drawings detailing collection and process stream for storm water from contact areas of the site which are subject to vehicular use shall be submitted to the CPM. Approval of the final SWPPP by the CPM must be received prior to initiation of any site mobilization activities.

SANITARY SEWAGE DISPOSAL – *Not Applicable to Henrietta BESS Project since no septic system is proposed*

WATER QUALITY-3: Due to the shallow groundwater underlying the site, the project owner shall submit construction drawings demonstrating compliance with county regulations for the on-site sewage disposal system, including a vertical cross-section showing proximity to groundwater as delineated in the geotechnical report performed by Kleinfelder, Inc., and dated November 1, 2001. A letter from the Kings County Building Department addressing compliance, with county requirements must be submitted with the drawings.

Verification: Thirty (30) days prior to site mobilization, the project owner shall provide evidence of compliance with Kings County Sewage Disposal Regulations to the CPM for approval.

WASTEWATER DISPOSAL – *Not applicable to Henrietta BESS Project since no offsite waste water disposal is proposed*

WATER QUALITY-4: The project owner shall not discharge any waste water off-site, except as delivered to licensed waste disposal contractors as described in Section 2.2.9.1 of the Application for Certification. The project owner shall supply the CPM with copies of the contract between the project owner and the waste disposal contractor, as well as copies of the contractor's permits and certifications relative to the hauling and disposal of the process wastes and contact storm water wastes. To the extent practicable, notification of any changes in waste disposal contractor or subcontractors shall be made to the CPM within 30 days of the change.

Verification: The project owner shall maintain records of wastewater hauled off-site, including hauler's Chain of Custody or other signed and dated receipts. Copies of these records shall be submitted to the CPM as part of the project owner's annual compliance report. Before operation of the power plant, the CPM will be supplied with copies of the waste disposal contract and the contractor's certifications and permits. The CPM shall be notified of any change in the contract, contractors or sub-contractors within 30 days of the change.

STORM WATER RUNOFF MONITORING -- *Applicable to Henrietta BESS Project*

WATER QUALITY-5: The project owner shall implement a biannual storm water monitoring program to assess the quality of storm water discharges to the evaporation/percolation basin during two storm events as required by the Central Valley Regional Water Quality Control Board. The monitoring program shall include sampling methodology and analytes. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. The CPM may require additional analytes if additional concerns arise. If the CPM, in consultation with the RWQCB, determines that the ground or surface water quality is being impacted by use of parking areas and roadways, the CPM, in consultation with the RWQCB, shall require the project owner

to prepare a mitigation plan which shall include collection and treatment of petroleum byproducts and suspended solids.

Verification: The project owner shall submit a storm water monitoring program to the CPM for approval sixty (60) days prior to initiation of site mobilization activities. The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM as part of the annual compliance report.

GROUNDWATER QUALITY MONITORING – *Not Applicable to Henrietta BESS Project since no septic system is proposed and this Condition for the HPP was already complied with*

WATER QUALITY-6: To provide background perched groundwater quality information, GWF shall submit a plan for approval that identifies how the project owner will install and sample perched water from a groundwater monitoring well.

Verification: The project owner shall submit ground water data including depth to groundwater information prior to the submission of the SWPPP to the CPM approval. The monitoring program shall include sampling methodology and analytes.

The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM. The groundwater monitoring well shall be screened at a depth of 6- 9 feet located on the project parcel (in the NW corner of the property if the current ground conditions allow access). The well annulus shall be sealed with a mixture of bentonite clay and cement. The well shall be equipped with a locking cover and protected with a concrete-filled pipe bollard set in concrete. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. Additional wells and monitoring may be required based on the initial well test results, if the results indicate the perched water is of high quality and has beneficial uses. If the CPM determines additional monitoring and/or wells are required based upon the initial results, the project owner shall submit for CPM approval a groundwater monitoring plan. If a groundwater monitoring plan is required, approval of the final plan by the CPM must be received prior to initiation of any site mobilization activities.

STORM WATER POLLUTION PREVENTION PROGRAM – *Operational phase SWPPP is Not Applicable specifically to the Henrietta BESS Project since no industrial discharge to storm drains or discharge to surface waters is proposed.*

WATER QUALITY-7: The Project Owner shall prepare a SWPPP for operation of the proposed project. The submittal shall include a copy of the operational NPDES permit or a letter stating that an NPDES permit is not required.

Verification: At least sixty (60) days prior to the start of operation, the SWPPP for operation shall be submitted to the CPM for review and approval. The project owner shall provide a copy of the operational NPDES permit, or letter from the CVRWQCB stating that an NPDES permit is not

required. Approval of the operational SWPPP by the CPM must occur prior to the initiation of operations.

WATER USE METERING -- *Applicable to Henrietta BESS Project*

WATER RES-1: The project owner shall install metering devices and record on a monthly basis the amount of water used by the project. The annual summary shall include the monthly range and monthly average of daily usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. The annual summary shall also include the yearly range and yearly average water use by the project. This information shall be supplied to the CPM.

Verification: The project owner shall submit, as part of its annual compliance report, a water use summary to the CPM on an annual basis for the life of the project.

WATER SOURCE REPORTING -- *Applicable to Henrietta BESS Project*

WATER RES-2: Water used for the HPP shall be CVP water allocated to the 7 acres of the HPP parcel converted to Manufacturing and Industrial Use and SWP entitlement water as described in the county of Kings will-serve letter dated August 23, 2001 and the memorandum from Michael Nordstrom dated September 20, 2001. The project owner shall submit a water use summary annually. The water use summary shall state the source and quantity of the water used at HPP on a monthly basis, whether the water used was obtained from the current year allocation or the banked surplus allocations from previous years. The water use summary shall include the percentage of the entitlements delivered for the current year from the SWP and CVP, as well as, the amount of the current years water banked for future use and cumulative total banked water available for future use.

Verification: The project owner shall submit as part of its annual compliance report a Water Use Summary to the CPM on an annual basis for the life of the project.

In summary, with implementation of applicable CEC HPP CoCs, no potentially significant impacts to Soil and Water Resources/Supply will occur due to implementation of the Henrietta BESS Project.

5.12.6 References

California Energy Commission (CEC). 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

5.13 Traffic and Transportation

5.13.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) made the following summary conclusions regarding Traffic and Transportation considerations for the HPP.

5.13.1.1 Congestion

The CEC determined that commuting HPP construction workers, estimated to peak at 93 workers, would not cause an unacceptable level of congestion on State Routes 198, 41 and 43 or local streets during peak commute hours during the 5-month construction period. Truck deliveries to the site of construction equipment and supplies, estimated at 7 deliveries per day average and 15 deliveries daily during the 2 peak months, are within the design limits of the Interstate freeways, state highways, and local streets. The CEC stipulated that the Project Owner shall prepare a Traffic Control Plan for the HPP to assure that added traffic does not create unacceptable congestion impacts. Condition: TRANS-7.

The CEC stated that the HPP Project Owner expected 2 to 5 truck deliveries per month for materials associated with project operation. The operating labor force would consist of approximately 4 or fewer personnel from the Project Owner's Hanford Project. Neither operation deliveries nor commuting workers were expected to impact traffic on local streets, state highways, or Interstate freeways.

5.13.1.2 Safety

The CEC determined that HPP construction would require the use of large vehicles, occasionally including oversize or overweight trucks. Additionally, there would be deliveries to the power plant site of hazardous construction substances, such as gasoline, diesel fuel, oils, solvents, cleaners, paints, etc. Accordingly, the CEC specified the following Conditions of Certification for the HPP:

- Caltrans permits control vehicle size and weight. Condition: TRANS-1.
- California Highway Patrol and Caltrans permits control transport of hazardous substances. Condition: TRANS-3.
- The Project Owner shall obtain necessary encroachment permits from Caltrans and the local County. Condition: TRANS-4.
- Construction-impacted roadways will be restored to their pre-construction condition. Condition: TRANS-5.

The CEC stated that during the operational phase there would be 2 to 5 truck deliveries per month to the power plant site of hazardous materials, such as aqueous ammonia, sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc.

5.13.1.3 Parking

The CEC determined that off-street parking was available for HPP construction and operational phase workers and delivery trucks at the site, and stipulated the following mitigation:

- Adequate on-site parking shall be provided for construction employees and delivery trucks. Condition: TRANS-2.

As discussed in Section 5.13.2, below, the construction traffic associated with the Henrietta BESS Project would be less than that required for the HPP when it was constructed.

5.13.2 Environmental Analyses

Local access to the Henrietta BESS Project site is primarily via State Route (SR) 198 to 25th Avenue south or Avenal Cutoff Road to 25th Avenue north. The Henrietta BESS Project impacts related to traffic and transportation are less than significant and similar to, or less than, those described in the CEC's findings for the HPP (CEC 2001, 2002). A comparative summary of expected Henrietta BESS Project traffic and transportation related impacts relative to the CEC impact findings for the HPP follow.

5.13.2.1 Congestion

The construction and operational phase traffic levels for the HPP as assessed by the CEC during licensing of the HPP were comparable to or greater than those envisioned for the Henrietta BESS Project and similar findings of less than significant temporary traffic congestion impacts are anticipated. The CEC Decision (CEC 2002) assumed a peak workforce of 93 for the HPP whereas the peak workforce for the Henrietta BESS Project is estimated at 50 workers. The estimated peak construction phase truck deliveries of 15 per day is the same for both projects. The Henrietta BESS Project will be an unmanned facility with weekly maintenance expected to involve 2 workers at the site once per week on average.

5.13.2.2 Safety

The CEC analysis for the HPP included up to 5 truck deliveries of hazardous materials per month during the operational phase. No routine deliveries of hazardous materials during the operational phase for the Henrietta BESS Project are planned. Small quantities of standard construction

related hazardous materials may be delivered to the site during the initial construction phase and during the infrequent battery augmentation installations every 2 to 3 years at most.

5.13.2.3 Parking

The construction laydown/parking area and the graveled area around the BESS switchyard will provided adequate onsite parking for the Henrietta BESS Project during the construction and operational phases in compliance with CEC Condition TRANS-2 for the HPP.

5.13.2.4 Summary

The Henrietta BESS project would comply with applicable Caltrans and California Vehicle Code requirements. The construction contractor will develop and implement a Traffic Control Plan for the construction phase to avoid or minimize traffic congestion and safety issues. With implementation of the CEC CoCs for traffic and transportation, the Henrietta BESS Project impact on traffic and transportation would be less than significant.

5.13.2.5 Vehicle Miles Traveled Assessment Findings

As requested by CEC Staff in 2022, this Petition for Post Certification Amendment includes a Vehicle Miles Traveled ("VMT") assessment. The VMT assessment (Rincon 2022e) is presented in Appendix G and the findings are summarized below.

CEQA Guidelines Section 15064.3 implements SB 743 and establishes VMT as the most appropriate measure of transportation impacts for environmental analysis. The licensing for the Henrietta Peaker Plant in 2002 (CEC Docket No. 01-AFC-18) did not include a VMT analysis. The CEC has requested that a VMT analysis be provided as part of the post-certification amendment for the Henrietta BESS project. The VMT screening analysis presented herein is consistent with Kings County methods for projects requiring CEQA review although Kings County does not have lead agency jurisdiction for the project given the CEC's jurisdiction.

VMT Screening Thresholds. For land use projects, SB 743 provides opportunities to streamline transportation analysis under CEQA based on specific screening thresholds adopted by individual jurisdictions or recommended by OPR. Many agencies use such screening thresholds to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed traffic study (OPR 2018). Kings County relies on the screening criteria and significance thresholds recommended in OPR's 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA for projects within their jurisdiction. The Technical Advisory suggests that lead agencies, such as Kings County, may screen out VMT impacts using project

size, maps, transit availability, and the provision of affordable housing. OPR recommends screening thresholds in the 2018 Technical Advisory:

1. Screening Threshold for Small Projects
2. Map-Based Screening for Residential and Office Projects
3. Presumption of Less Than Significant Impact Near Transit Stations
4. Presumption of Less Than Significant Impact for Affordable Residential Development

Refer to Appendix G for more detail.

VMT Analysis. Construction of the Henrietta BESS Project is expected to have a peak daily workforce of up to 50 daily construction workers. In addition, construction of the project is expected to generate an average of 15 truck trips per day for the first 10-12 weeks and five truck trips per day for an additional 3-6 months to facilitate incoming deliveries and offsite disposal of construction waste. Overall, the project is expected to generate a maximum of 65 round trips per day during the construction phase. The estimated number of construction-phase trips is based on the planned work activities, construction schedule, and applicant experience on similar projects. After construction is complete, the Henrietta BESS Project would function as an unmanned facility that is controlled remotely from an off-site location. No daily operational trips would be generated by the project. However, required maintenance of the BESS project would require two maintenance workers to visit the site on one day of each week on average, resulting in two round trips per week during the operational lifespan of the project.

As a result of the vehicle trips described above, and based on the fact that there is no substantial evidence indicating that the Henrietta BESS Project would generate a potentially significant level of VMT, the Henrietta BESS Project can be presumed to cause a less-than-significant VMT impact without conducting a detailed traffic study based on the OPR's recommendations for small projects that generate fewer than 110 trips per day. Furthermore, the project would be consistent with the Kings County General Plan, given that it would support an increase in renewable energy.

5.13.3 Mitigation Measures

The Henrietta BESS Project will not result in a significant impact related to traffic and transportation, including VMT considerations, and will not require additional mitigation measures.

5.13.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to traffic and transportation, including VMT.

5.13.5 Conditions of Certification

The proposed Henrietta BESS Project does not require additions to the CoCs for traffic and transportation. An assessment of the applicability of the existing HPP Traffic and Transportation CoCs for the Henrietta BESS Project follow.

OVERWEIGHT & OVERSIZE VEHICLES -- *Applicable to Henrietta BESS Project*

TRANS-1: The project owner shall comply with the California Department of Transportation (Caltrans) and Kings County on limitations on vehicle sizes and weights. In addition, the project owner or their contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

ON-SITE PARKING -- *Applicable to Henrietta BESS Project*

TRANS-2: During construction of the power plant and all related facilities, the project owner shall arrange for on-site construction-period parking.

Verification: At least sixty (60) days prior or prior to any ground disturbance activity, the project owner shall submit a parking and staging plan for all phases of project construction to Kings County for review and comment and to the CPM for review and approval.

LICENSED HAZARDOUS MATERIALS HAULERS -- *Applicable to Henrietta BESS Project*

TRANS-3: The project owner shall ensure that all federal and state regulations for the transportation of hazardous materials are observed during both construction and operation of the facility and that all permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transportation of hazardous material.

Verification: The project owner shall include in its Monthly Compliance Reports to the CPM copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

ENCROACHMENT PERMITS -- *Applicable to Henrietta BESS Project*

TRANS-4: The project owner or their contractor shall comply with Kings County and Caltrans limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

DESIGNATED ROUTES -- *Applicable to Henrietta BESS Project*

TRANS-5: The project owner shall designate travel routes for construction workers and truck deliveries in consultation with Kings County and Caltrans.

Verification: The project owner shall provide a copy of the designated route in its contracts for truck deliveries and maintain copies onsite for inspection by the CPM.

ROADWAY REPAIRS -- *Applicable to Henrietta BESS Project*

TRANS-6: Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

Protocol: Prior to start of construction, the project owner shall photograph sections of public roadways that will be affected by project construction traffic. The project owner shall provide the CPM and the affective jurisdiction: Kings County and/or Caltrans with copies of these photographs.

Verification: Within thirty (30) days of the completion of project construction, the project owner will meet with the CPM and Kings County and Caltrans to determine and receive approval for the action necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible.

TRAFFIC CONTROL PLAN -- *Applicable to Henrietta BESS Project*

TRANS-7: Prior to the start of construction, the project owner shall consult with Kings County, Fresno County, Caltrans, and the City of Lemoore to prepare and submit a construction traffic control plan and implementation program which addresses the following issues to the extent practical:

- Timing of heavy equipment and building material deliveries;
- Signing, lighting, and traffic control device placement;
- Provision of a person to direct traffic if necessary for workers leaving the site during the peak period of construction;
- On-site parking for construction workers;
- Establishing construction work hours outside of peak traffic periods;
- Maintain emergency access;
- Temporary travel lane closures;
- Maintaining access to adjacent property,
- Requirements for construction worker ridesharing; and
- Traffic conflicts with other ongoing or planned projects.

The project owner shall submit the traffic control plan to Kings County and Caltrans for review and comments, and to the CPM for review and approval.

Verification: At least thirty (30) days prior to start of construction the project owner shall provide to the CPM for review and approval, a copy of its traffic control and implementation program that has been reviewed and commented on by the jurisdictions.

5.13.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Rincon. 2022e. VMT Technical Memorandum for the Henrietta BESS Project in Kings County, California. July.

State Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed June 2022).

5.14 Visual Resources

5.14.1 CEC Certification of HPP

The CEC Commission Decision (CEC 2002) included an assessment of HPP project impacts on visual resources. Much of the discussion of the visual setting and impacts are relevant to the proposed Henrietta BESS Project and key relevant excerpts are provided herein.

5.14.1.1 Environmental Setting

The proposed HPP power plant is located in an unincorporated area of Kings County approximately one mile south of SR 198 and the NAS. The region is dominated by flat plains and panoramic views of agricultural fields of cotton, grains and occasional fruit orchards. The Kettleman Hills are to the distant southwest (approximately 30 miles).

The HPP site is bordered by 25th Avenue on the west and the PG&E Henrietta Substation to the north. The PG&E Henrietta Substation site is composed of single-story utility buildings, transformers, tanks, wood utility poles, numerous transmission lines (30 feet to 40 feet tall) and support towers (75 feet up to 140 feet tall) and a service road extending from 25th Avenue. The transmission lines in the area as reported in the CEC Decision (CEC 2002) included:

- Gates-McColl & Gates-Gregg 230 kV transmission lines extending southwest from the substation on steel lattice towers, ranging in height up to 140 feet;
- Henrietta-Lemoore 70 kV Transmission Line, entering the substation from the northeast;
- Henrietta-Lemoore 70 kV Transmission Line, extending north from the substation on poles along the west side of 25th Avenue to the Lemoore NAS;
- Co-located Henrietta-Kingsburg 115 kV transmission line and Henrietta-Tulare 70 kV transmission line, extending south of the substation on poles on the east side of 25th Avenue
- An east-west 115 kV transmission line perpendicular to 25th Avenue near the New Star facility, 0.7 miles south of the HPP project. Extending southwest of the substation are the Gates McColl and Gates Gregg Transmission Lines and extending northeast from the site are the Henrietta Lemoore Transmission Lines. 140-foot-tall steel towers support these lines.

In addition to the PG&E substation, the other non-agricultural uses within a one-mile area of the site included the Lemoore Naval Air Station (NAS) (east and west of 25th Avenue and north of SR 198). The remainder of the surrounding one-mile area was reportedly used for agricultural purposes (approximately 95 percent cultivated for cotton and the other five percent for wheat). There are no residences within this area.

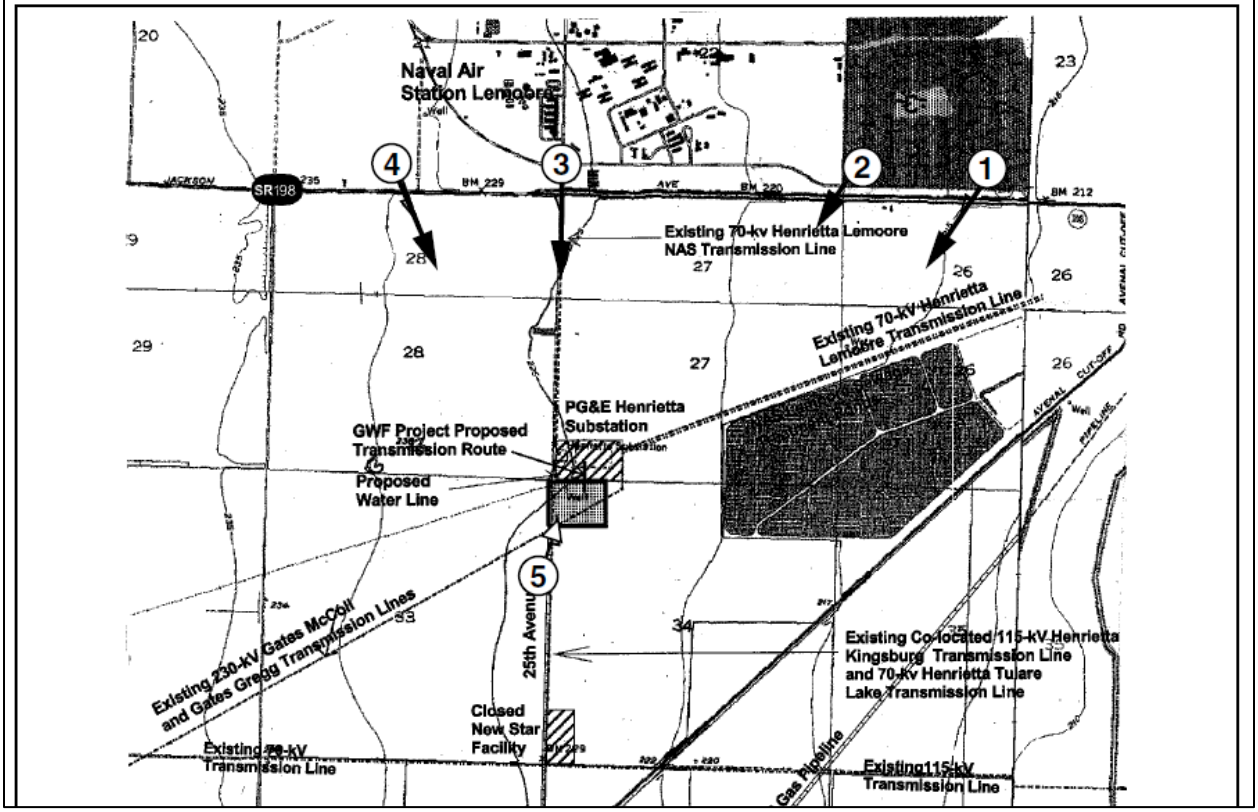
5.14.1.2 Viewer Exposure

Most views of the HPP power plant site are limited to adjacent roadways, the entrance to the Lemoore NAS and some base residences.

The Applicant selected five Key Observation Points ("KOPs"), whose locations are depicted in Visual Resources Figure 1 in the CEC Decision (CEC 2002). An excerpt from Figure 1 is presented below for reference.

The following paragraphs briefly summarize the assessments of overall visual sensitivity at each KOP. Overall visual sensitivity takes into account existing landscape visual quality, viewer concern, and overall viewer exposure. Refer to the CEC Decision (CEC 2002) for more detailed information.

VISUAL RESOURCES - Figure 1
GWF Henrietta Peaker Project - Location of Key Observation Points in the HPP Viewshed



KOP-1: SR 198 Looking Southwest from Between Avenal Cutoff and 25th Avenue. KOP-1 is a view looking southwest toward the HPP project site from SR 198, between the Avenal Cutoff and 25th Avenue. The estimated distance to the HPP project site is 1.75 miles. This is the view of the site seen by motorists traveling westbound on SR 198 from the cities of Lemoore, Hanford, or other population centers east of the project. In addition, this is the view looking southwest toward the project from NAS base housing consisting of multi-unit base dwellings and open common areas. The major existing structures visible in the view from KOP-1 are the Henrietta Substation and transmission lines. These structures would generally obstruct views of the HPP power plant. The

vertical elements of the project would blend in with the vertical elements of the Henrietta Substation and the numerous transmission lines. The neutral colors proposed for the project would help the plant to blend in with adjacent facilities. In addition, the distance from KOP-1 would obscure HPP details further blending the site with the adjacent Henrietta Substation facility. The view from KOP-1 is panoramic and open. Since most of the HPP project would be blocked from view by the Henrietta Substation and would appear very small in the viewshed, the resulting visual impact was assessed to be insignificant. (SA Visual Res. 3.12-5, 12 [CEC 2001]).

KOP-2: SR 198 Looking Southwest from NAS Base Housing. KOP-2 represents the view looking southwest from SR 198 and from NAS base housing. This is the viewpoint where housing is the closest to the HPP site. This point is located along SR 198 about 1 mile east of the intersection of 25th Avenue. The Henrietta Substation would block views to the HPP project site. Even though the bottom floors of the dwellings are slightly below the SR 198 roadway, habitants would still have line-of-sight views of the HPP facility. The distance from the nearest base residence to the HPP project site is approximately 1.5 miles. The visual characteristics of this KOP are essentially identical to KOP-1. Since most of the project would be blocked from view by the PG&E Henrietta Substation and would appear very small in the viewshed, the resulting visual impact was assessed to be insignificant. (SA Visual Res. 3.12-6, 13 [CEC 2001]). The photosimulation of the HPP from this KOP location as presented in the CEC Decision (CEC 2002) is presented below for reference.

KOP-3: SR 198 Looking South from Lemoore Naval Air Station Entrance. KOP-3 is a view of the HPP site approximately 1.1 miles away looking south from the NAS entrance as seen by viewers leaving the NAS. The view encompasses the intersection of SR 198 and 25th Avenue with the NAS entry in the foreground. Upon leaving the NAS, viewers would have direct but momentary views of the HPP site due to their attention being directed towards driving and completing their turn onto SR 198. This view would be especially evident to drivers who are stopped at the traffic signal at the intersection of 25th Avenue and SR 198 as they leave the NAS.

The major existing structures visible in the view from KOP-3 are the PG&E Henrietta Substation and transmission lines. At this location, these structures generally do not obstruct views to the HPP site. The vertical elements of the HPP were assessed to blend with the vertical elements of the PG&E Henrietta Substation and the numerous transmission lines. The neutral colors used on the HPP were assessed to help the plant blend with adjacent facilities. In addition, the distance from KOP-3 will obscure HPP facility details, further blending the project with the adjacent PG&E Henrietta Substation facility. Considering the setting, the resulting impact was assessed to be insignificant. (SA Visual Res. 3.12-7, 8, 14 [CEC 2001])

VISUAL RESOURCES - Figure 3
GWF Henrietta Peaker Project - SR 198 approximately 1.0 miles east of 25th Avenue (KOP 2) - Photosimulation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002
SOURCE:Photosimulation - GWF 2001a AFC

KOP-4: SR 198 (West). KOP-4 is a view of the HPP project site looking southeast from SR 198. This view is representative of the view seen by motorists traveling eastbound on SR 198 from Interstate 5 toward the NAS, the cities of Lemoore and Hanford, and other destinations to the east. The distance to the HPP site is approximately 1.25 miles. Agricultural fields in the foreground dominate the view (note: now solar fields and agricultural fields from this location in 2022) with the PG&E Henrietta Substation situated in the middle ground. Transmission lines and site facilities are dominant industrial elements that compete with the otherwise natural quality of the landscape. At KOP-4, the visibility of the HPP site is low due primarily to the long viewing distances. Most of the viewers would be motorists traveling east on SR 198, and they would have only momentary views of the HPP site due to their attention being directed toward driving. The view from KOP-4 is panoramic and open. Most of the view of the project would be unobstructed. The HPP facility would appear small in comparison to other structures (transmission towers) and the landscape due to the long distance between the viewer and the site. Therefore, the project would not be visually dominant, and the resulting visual impact would be insignificant. (SA Visual Res. 3.12-8, 15, 16 [CEC 2001])

KOP-5: Northbound 25th Avenue Looking Northeast at HPP. KOP-5 is a view of the HPP site from northbound 25th Avenue looking northeast. The distance to the HPP site is approximately 0.2 mile. This view is representative of the close view seen by motorists traveling northbound on 25th Avenue toward the NAS. 25th Avenue extends almost 1.25 miles south from KOP-5 to the Avenal Cutoff road. Traffic on 25th Avenue is generally limited to agricultural product transport and access to PG&E Henrietta Substation; traffic to the NAS is negligible. The PG&E Henrietta Substation, transmission lines and parts of the NAS dominated the middle ground. In 2001 when the CEC Staff Assessment was prepared agricultural fields dominated the foreground; in 2022, the view from the vicinity of KOP-5 towards the HPP and the proposed Henrietta BESS Project site includes solar PV development in the foreground between 25th Avenue and the HPP and BESS sites. Power poles and transmission lines extend the industrial visual character to the horizon to the distant east and west. Transmission lines and site facilities are dominant industrial elements. In 2001 when the CEC Staff Assessment was prepared, motorists traveling north on 25th Avenue would have unobstructed views of the HPP site beginning at the New Star plant, a point approximately 0.7 miles south of the HPP site. The vertical forms of the HPP project were assessed to have a high contrast with the horizontal form of the adjacent agricultural fields. As of 2022, the previous agricultural fields present in 2001 between 25th Avenue and the HPP from the vicinity of KOP-5 have been replaced with solar PV panel development. The visibility of the site increases as the distance between it and the motorist decreases.

The HPP was assessed to block views of the adjacent PG&E Henrietta Substation, some transmission lines and the northern portion of the NAS from KOP-5. The geometric form of the HPP was assessed to cause high contrast with the vertical form of the utility poles and substation structures. The HPP was assessed to generally appear greater in mass than the adjacent transmission towers. The HPP was assessed, generally, to co-dominate the view with other landscape and structural features that fill the field of view. However, considering that no high-quality elements or scenic views would be blocked, view blockage was assessed to be moderate. (SA Visual Res. 3.12-8, 9, 16, 17 [CEC 2001])

5.14.1.3 CEC Decision Impact Findings Summary

The CEC Decision (CEC 2002) determined that construction equipment at the HPP site would have a temporary, and thus insignificant, visual impact. The CEC also stated that the then proposed HPP was located next to the PG&E Henrietta Substation, an existing industrial feature with structures of comparable height, but lesser visual mass which would partially mitigate the added visual impact of the HPP project.

Commission staff believed that the visual impact from KOP-5 was sufficiently significant to warrant mitigation measures, which included recommendations for color treating project structures, using non- reflective perimeter fences or walls, and perimeter landscaping on the west and south sides of the HPP project.

The CEC stipulated the following migration measures:

- The Project Owner shall restore the appearance of any areas disturbed during construction. Condition: **VIS-1**.
- The Project Owner shall treat project structures and fences in non-reflective, neutral colors to be compatible with the surrounding setting. Condition: **VIS-2**
- The Project Owner shall design signs according to local zoning requirements. Condition: **VIS-4**.
- The Project Owner will create visual screening of the viewable project perimeter using berms, plants, trees, and fence slats. Condition: **VIS-5**.

View Blockage. The CEC determined that the HPP, itself, would not block views of any identified scenic features. Hills are approximately 30 miles distant and often obscured by haze.

Scenic Designation. The CEC determined that there were no scenic designations related to the HPP project viewshed.

Lighting. The CEC stated that limited HPP construction during nighttime hours might require lighting, which would be temporary, and thus insignificant. For the operational phase, the CEC determined that power plant lighting could cause nighttime visual impacts, unless mitigated by designing hooded or shielded lighting consistent with worker safety. Accordingly, the CEC specified the following mitigation for the HPP:

- Consistent with worker safety requirements, the Project Owner shall install project lighting so that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Condition: **VIS-3**.

5.14.2 Environmental Analyses

The viewshed in 2022 in the vicinity of the HPP site and the proposed Henrietta BESS Project is more developed than that described above for the HPP from the 2001 CEC Staff Assessment. The agricultural character of the HPP/Henrietta BESS Project site area as described and assessed in 2001/2002 for the HPP has now been largely replaced with solar PV development. Views from all four of the KOPs to the north of the HPP site along SR 198 that were used to assess visual impacts for the HPP (which includes the Henrietta BESS Project site area) now include intervening solar PV development in areas that were previously agriculture. The view towards the HPP and the Henrietta BESS Project site from KOP-5 has a view to the northeast that does not include intervening solar PV development. However, recent solar development is present on the east side of 25th Avenue south of the HPP facility and is in the view from 25th Avenue northbound

towards the Henrietta BESS Project site from Avenal Cutoff Road to about 0.3 mile south of the HPP where the view opens towards the Henrietta BESS Project site for about 0.3 mile.

The proposed Henrietta BESS Project facilities will be constructed within the eastern portion of the existing HPP site on an appropriately zoned site in an area with substantial existing energy production facilities.

The Henrietta BESS Project facilities will be installed to the east of the existing HPP power block area and to the south of the existing PG&E Henrietta Substation. Construction of the Henrietta BESS Project will require temporary construction equipment activity use which may create a short term and insignificant visual impact. The Henrietta BESS Project facilities will be similar in areal coverage to the HPP facilities, but the BESS facilities will be shorter is height relative to the HPP facilities and the numerous existing transmission facilities in the vicinity including those traversing the BESS site (140-feet tall [CEC 2001]) and at the adjacent PG&E Henrietta Substation. The existing HPP facilities are up to approximately 85-feet tall (combustion turbine stacks [CEC 2001]) whereas the BESS enclosures are proposed to be up to approximately 10-feet tall. The three 13.8 kV poles for the interconnection from the Henrietta BESS switchyard to the 13.8 kV connections at the HPP are expected to be up to approximately 80 feet tall and will be located near the northern HPP property boundary just south of the PG&E Henrietta Substation. During operations, lighting at the proposed Henrietta BESS facility would be manually and/or motion activated for use when needed for periodic maintenance. The Henrietta BESS facility would not have full time night lighting.

Similar to the visual resource impact findings in the CEC Decision (CEC 2002) for the HPP, the views of the Henrietta BESS Project from KOPs 1 through 4 as assessed for the HPP would be insignificant. In addition, with implementation of CEC CoCs VIS-1 through VIS-4 as stipulated for the HPP (CEC 2002), the visual impact of the relatively low-profile Henrietta BESS Project facilities to the east of the HPP, north of the existing 230 kV transmission line that traverses the BESS site, and south of the PG&E Henrietta Substation from KOP-5 would also be insignificant. A view across the existing Henrietta BESS Project site (April 2022) from the northeast corner of the BESS site towards the southwest and a photograph of a representative BESS facility are presented below.

In summary, no significant visual resource related impacts from implementation of the Henrietta BESS Project are expected.

5.14.3 Mitigation Measures

The Henrietta BESS Project will not create significant visual resource impacts that will require additional mitigation measures.

5.14.4 Consistency with LORS

The project is expected to conform to applicable laws related to visual resources.

5.14.5 Conditions of Certification

The proposed Henrietta BESS Project does not require additions to the CoCs for visual resources. An assessment of the applicability of the existing CEC HPP Visual Resource CoCs for the Henrietta BESS Project follow:

- VIS-1: Construction Visual Remediation -- *Applicable to Henrietta BESS Project*
- VIS-2: Structure Color Plan -- *Applicable to Henrietta BESS Project*
- VIS-3: Shielded Lighting -- *Applicable to Henrietta BESS Project*
- VIS-4: Signage Design -- *Applicable to Henrietta BESS Project*
- VIS-5: Landscape Screening (west and south views) – *Not applicable to Henrietta BESS Project*

CEC Condition VIS-5 for the HPP is considered to be unnecessary for the Henrietta BESS Project. The views of the Henrietta BESS Project from KOPs 1 through 4 as assessed for the HPP would be insignificant. In addition, with implementation of CEC CoCs VIS-1 through VIS-4 as stipulated for the HPP (CEC 2002), the visual impact of the relatively low-profile Henrietta BESS Project facilities to the east of the HPP, north of the existing 230 kV transmission line that traverses the BESS site, and south of the PG&E Henrietta Substation from KOP-5 would also be insignificant. The Henrietta BESS site is located to the east and rear of the HPP facility relative to the limited views from 25th Avenue to the west and south. The HPP, including power block facilities and existing exterior wall as well as exterior landscaping along the western and southern border of the HPP facility, partially blocks the views of the Henrietta BESS Project site from the west and south. Given the presence of the HPP and substantial other energy related development in the viewshed and the lack of sensitive viewing locations, the visual impacts due to implementation of the

Henrietta BESS Project facilities would be less than significant and do not warrant landscaping which would require irrigation.

5.14.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

GWF (GWF Energy, LLC). 2001. Application for Certification for the Henrietta Peaker Power Plant. Submitted to the California Energy Commission on August 27, 2001.

5.15 Waste Management

5.15.1 CEC Certification of HPP

The CEC Final Decision and Staff Assessment for the HPP (CEC 2001, 2002) provided an assessment of Waste Management issues and stipulated Waste Management CoCs. A summary of the CEC assessment follows.

Excavation. The CEC determined that contaminated soil might be encountered during construction excavation for the HPP. Accordingly, the CEC stipulated the following mitigation measure for the HPP:

- Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: WASTE-5.

Construction Wastes. Power plant construction will generate typical construction wastes, such as lumber, plastic, scrap metal, glass, excess concrete, empty containers, and packaging. These construction wastes are either recycled or disposed at a Class III landfill. Accordingly, the CEC stipulated the following mitigation measure for the HPP:

- The Project Owner shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: WASTE-2.

Non-Hazardous Wastes. The CEC stated that typical non-hazardous HPP operation wastes would include a small volume of maintenance related trash, office trash, empty containers, broken or used

parts, used packaging materials, and used air filters. The CEC stated that these non-hazardous wastes associated with the HPP would be routinely collected by a licensed hauler and disposed at a Class III landfill.

Hazardous Wastes. The CEC stated that typical hazardous wastes for the HPP would include recyclable materials such as used oil, filters, rags, etc. Non-recyclable hazardous wastes include oil absorbents, welding materials, paints, used grit, weak acids, used batteries, and asbestos which need to be properly disposed at Class I landfills. Accordingly, the CEC stipulated the following mitigation measures for the HPP:

- The Project Owner shall have or obtain a hazardous waste generator ID number. Condition: WASTE-1.
- The Project Owner shall prepare a waste management plan. Condition: WASTE-2.
- The Project Owner shall report any potential enforcement action related to waste management. Condition: WASTE-3.

Disposal Capacity. The CEC determined in 2001/2002 that the capacities of available Class I and Class III landfills far exceeded the construction and operation wastes generated by the HPP project (CEC 2001, 2002).

5.15.2 Environmental Analyses

The Henrietta BESS Project will generate small quantities of waste during construction. No demolition work is proposed associated with construction of the Henrietta BESS Project and given the modular design of the BESS enclosures and electrical equipment such as inverters, limited construction debris will be generated. No potentially contaminated soil is expected to be encountered during site preparation/excavation activities. No waste streams will be associated with normal operation of the unmanned Henrietta BESS Project. In the event that spent or degraded batteries need to be removed from the BESS facility during the operational phase for battery augmentation and/or during decommissioning, the batteries will be handled as Universal Waste and be recycled or disposed of in an approved manner in accordance with applicable regulations at the time of removal. Spent batteries will not constitute solid waste and will not be landfilled. No potentially significant impacts related to waste management will occur.

5.15.3 Mitigation Measures

The Henrietta BESS Project will not result in a significant impact related to waste management and no mitigation measures related to waste management be required.

5.15.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to waste management.

5.15.5 Conditions of Certification

The following HPP CoCs for waste management apply to the Henrietta BESS Project:

WASTE GENERATOR ID NUMBER

WASTE-1: The project owner and, if necessary, its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control (DTSC) in accordance with DTSC regulatory authority.

Verification: The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

WASTE MANAGEMENT PLAN

WASTE-2: Prior to the start of construction and operation, the project owner shall prepare and submit to the Energy Commission CPM, for review and comment, a waste management plan for all wastes generated during construction and then operation and maintenance of the facility, respectively. The plans shall contain, at minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications;
- Methods of managing each waste, including but not limited to: waste testing methods to assure correct classification, specific waste segregation and storage procedures and facilities, treatment methods and companies contracted with for treatment services, methods of transportation and companies contracted with for transportation, disposal requirements and sites, employee hazmat training, employee protection, spill response and reporting, and recycling and waste minimization/reduction plans. These methods must include, but not be limited to, the eight Waste Mitigation Measures listed by the Applicant in Section 8.13.7 of the AFC; and
- Methods to be put into place to audit and ensure continuing compliance with the Workplan and all applicable LORS.

Verification: No less than thirty (30) days prior to the start of construction the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE MANAGEMENT ENFORCEMENT ACTION

WASTE-3: Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within ten (10) days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

REGISTERED PROFESSIONAL ENGINEER/GEOLOGIST

WASTE-4: The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit the name, affiliation, qualifications and experience of the Registered Professional Engineer or Geologist contracted for consultation to the CPM for approval.

CONTAMINATED SOIL EXCAVATION

WASTE-5: The unidentified crystalline substance found in soil at the site as reported in the Phase I ESA along with any other potentially contaminated soil unearthed during excavation at either the proposed site or in linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, shall be the subject of a review and evaluation by a Registered Professional Engineer or Geologist. This review and evaluation shall include at a minimum:

- An inspection of the site,
- A determination of the need for sampling to confirm the nature and extent of contamination,
- Actions to ensure that verbal notification has been made to the project owner and the

CPM, and

- The filing of a written report to the project owner and the CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Central Valley Regional Water Quality Control Board, the Kings County Division of Environmental Health Services (CUPA), and the Northern California Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the Registered Professional Engineer or Geologist to the CPM within five (5) days of their receipt.

5.15.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

GWF (GWF Energy, LLC). 2001. Application for Certification for the Henrietta Peaker Power Plant. Submitted to the California Energy Commission on August 27, 2001.

5.16 Worker Safety/Fire Protection

5.16.1 CEC Certification of HPP

The CEC Final Decision and Staff Assessment for the HPP (CEC 2001, 2002) provided an assessment of Worker Safety and Fire Protection issues and stipulated Worker Safety CoCs. A summary of the CEC assessment follows.

Fire Protection. According to the CEC Staff Assessment for the HPP (CEC 2001), the HPP will utilize both on-site fire prevention and protection systems and off-site local fire and emergency services. The proposed on-site fire prevention and protection system closely follows accepted industry standards and codes. The Kings County Fire Department ("KCFD"), as the lead fire authority, will

need to confirm the adequacy of the proposed fire prevention and protection measures at the HPP. Any fire or emergency beyond the capability of the onsite HPP system will require the response of the KCFD. Stations 7 and 10 of the KCFD will serve as first responders to the HPP for fire fighting and emergency needs. Response times for the stations are eight to nine minutes. The KCFD, however, has a mutual-aid partnership with the Lemoore Naval Air Station fire department whose response time would be in the order of three to four minutes. The KCFD currently relies on the City of Visalia Fire Department through a mutual-aid agreement for hazardous materials incident emergency response. Response times to hazardous materials incidents in Kings County by the Visalia Fire Department are typically 30 minutes or more.

Conditions of certification, **Worker Safety-1 through 3**, were stipulated to ensure compliance with all occupational safety and health LORS and that the KCFD will be provided with fire protection plans prior to construction and operation. This would make effective and reliable fire protection measures available so that any potential impacts to worker safety and fire protection at the HPP would be at levels less than significant.

The CEC stated that the proposed HPP fire protection system at the site would include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. The system would be designed and operated in accordance with National Fire Protection Association ("NFPA") standards and recommendations. The CEC stipulated the following mitigation measures for the HPP:

- The Project Owner shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1** & **WORKER SAFETY-2**.

Safety and Injury Protection. The CEC stated that during the construction phase of the HPP project, workers would be exposed to hazards typical of construction of a power plant facility. Construction Safety Orders are promulgated by Cal/OSHA and are applicable to the construction phase of the project. The CEC stipulated the following mitigation measures for the HPP:

- The Project Owner shall prepare a Construction Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-1**.
- Prior to operation, the Project Owner shall prepare the Operations Safety and Health Program, which will include an Injury and Illness Prevention Program, an Emergency Action Program/Plan, a Fire Protection and Prevention Program; and a Personal Protective Equipment Program.

- The Project Owner shall prepare an Operations Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-2**.

5.16.2 Environmental Analyses

5.16.2.1 Fire Safety

Based on consultation with KCFD personnel in 2022 (Parreira 2022), three fire stations in the County would respond to an incident at the Henrietta BESS location – Station 7 (South Lemoore), Station 10 (Stratford), and Station 5 (Armona). The KCFD also has a mutual aid agreement with the NAS Lemoore Fire Department as well as a mutual aid agreement with Visalia Fire for Hazardous Material related response. KCFD personnel all have a minimum Firefighter 1 certificate (Parreira 2022).

The battery storage technologies being considered are lithium iron phosphate ("LFP") and nickel manganese cobalt ("NMC") or other technologies that may become commercially available as the BESS Project undergoes final design. Planned fire protection systems include an active aerosol based thermal activated fire suppression system in each individual battery container as well as a centralized fire detection alarm system that can be configured to independently dial the EMS in the case of a fire or thermal event. Each battery will be equipped with its own coolant-based chiller to keep the batteries at an optimal temperature and prevent thermal runaway. The temperature control system will be managed by the plant controller and will send out notification to a 24/7 monitoring center. Each battery container will be equipped with a blast door designed to deploy in the event of an explosion and direct any hot gas and energy upwards and away from any adjacent equipment or personnel.

5.16.2.2 Worker Safety

By complying with the existing Worker Safety conditions of certification for the HPP, as applicable, the Henrietta BESS Project construction and operational phase activities would comply with applicable worker safety and fire safety protections and all applicable LORS. In 2022, the CEC requested that the applicant coordinate with the local fire department and determine what their training, response capabilities, and requirements are relative to BESS facilities. Discussions with the KCFD personnel determined that the KCFD has experience with BESS facilities associated with solar developments in the County.

5.16.3 Mitigation Measures

The Henrietta BESS impacts related to worker safety and fire safety are less than significant and, therefore, will not require additional mitigation measures.

5.16.4 Consistency with LORS

The project conforms to applicable laws related to worker safety and fire safety.

5.16.5 Conditions of Certification

The following HPP Conditions of Certification for worker safety generally apply to the Henrietta BESS Project.

CONSTRUCTION SAFETY & HEALTH PROGRAM

WORKER SAFETY-1: The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Program, containing the following:

- A Construction Safety Program;
- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The Construction Fire Protection and Prevention Plan Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

OPERATION SAFETY & HEALTH PROGRAM

WORKER SAFETY-2: The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan;
- An Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program; and;
- Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the Kings County Fire Department for review and comment.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. The Kings County Fire Department shall be provided a copy of the plan for review and comment. The program shall incorporate comments from Cal/OSHA, Consultation Service and the KCFD based on their reviews of the respective program components.

WORKER NOISE CONTROL PROGRAM

WORKER SAFETY-3: Prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM for review and approval, a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least thirty (30) days prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

WORKER NOISE SURVEY

WORKER SAFETY-4: The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within thirty (30) days after the facility is in full operation, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article105) and Title 29,

Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within thirty (30) days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

WORKER SAFETY-5: The project owner shall prepare and submit to the CPM an Operations Fire Prevention Plan describing the onsite fire protection systems that will be provided in this project. Specifically, information must be included on employee alarm/communication system, portable fire extinguisher placement and operation, fixed fire fighting equipment placement and operation, fire control methods and techniques, hazardous materials and flammable and combustible liquid storage methods, methods for servicing and refueling vehicles and fire prevention training programs and requirements. Additionally, information shall be provided regarding the source of on-site firewater, including storage if applicable and fire department hook-ups.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Operations Fire Prevention Plan for review and approval. The KCFD shall also be provided a copy of the Plan for review and comment.

5.16.6 References

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Parreira, Aaron. 2022a. Fire Marshall/Battalion Chief, Kings County Fire Department. Email communication with Patch Services (R. Ray). August 9.

5.17 Wildfire

5.17.1 CEC Certification of HPP

The CEC Final Decision and Staff Assessment for the HPP (CEC 2001, 2002) did not address wildfire hazard. The CEC informed the Applicant in 2022 that the Petition for Post-Certification Amendment

for the Henrietta BESS Project should address the wildfire hazard at the project site (Knight 2022). The wildfire hazard and associated considerations for the Henrietta BESS Project site are addressed in Section 5.17.2.

5.17.2 Environmental Analyses

The Henrietta BESS Project site is located at 16027 25th Avenue near Lemoore in unincorporated Kings County, California. The project site is located in an energy production and electrical transmission focused area south of the Lemoore NAS. The Henrietta BESS Project site has been previously graded and is regularly maintained via mowing and discing to control vegetation for fire control purposes. The Henrietta BESS Project site is essentially void of vegetation as of 2022. The Henrietta BESS Project site is surrounded by energy development as follows: PG&E Henrietta Substation to the north, solar PV development to the east and south, and the HPP detention basin and power plant to the west. Patches of agricultural land are still present in the general project vicinity mixed in with the patchwork of recent solar PV development in the area. All non-ornamental vegetation within the non-developed portion of the HPP property, including the Henrietta BESS Project site area is routinely mowed for fire protection.

A review of the Office of the State Fire Marshall, California Department of Fire and Forestry ("CalFire"), California Fire Hazard Severity Zones website viewer identifies the HPP property and the Henrietta BESS site area as being located in a Local Responsibility Area ("LRA") that is not identified as a Very High Fire Hazard Severity Zone ("VHFHSZ") (https://egis.fire.ca.gov/FHSZ/).

The Henrietta BESS Project facilities such as BESS enclosures, inverters, and switchyard will be unoccupied structures and will be constructed primarily of non-flammable materials/metal. The facilities will be surrounded by perimeter access roads and there will be defensible space between the BESS facilities and the property line. The construction laydown area will continue to be maintained on an annual basis or more often if needed for fire control. An existing fire hydrant at the HPP will be available, if needed, for any incidents at the Henrietta BESS facility area. In addition, the KCFD has requested a 20,000 gallon, self-filling fire water tank be installed for the Henrietta BESS Project (Parreira 2022b). This new water tank will be approximately 13 feet in diameter, and skid-mounted. It is currently planned that the tank will be located near the BESS switchyard and that it will be fed from a connection to a water supply line to the west on the adjacent peaker property.

5.17.3 Mitigation Measures

The Henrietta BESS Project will not result in a significant impact or risk related to wildfire hazard given the project location. The lack of vegetation/wildfire fuel sources in the Henrietta BESS Project area and the lack of a high fire hazard rating for the area indicate that no mitigation measures related to wildfire hazard will be required.

5.17.4 Consistency with LORS

The Henrietta BESS Project conforms to applicable laws related to wildfire.

5.17.5 Conditions of Certification

The proposed Henrietta BESS Project does not require CoCs for wildfire considerations.

5.17.6 References

CalFire. FHSZ Viewer. Accessed August 2, 2022. https://egis.fire.ca.gov/FHSZ/

California Energy Commission (CEC). 2001. Staff Assessment, Henrietta Peaker Project, Application for Certification (01-AFC-18). December 18.

____. 2002. Final Decision, Henrietta Peaker Project, Application for Certification (01-AFC-18). March 6.

Knight, E. 2022. California Energy Commission, Manager, Siting & Environmental Office, Siting Transmission & Environmental Protection Division. Personal communication with Patch Services (R. Ray). May 12.

Parreira, Aaron. 2022b. Fire Marshall/Battalion Chief, Kings County Fire Department. Email communication with Patch Services (R. Ray). April 5.

APPENDIX C

AIR QUALITY AND GREENHOUSE GAS (GHG) STUDY

This appendix presents the Air Quality and Greenhouse Gas (GHG) Study prepared for the Henrietta BESS Project.

Henrietta 99.4 MW Battery Energy Storage System (BESS) Project

Air Quality and Greenhouse Gas Study

prepared for

Henrietta BESS LLC
16027 25th Avenue
Kings County, California 93245

prepared by

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August 2022

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1 Project Description

1.1 Introduction

This study analyzes the air quality, greenhouse gas (GHG) emissions, and potential health risk impacts related to the proposed Henrietta BESS LLC, Henrietta Battery Energy Storage System (BESS) development located at 16027 25th Avenue near Lemoore in unincorporated Kings County, California. Rincon Consultants, Inc. (Rincon) prepared this study on behalf of the applicant to support the California Energy Commission (CEC) requirements for a Petition for Post-Certification Amendment and to meet the applicable requirements of the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the projects' air quality and GHG emissions related to both temporary construction activity, long-term operation, and decommissioning. The CEC Henrietta peaking plant (HPP) was licensed by the CEC in 2002 (CEC Docket No. 01-AFC-18) as a natural gas-fired, simple-cycle peaking facility. HPP is authorized by California Independent System Operator (CAISO) under its Generator Interconnection Agreement (as amended) to provide up to net of 99.4 MW to the grid. The applicant submitted a CEC Project Change Questionnaire to the CEC on March 30, 2022, and the CEC notified the applicant on April 15, 2022, that the Henrietta BESS is subject to the CEC's licensing jurisdiction and would require a Petition for Post-Certification Amendment. Project Summary

Project Location

The BESS project site is located within the overall 20-acre site owned by MRP San Joaquin Energy LLC that includes approximately 7 acres for the HPP (APN 024-109-070-000) at 16027 25th Avenue near Lemoore in unincorporated Kings County, California. The BESS Project would disturb approximately 6 acres of the HPP 20-acre parcel and the BESS facility, including BESS switchyard would be operational on approximately 3.1 acres of undeveloped land. The BESS project site is bordered to the north by the Pacific Gas & Electric (PG&E) Henrietta 70 kilovolt (kV) substation, beyond which is agricultural land and recently developed utility-scale solar fields. The subject property is bordered to the east and south by fragmented agricultural land and utility-scale solar fields. The subject property is bordered to the west by 25th Avenue, beyond which is a Recurrent Energy solar field and agricultural land. Figure 1 shows the regional location of the overall project sites and Figure 2 provides a site plan of the project site.

Project Description

The Henrietta BESS would be capable of providing up to 99.4 MW of BESS electricity for one to two hours. If the 99.4 MW of capacity is needed for dispatch to the electrical grid for more than short duration, the peaker plant would then be called upon to meet the need. The proposed project would not increase the output of the HPP beyond the CEC licensed capacity and would not exceed the CAISO Aggregate Capability Constraint of 99.4 MW.

The HPP is interconnected to the PG&E Henrietta Substation to the north via an existing nominal 70 kV transmission line. An approximately 690-foot-long 13.8 kV overhead dual circuit distribution line will connect the BESS switchyard to the 13.8 kV sides of the existing HPP generator step-up transformers (GSUs). The dual circuit line will physically connect to HPP's existing 13.8 kV buss duct in the area between the combustion turbine generator terminals and the low side of the GSUs. Connecting the Henrietta BESS to the low sides of the HPP GSUs will allow the BESS to provide energy and capacity at transmission voltage to the PG&E Henrietta Substation without requiring any high voltage modifications

at the HPP switchyard. Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged from the electrical grid and not the HPP. The BESS and the HPP may be operated simultaneously in accordance with the market-optimized dispatch instructions received from the CAISO's Automated Dispatching System, but the combined output will be control limited to never exceed a net of 99.4 MW per the Generator Interconnection Agreement.

Construction

Construction of the BESS facility is currently planned for third quarter of 2023 with completion during the second quarter of 2024. Activities would include, but are not limited to, existing roadway repair, site preparation, mobilization, grading, installation/construction, and paving/surfacing. The project would not require demolition of existing facilities because the project site is currently vacant and undeveloped. The construction equipment would be equipped with at least Tier 4 final diesel engines with the exception of equipment that is less than 50 horsepower such as plate compactors and welders. All construction equipment would be staged in the construction laydown area.

Project construction would include approximately 1,300 feet of new or improved access road construction, which would be performed by grading to a uniform width of 25 feet, compacting the road surface. The access road construction would include 1,340 cubic yards of gravel for the road surface. Site development for the BESS facilities, including the BESS switchyard and stormwater detention basin would occur on approximately 3.9 acres of the project site. The cut and fill associated with site grading and excavation would be balanced onsite. Approximately 5,000 cubic yards of gravel will be imported for pad construction as well as 1,500 cubic yards of concrete, and 1,000 cubic yards engineered fill import. It is assumed that approximately 600 linear feet of temporary internal access roadways would need to be established within the laydown area with approximately 425 cubic yards of gravel import. In addition, 35 cubic yards would be removed to establish the overhead line pole foundations. During peak construction times a workforce of 40 to 50 persons is anticipated with the average workforce between 30 and 35 workers daily. The project would average 25 trucks per day for first four to five weeks, then 15 trucks per day for the next five to six weeks during site mobilization and the offsite disposal of construction debris materials. Additional truck trips would average 5 trucks per day for an additional 3-6 months for incoming equipment and material deliveries.

Water usage for dust suppression is anticipated to require approximately 5,000 gallons per day for the first one to two months during site grading and leveling activities and up to approximately 3,000 gallons per day for the remainder of the construction activities.

Operation

Commercial operation is currently anticipated for the second quarter of 2024. Once operational, the BESS facility would operate seven days per week and 365 days per year until the anticipated decommissioning of the project in 40 years. The facilities would require periodic operation and maintenance (O&M) visits along with augmentation activities. O&M visits are expected to typically occur weekly with 2 workers at the site to conduct visual inspections, monitor BESS performance, execute minor repairs, and make BESS adjustments. Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane. Maintenance vehicles would be light duty trucks (e.g., pickup or flatbed trucks). Existing maintenance employees of the Henrietta Peaker Plant would maintain the BESS facility. There are no new area sources being constructed as part of the project, and no new energy consumption or solid waste generation. Water usage at the site would be for fire suppression only and would be negligible,

no wastewater would be generated at the site. Circuit breakers used for the new installation will incorporate clean-air vacuum technology and eliminate SF_6 from their equipment.

Decommissioning

At the end of the project's useful life (anticipated to be 40 years), the project could be decommissioned. Activities required for deconstruction of the on-site facilities would require similar types and levels of equipment as those used during the construction phase.

Henrietta Peaker Plant Project Air Quality Conditions of Certification

The CEC stipulated 60 Conditions of Certification for the existing Henrietta Peaker Plant, although the majority of the Conditions of Certification do not apply to the Henrietta BESS Project. Conditions of Certification AQ-C3, and AQ-1 through AQ-57 are not applicable to the Henrietta BESS Project because they were stipulated associated with the air permits for the natural gas fired turbine units at the HPP. The BESS Project does not have gas turbine units or other stationary emission source subject to SJVAPCD regulation. Conditions of Certification AQ-C1 and AQ-C2 are applicable to the Henrietta BESS Project and are discussed below.

AQ-1: Prior to breaking ground at the project site, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for construction activities at the Henrietta Peaker Project site and related facilities. The Construction Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that shall be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of sandbags to prevent run off;
- the use of posted speed limit signs limiting speed to 10 MPH;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads;
- the use of windbreaks at appropriate locations;
- the suspension of all earth moving activities under windy conditions; and
- the use of on-site monitoring devices.

Verification: At least sixty (60) days prior to breaking ground at the project site, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

AQ-C2 The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures that may be used to mitigate construction impacts include the following:

1. catalyzed diesel particulate filters (CDPF);
2. ultra-low-sulfur diesel fuel, with a sulfur content of 15 ppm or less (ULSD); or
3. diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes. The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports. The CMM shall submit the following reports to the CPM for approval:

1. Construction Mitigation Plan
2. Reports of Change and Mitigation Implementation
3. Reports of Emergency Termination of Mitigation, as necessary

DIESEL CONSTRUCTION EQUIPMENT MITIGATION PLAN

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all diesel fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

Engine Size (BHP)	1996 CARB or EPA Certified Engine	Required Mitigation
< or =100	Yes or No	ULSD
>100	Yes	ULSD
>100	No	ULSD and CDPF, if suitable as determined by the CMM

3. If compliance cannot be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

REPORT OF CHANGE AND MITIGATION IMPLEMENTATION

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented.

The following is acceptable proof of compliance; other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards
    a. A copy of the certificate from EPA or CARB.
2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).
    a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and
    b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.
3. Installation of CDPF
    a. The suitability of the use of CDPFs is to be determined by a qualified mechanic or engineer who must submit a report to the CPM for approval.
    b. Installation is to be verified by a qualified mechanic or engineer.
4. Construction equipment engine idle time
    a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

REPORT OF EMERGENCY TERMINATION OF MITIGATION

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
2. The measure is causing or is reasonably expected to cause significant engine damage.
3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.
4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner shall submit to the CPM for approval the qualifications of the CMM at least forty five (45) days prior to the due date for the Diesel Construction Equipment Mitigation Plan.

The project owner shall submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities.

The project owner shall submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities.

The project owner shall submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure.

The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

Figure 1 Regional Location

Basemap provided by Esri and its licensors © 2022.

Project Location

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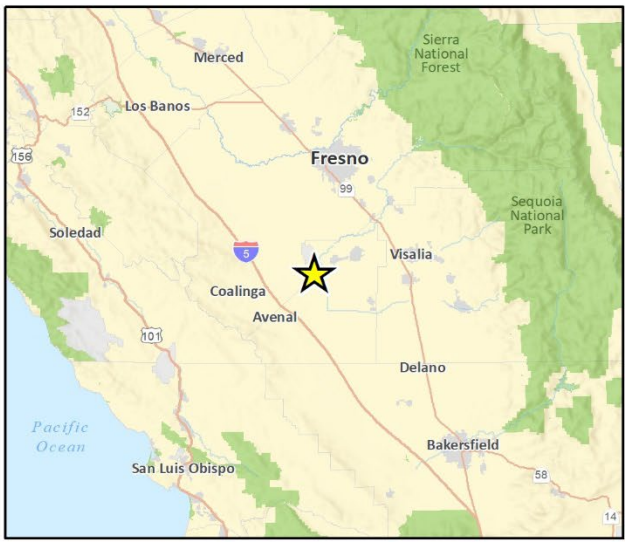
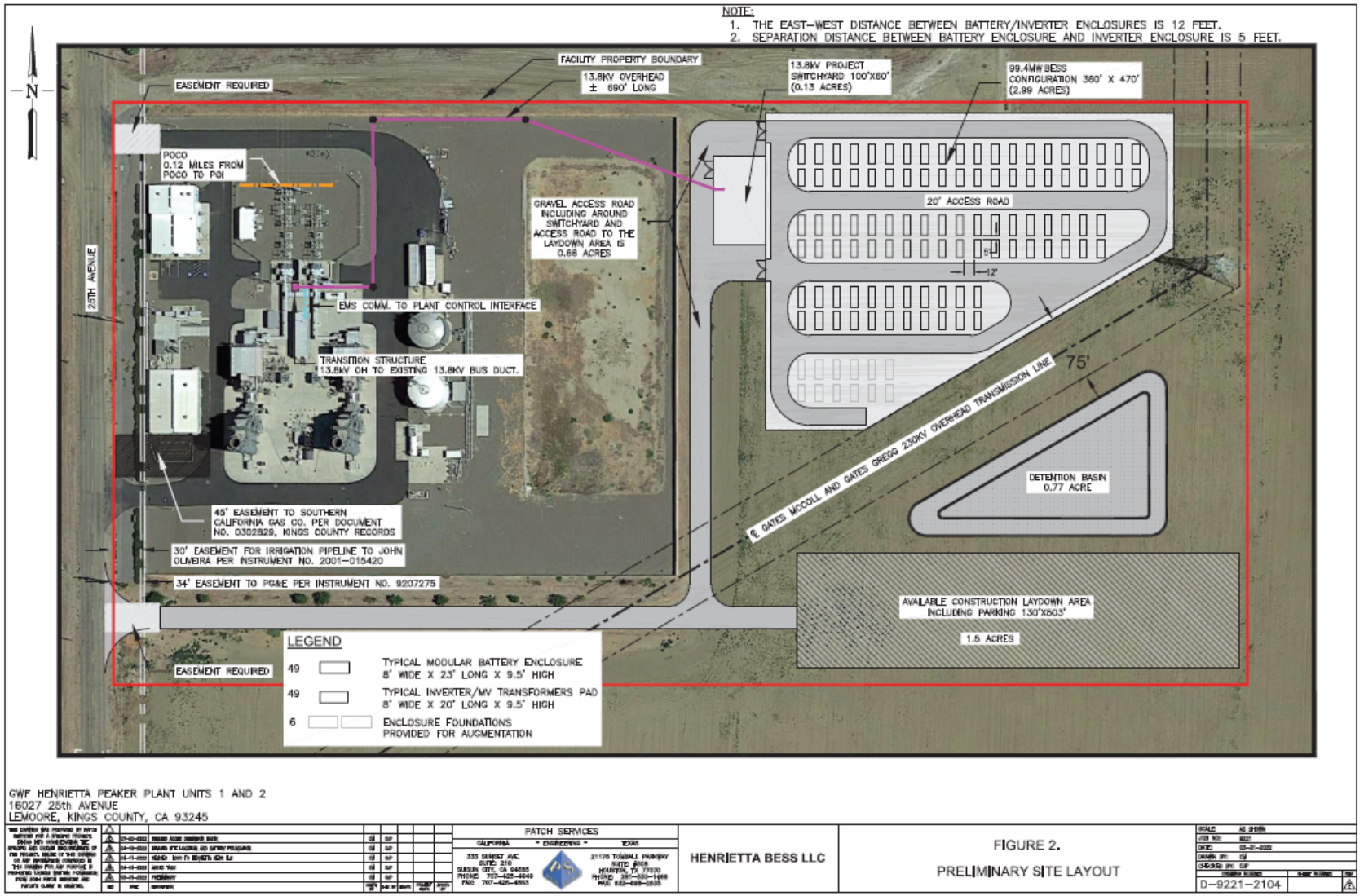


Figure 2 Site Plan



2 Background

2.1 Environmental Settings

Climate and Meteorological Conditions

The Henrietta BESS project site is in the San Joaquin Valley Air Basin (SJVAB), which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and western Kern counties. The SJVAB is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south. On the valley floor, the SJVAB is open only to the north, which heavily influences prevailing winds. Northwesterly winds are common during summer months, and air masses are often channeled towards the southeastern end of the San Joaquin Valley. Winds are often weaker in the winter, which contribute to stagnation events in which transport of pollutants is very limited (San Joaquin Valley Air Pollution Control District [SJVAPCD] 2015a).

The SJVAB is generally considered to have a Mediterranean climate, characterized by sparse rainfall and hot, dry summers. With an average of over 260 sunny days per year, the SJVAB provides favorable conditions for ozone formation. While precipitation and fog during the winter block sunlight and reduce ozone concentrations, wintertime fog provides favorable conditions for the formation of particulate matter (SJVAPCD 2015a).

Local climate conditions for the Kings County region are shown in Table 1. As summarized therein, the annual average maximum temperature is 76 degrees Fahrenheit (°F), while the annual average minimum temperature is 49°F. In addition, the average annual rainfall for Kings County is 7.5 inches.

Table 1 Kings County Climate Conditions

Temperature Condition	Amount
Average annual rainfall	7.5 inches
Average annual maximum temperature	76°F
Average annual minimum temperature	49°F
Average annual mean temperature	63°F

°F = degrees Fahrenheit.
Note: Averages are based on the period of record from 1895 to 2021.
Source: National Oceanic and Atmospheric Administration 2022a.

2.1.1 Air Quality

Air Pollutants of Concern

The federal and state Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for criteria air pollutants that are a threat to public health and welfare. Criteria pollutants that are a concern in the SJVAB are described below.

Ozone

Ozone (O_3) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)/volatile organic compounds (VOC).[1] VOC is composed of non-methane hydrocarbons (with specific exclusions), and NO_X is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and NO_2. NO_X is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O_3 readily combines with many different atmosphere components. Consequently, high O_3 levels tend to exist only while high VOC and NO_X levels are present to sustain the O_3 formation process. Once the precursors have been depleted, O_3 levels rapidly decline. Because these reactions occur on a regional rather than local scale, O_3 is considered a regional pollutant. In addition, because O_3 requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors (USEPA 2021a). Depending on the level of exposure, O_3 can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of NO_x produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2, commonly called NO_x. NO_2 is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO_2 (USEPA 2021a). NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O_3/smog and acid rain.

Carbon Monoxide

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this report.

exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2021a).

Particulate Matter

Particulates less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM_{10} and $PM_{2.}$ are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM_{10} and $PM_{2.5}$ can be very different. PM_{10} is generally associated with dust mobilized by wind and vehicles. In contrast, $PM_{2.5}$ is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM_{10} can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resources Board [CARB] 2022a).

Sulfur Dioxide

Sulfur dioxide (SO_2) is included in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2 (USEPA 2021a).

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of Pb emissions historically have been mobile and industrial. However, due to the USEPA's regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred with the permanent phase-out of leaded gasoline, controls on emissions on emissions of Pb compounds through EPA's air toxics program, and other national and state regulations. The result was a decrease of airborne Pb concentrations by 98 percent between 1980 and 2005 (USEPA 2022a). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered intelligence quotient (USEPA 2021a).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70th the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020).

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirmed are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. The closest sensitive receptors are approximately 5,800 feet northwest of the project site, located near 2522 America Ave in Lemoore. The CARB's Air Quality and Land Use Handbook: A Community Health Perspective recommends a buffer zone of up to 1,000 feet between various pollutant sources and sensitive receptors. There are no identified sensitive receptors within 1,000 feet of the facility.

2.1.2 Greenhouse Gas

Gases that trap heat in the atmosphere are known as GHGs. GHGs allow sunlight to enter the atmosphere but trap a portion of the outward-bound infrared radiation that warms the air. The process is similar to the effect greenhouses have in raising the internal temperature of the structure. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature, but emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. Scientists agree that this accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of

the impacts attributable to human activities, most scientists agree there is a direct link between increased emissions of GHGs and long-term global temperature increases.

The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (IPCC 2021).[2]

Greenhouse Gases

Carbon Dioxide

Carbon dioxide (CO_2) is the primary GHG emitted through human activities. In 2020, CO_2 accounted for about 79 percent of all U.S. GHG emissions from human activities. CO_2 is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle–both by adding more CO_2 to the atmosphere, and by influencing the ability of natural sinks, like forests and soils, to remove and store CO_2 from the atmosphere. While CO_2 emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution (USEPA 2022b).

Methane

Methane (CH_4) is a colorless, odorless gas and is the major component of natural gas. In 2020, methane accounted for about 11 percent of all U.S. GHG emissions from human activities. Human activities emitting methane include leaks from natural gas systems and the raising of livestock. Methane is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove CH_4 from the atmosphere. Methane's lifetime in the atmosphere is much shorter than carbon dioxide (CO_2), but CH_4 is more efficient at trapping radiation than CO_2. Pound for pound, the comparative impact of CH_4 is 25 times greater than CO_2 over a 100-year period (USEPA 2022b).

[2] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes the GWPs from the Fourth Assessment Report.

Nitrous Oxide

Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. In 2020, nitrous oxide accounted for about seven percent of all U.S. GHG emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N_2O in the atmosphere. Nitrous oxide is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. Nitrous oxide molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of one pound of N_2O on warming the atmosphere is almost 300 times that of one pound of carbon dioxide (USEPA 2022b).

Fluorinated Gases (HFCs, PFCs and SF_6)

Unlike many other GHGs, fluorinated gases have no natural sources and only come from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high GWPs relative to other GHGs, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have long atmospheric lifetimes, in some cases, lasting thousands of years. Like other long-lived GHGs, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of GHGs emitted by human activities (USEPA 2022b).

The use of SF_6 in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF_6 is the equivalent warming potential of approximately 23,900 pounds of CO_2). SF_6 is inert, non-toxic and encapsulated in the breaker assembly. SF_6 is a GHG with substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF_6 would only be released in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs. PG&E began the quest to eliminate SF_6 circuit breakers from their systems in approximately 2017, by communicating with manufacturers. New 72 kV circuit breakers were SF6 free within PG&E's service starting in 2019. In 2022, PG&E is beginning to install 123 kV SF6-free circuit breakers in the San Francisco Bay Area. These efforts are anticipated to reduce approximately 1 million tons of GHG emissions from PG&E operations by the end of 2022 (PG&E 2021).

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

In 2018, worldwide anthropogenic emissions total 48,940 billion metric tons (MT) of CO_2e, which is a 50 percent increase from 1990 GHG levels (USEPA 2021b). Specifically, 36,442 million metric tons (MMT) of CO_2e of CO_2, 8,298 MMT of CO_2e of CH_4, 3,064 MMT of CO_2e of N_2O, and 1,136 MMT of CO_2e of fluorinated gases were emitted in 2018. The largest source of GHG emissions were energy production and use (includes fuels used by vehicles and buildings), which accounted for 76 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed for three percent. These sources account for approximately 97

percent because there was a net sink of three percent from land-use change and forestry (ClimateWatch 2022).

United States Emissions Inventory

U.S. GHG emissions were 5,981.4 MMT of CO_2e in 2020. Emissions decreased by nine percent from 2019 to 2020; since 1990, Total U.S. emissions have decreased by 7.3 percent from 1990 to 2020, down from a high of 15.7 percent above 1990 levels in 2007. The sharp decline in emissions from 2019 to 2020 is largely due to the impacts of the coronavirus (COVID-19) pandemic on travel and economic activity; however, the decline also reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices. In 2020, transportation activities accounted for the largest portion (27.2 percent) of total U.S. greenhouse gas emissions. Emissions from electric power accounted for the second largest portion (24.8 percent), while emissions from industry accounted for the third largest portion (23.8 percent) of total U.S. greenhouse gas emissions in 2020 (USEPA 2022c).

California Emissions Inventory

Based on the California air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2019, California produced 418 MMT of CO_2e in 2019, which is 7 MMT of CO_2e lower than 2018 levels. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the State's GHG emissions while electric power accounts for approximately 14 percent (CARB 2021). The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO_2e (CARB 2021). The annual 2030 statewide target emissions level is 260 MT of CO_2e (CARB 2017).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, with 2013 to 2021 among warmest years from 1880 to 2021. The average global land and ocean surface temperature for January to December 2021 was 0.84°C (1.51 degrees Fahrenheit [°F]) above the 20th century average of 13.9°C (57.0°F) (National Oceanic and Atmospheric Administration 2022b). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (California

Natural Resource Agency 2019). *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies. However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy (California Natural Resource Agency 2019). A summary follows of some of the potential effects that climate change could generate in California.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C (4.3°F to 5.8°F) in the next 50 years and by 3.1 to 4.9°C (5.6°F to 8.8°F) in the next century (California Natural Resource Agency 2019). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (California Natural Resource Agency 2019). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. With increasing temperatures, shifting weather patterns, longer dry seasons, and more dry fuel loads, the frequency of large wildfires and area burned is expected to continue to increase. (California Natural Resources Agency 2021).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (California Natural Resource Agency 2019). The Sierra Nevada Mountains snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (California Natural Resource Agency 2019).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (California Natural Resource Agency 2019). Furthermore, climate change could induce substantial sea level rise in the

coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.3 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2020). Global mean sea levels in 2013 were about 0.23 meter higher than those of 1880 (National Aeronautics and Space Administration 2020). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise ranging between 0.25 to 0 1.01 meters by 2100 with the sea level ranges dependent on a low, intermediate, or high GHG emissions scenario (IPCC 2021). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (California Natural Resource Agency 2019). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has an over $50 billion annual agricultural industry that produces over a third of the Country's vegetables and two-thirds of the Country's fruits and nuts (California Department of Food and Agriculture 2020). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (California Natural Resource Agency 2019). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions with higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; California Natural Resource Agency 2019).

2.2 Regulatory Setting

2.2.1 Air Quality

Federal and State

The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) establish ambient air quality standards and establish regulatory authorities designed to attain those standards. As required by the CAA, the USEPA has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

Under the CCAA, California has adopted the California Ambient Air Quality Standards (CAAQS), which are more stringent than the NAAQS for certain pollutants and averaging periods. Table 2 presents the current attainment status for each regulated pollutant and Table 3 presents the federal and state standards for regulated pollutants. California also has established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

As required by the federal CAA and the CCAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether the standards have been achieved. The air quality in an attainment area meets or is better than the NAAQS or CAAQS. A non-attainment area has air quality that is worse than the NAAQS or CAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the designated air quality control agency for the SJVAB. The SJVAB currently meets the NAAQS for all criteria air pollutants except ozone and $PM_{2.5}$. The SJVAB is classified an attainment/maintenance area for CO, and attainment for PM_{10}. The SJVAB is currently classified as a nonattainment area under the CAAQS for ozone, PM_{10}, and $PM_{2.5}$ (SJVAPCD 2022). Characteristics of ozone, CO, NO_2, and suspended particulates are described in the subsequent sections.

Table 2 Federal and State Ambient Air Quality Standards

Pollutant	Federal Attainment Status	State Attainment Status
Ozone	Non-attainment (8-hr)	Non-attainment)/ Attainment (1-hr)[1]
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Particulate Matter 10 (PM_{10})	Attainment	Nonattainment
Particulate Matter 2.5($PM_{2.5}$)[1]	Nonattainment	Nonattainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
Lead	No Designation/Classification	Attainment

Sources: SJVAPCD 2022.

Existing Ambient Air Quality

The SJVAPCD maintains the ambient air monitoring network and records air quality readings throughout the SJVAB. The monitoring stations aim to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. Current Air Quality information is obtained from the same, or closest monitoring area the project is located. The monitoring station closest to the project site is the Hanford-S Irwin Street (located at 807 South Irwin St, Hanford), approximately 15 miles northeast of the project site. This station collects 8-hour ozone, hourly ozone, NO_2, PM_{10} and $PM_{2.5}$ measurements. Table 3 indicates the number of days each federal and state standard exceeded at Hanford-S Irwin Street station. As shown therein, 2018, 2019, and 2020, ozone measurements exceeded the federal and state eight-hour and worst hour ozone standards. PM_{10}

and $PM_{2.5}$ measurements exceeded the federal and state standards in 2018, 2019, 2020. No other state or federal standards were exceeded at the monitoring station. Since CO and SO_2 are in attainment with the SJVAB region, they are not monitored at the nearest air monitoring stations and therefore ambient air quality is not reported for these two pollutants.

Table 3 Ambient Air Quality at the Nearest Monitoring Station

Pollutant	2018	2019	2020
Ozone (ppm), 8-Hr Average	0.082	0.076	0.088
Number of Days of state exceedances (>0.070 ppm)	29	13	26
Number of days of federal exceedances (>0.070 ppm)	29	13	26
Ozone (ppm), Worst Hour[1]	0.108	0.093	0.103
Number of days of state exceedances (>0.09 ppm)	4	4	6
Number of days of federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppm), Worst Hour[1]	0.056	0.063	0.052
Number of days of state exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (>0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours	174.2	211.7	180.4
Number of days of state exceedances (>50 μg/m^3)	19	17	22
Number of days above federal standard (>150 μg/m^3)	1	1	3
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours	107.8	48.2	147
Number of days above federal standard (>35 μg/m^3)	31	20	52

Measurements taken from the Hanford-S Irwin Street Station at 807 South Irwin St., Hanford.
Source: CARB 2022b.

Regional

Air Quality Management Plans

The Federal Clean Air Act Amendments of 1990 set a schedule for the attainment of the NAAQS. States are required to prepare a State Implementation Plan (SIP) to develop strategies to bring about attainment of the standards. In addition, the California Clean Air Act of 1988 requires areas that exceed the California ambient air quality standards to plan for the eventual attainment of the CAAQS. SJVAPCD monitors and regulates local air quality in the SJVAB and implements Air Quality Management Plans (AQMPs). Since 1992, SJVAPCD has adopted numerous attainment plans to reduce ozone and particulate emissions.

The 2016 Ozone Plan is the most recent ozone attainment plan adopted by SJVAPCD. Implementation of each of the plans has contributed to the adoption of over 600 rules and amendments aimed at reducing air pollution concentrations. These measures have substantially reduced ozone precursor pollutants, which include NO_X and ROG. SJVAPCD is mandated under federal Clean Air Act requirements to develop a new attainment plan for the revised ozone standard by 2022, which is currently in progress. Ozone precursor emissions in the SJVAB are at historically low levels, with an approximately 80 percent reduction in NO_X stationary sources emissions since 1990 (SJVAPCD 2016).

The 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards is the most recent attainment plan for particulate matter adopted by SJVAPCD. On August 19, 2021, the District's Governing Board approved the *Attainment Plan Revision for the 1997 Annual $PM_{2.5}$ Standard* to establish a new attainment target for the 1997 annual $PM_{2.5}$ standard. The Valley would have met this standard by the projected attainment target of 2020, but for the significant wildfire impacts and data collection issues at the air monitoring site in Bakersfield (operated by CARB). Based on implementation of the control strategy in the 2018 $PM_{2.5}$ Plan, it is estimated that the SJVAB will attain the 1997 annual $PM_{2.5}$ standard by 2023 (SJVAPCD 2021).

SJVAPCD RULES

SJVAPCD has adopted numerous rules and regulations directed at improving regional air quality. The following District rules would be applicable to individual projects:

- **Rule 4102 Nuisance:** A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 4601 Architectural Coating:** Limit ROG emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements. This rule is applicable to any person who supplies, markets, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District.
- **Rule 8021 Earthmoving Activities:** Requires construction, demolition, excavation, extraction, and other earthmoving activities to include implementation of measures designed to limit fugitive dust emissions.
- **Rule 8061 Paved and Unpaved Roads:** Requires implementation of control measures and design criteria to limit fugitive dust emissions from any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- **Rule 9510 Indirect Source Review (ISR):** Requires new developments expected to create a substantial amount of air pollution to incorporate on-site mitigation or emission reducing designs and practices into the project.

Local

County of Kings General Plan

The County of Kings has established a series of provisions in the County of Kings 2035 General Plan (2010) that relate to the physical growth and development of the County. The General Plan document contains an Air Quality Element, which details goals, policies, and implementation strategies that would have a positive effect on air quality in the region. Applicable policies related to air quality are as follows:

- **AQ Policy B1.1.1:** Minimize air quality and potential climate change impacts through project review, evaluation, and conditions of approval when planning the location and design of land uses and transportation systems needed to accommodate expected County population growth. Integrate decisions on land use and development locations with the SJV Blueprint.

- **AQ Policy C1.1.3:** Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.
- **AQ Policy F1.1.1:** Locate residential development projects and projects categorized as sensitive receptors an adequate distance from existing and potential sources of hazardous emissions such as major transportation corridors, industrial sites, and hazardous material locations in accordance with the provisions of ARB's Air Quality and Land Use Handbook.
- **AQ Policy F2.1.2:** Require all access roads, driveways, and parking areas serving new commercial and industrial development are constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.
- **AQ Policy F2.1.3:** Develop a program to reduce PM10 emissions from County maintained roads to the maximum extent feasible.

2.2.2 Greenhouse Gas

Federal Regulations

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal CAA. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when CAA permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the USEPA and the National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The SAFE Rule Part One revokes California's authority to set its own GHG emissions standards and to adopt its own zero-emission vehicle mandates. On April 30, 2020, the USEPA and the National Highway Traffic Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO_2 emissions standards for passenger cars and trucks of model years 2021-2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (National Highway Traffic Safety Administration 2020). To account for the effects of the SAFE Vehicles Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model (CARB 2020).

State Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT of CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with

statewide per capita goals of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

The Draft 2022 Scoping Plan Update has been prepared to assess the progress towards the 2030 target as well as to outline a plan to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022c).

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline California Environmental Quality Act (CEQA) processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Kings County Association of Governments (KCAG) is the regional planning agency for Kings County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. KCAG was assigned targets of a 5 percent reduction in GHG emissions from per capita passenger vehicles by 2020 and a 13 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to 2005 emission levels (CARB 2022d).

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement

from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Local Regulations

County of Kings General Plan

The County of Kings General Plan, adopted in 2010, lists several Climate Change policies as part of its Air Quality Element. The following policies are applicable to the proposed project (King County 2010):

AQ Policy C1.1.2: Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.

AQ GOAL E1: Minimize air emissions and potential climate change impacts related to energy consumption in the County.

AQ Policy G1.1.1: As recommended in ARB's Climate Change Adopted Scoping Plan (December 2008), the County establishes an initial goal of reducing greenhouse gas emissions from its internal governmental operations and land use activities within its authority to be consistent with ARB's adopted reduction COUNTY OF KINGS 2035 GENERAL PLAN Page AQ - 31 targets for the year 2020. The County will also work with KCAG to ensure that it achieves its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval from KCAG**.**

3 Impact Analysis

3.1 Methodology

Criteria pollutant and GHG emissions for Henrietta BESS project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The input data and subsequent construction and operation emission estimates for the proposed projects are summarized below and detailed in Appendix A. CalEEMod output files for the projects are included in Appendix B.

Construction Emissions

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and truck delivery trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

Construction emissions of criteria air pollutants and greenhouse gases include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and truck delivery trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

Construction of the proposed Project was analyzed based on the applicant-provided construction schedule, equipment list, and construction related vehicle trips. The schedule was modeled by construction activity to best capture the construction that would occur. Construction is currently planned for third quarter of 2023 and construction ending in first quarter of 2024. Construction is anticipated to occur Monday through Saturday with equipment operating up to 8 hours per day. CalEEMod defaults for horsepower and load factors were used. Truck trips were modeled as heavy duty truck (HHDT) trips and conservatively assumed the default one-way distance of 20 miles used for haul trucks.

Construction equipment will incorporate Tier 4 Final equipment except for equipment that is less than 50 horsepower such as plate compactors and welders. Construction activities will include an improved access road construction that would import approximately 1,340 cubic yards of gravel for road surface.

The Project will include a fiber optic communications/control cable to connect the BESS switchyard to the HPP transmission control system. This cable would be installed overhead on the same poles as the 13.8 kV connection line, and its assumed three poles would be required plus two dead-end structures. Approximately 35 cubic yards of soil would be cut for each pole foundation.

Both the BESS site and the stormwater detention basin construction areas will be recontoured and levelled in one grading operation as part of the Project. It is planned that all of the soils from grading activities will be balanced onsite and would not result in the need for soil export.

This analysis assumes that the Project would comply with all applicable regulatory standards. In particular, the Project would comply with SJVAPCD Regulation 8 Rule 8021 to control fugitive dust emissions from construction activities. This rule is Modeled within CalEEMod by assuming that watering would occur twice a day.

Construction activities assume that haul and vendor trucks would access the site at a rate of 25 trucks per day for the first four to five weeks, and an average of 15 trucks per day for the next five to six weeks. For conservative emission estimates, 25 truck trips per day was used to in the analysis. Thereafter, truck trips would average five trucks per day for the remainder of the construction activities. These trucks are modeled as heavy duty trucks. Worker trips are anticipated at 2 times the number of workers with peak daily workers anticipated at 50 and average daily workers anticipated at 35. Peak daily worker trips (i.e., 50 x 2 = 100) were used to determine daily emissions.

Operational Emissions

In CalEEMod, operational sources of criteria pollutant and greenhouse gas emissions include area, energy, and mobile sources. The first year of operation was assumed to be in 2024 based on the provided construction schedule. The facilities were modeled as refrigerated warehouse of 248.5 square feet. The refrigerated warehouse land use was used to account for the energy requirements for maintaining a stable temperature for optimum battery effectiveness. There would be negligible area, annual water consumption, or solid waste generation source emissions associated with the Project since the Project would be typically unmanned and would require only limited maintenance equipment.[3] The facilities would be unmanned except during periodic maintenance visits where two workers would perform routine maintenance on the facilities once a week. The trip rate was conservatively adjusted to reflect four trips per day to represent the maximum potential number of daily trips to the project site for maintenance. Emissions were then scaled to account for the actual maintenance activity of up to 2 workers per week for periodic maintenance. A commute distance of 60 miles was assumed as well as the use of a light utility vehicle (modeled as a medium duty vehicle weighing up to 8,500 pounds).

Augmentation visits would occur every three to five years to update the battery enclosures as the battery performance decreases over time. A limited amount of heavy-duty diesel equipment may be utilized during the augmentation visits, such as a crane. As a conservative estimate of emissions, it was assumed that the same construction equipment used during the Set Modules, Inverters, and Switchgear phase would be required to complete the augmentation visits. It was conservatively assumed that augmentation visits would occur every three years and would last 1 month. Up to 15 trucks per day could access the site during augmentation activities with up to fifty workers accessing the site daily.

SF_6 Emissions

As discussed in *Section 2.1.2 Greenhouse Gases*, PG&E began the quest to eliminate SF_6 circuit breakers from their systems in approximately 2017. Consistent with the new technology that allows for alternative solutions to SF6 usage, the Project will be using clean-air vacuum technology for their circuit breakers and will not result in SF_6 use onsite.

Project Decommissioning

As stated in Section 0, *Project Summary*, at the end of the projects' useful life (anticipated to be 40 years), the BESS facilities would be decommissioned. Activities required for deconstruction of the

[3] Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. With respect to this Project, area sources refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

on-site facilities would require similar types and levels of equipment as those used during the construction phase. Therefore, decommissioning was not modeled separately.

3.2 Significance Thresholds

Based on the *CEQA Guidelines*, the projects would have a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project sites region is non-attainment under an applicable federal or state ambient air quality standard?
- Expose sensitive receptors to substantial pollutant concentrations?
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

3.2.1 Air Quality

The SJVAPCD has adopted guidelines for determining the significance of a project's air quality impacts based on Appendix G of the CEQA Guidelines (SJVAPCD 2015a). A project would have a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation under bullet 2 above or result in a cumulatively considerable net increase of any criteria pollutant for which the SJVAB is nonattainment (i.e., ozone precursors, PM_{10}, and $PM_{2.5}$) under bullet 3 above, project emissions may be evaluated based on the quantitative emission thresholds established by the SJVAPCD. The SJVAPCD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI; SJVAPCD 2015a). The SJVAPCD recommends the use of quantitative thresholds to determine the significance of construction-and operational related emissions of criteria air pollutant emissions. SJVAPCD has two sets of significance thresholds for operational emissions depending on whether the activities are for permitted equipment and activities or non-permitted equipment and activities. Project operation does not include permitted equipment or activities such as the use of back-up generators. Therefore, only the operational thresholds for non-

permitted equipment and activities and construction activities are appropriate for evaluating project impacts. These thresholds are shown in Table 4.

Table 4 SJVAPCD Air Quality Thresholds of Significance – Criteria Pollutants

Pollutant	Construction (tons per year)	Operation (tons per year)
Nitrogen Oxides (NO_x)	10	10
Reactive Organic Gases (ROG)	10	10
Particulate Matter with diameter < 10µm (PM_{10})	15	15
Particulate Matter with diameter < 2.5 µm ($PM_{2.5}$)	15	15
Sulfur Oxide (SO_x)	27	27
Carbon Monoxide (CO)	100	100

Source: SJVAPCD 2015b.

In addition to the annual SJVAPCD thresholds presented above, SJVAPCD has published the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance, which is summarized in Section 8.4.2, *Ambient Air Quality Screening Tools*, of the SJVAPCD's GAMAQI (SJVAPCD 2018). The Ambient Air Quality Screening Tools guidance provides a screening threshold of 100 pounds per day to evaluate construction and operational activities the following pollutants: NO_X, ROG, PM_{10}, $PM_{2.5}$, SO_X, and carbon monoxide. An ambient air quality assessment, which includes refined dispersion modeling, would be necessary if an exceedance occurs.

3.2.2 Greenhouse Gas

The significance criteria used to evaluate the Project impacts to GHG emissions are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of the GHG analysis, a significant impact would occur if the Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15064[h][1]).

According to *CEQA Guidelines* Section 15183.5, project analysis can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in their white paper, *Best Practices in Implementing Climate Action Plans*, to be the most defensible approach presently

available under CEQA to determine the significance of a project's GHG emissions (AEP 2018). The County of Kings has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Neither has the SJVAPCD, the California Office of Planning and Research, CARB, the California Air Pollution Control Officers Association (CAPCOA), or any other state or applicable regional agency has adopted a numerical significance threshold for assessing GHG emissions that is applicable to the project.

Therefore, the significance of the project's potential impacts regarding GHG emissions and climate change are evaluated solely on consistency with plans and polices adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change. The most directly applicable adopted regulatory plans to reduce GHG emissions are the 2017 Scoping Plan, the KCAG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and Kings County 2035 General Plan. GHG emissions from the construction and operation of the project are provided for informational purposes.

Threshold 1:	**Conflict with or obstruct implementation of the applicable air quality plan?**?

Impact AQ-1 THE PROJECT WOULD NOT EXCEED EMISSION THRESHOLDS, WHICH WOULD COMPLY AND NOT CONFLICT WITH THE IMPLEMENTATION OF AIR QUALITY ATTAINMENT PLANS FOR NONATTAINMENT POLLUTANTS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction, and operation of the project would result in emissions of criteria pollutants including ozone precursors, such as ROG and NO_X, as well as particulate matter. The SJVAPCD has prepared several air quality attainments plans to achieve ozone and particulate matter standards, the most recent of which include the 2016 Plan for the 2008 8-Hour Ozone Standard and the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards. The SJVAB is in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead; therefore, the SJVAPCD has not developed attainment plans for these pollutants. The SJVAPCD has determined that projects with emissions above the thresholds of significance for criteria pollutants would conflict with and obstruct implementation of the SJVAPCD's air quality plans (SJVAPCD 2015a). As discussed in Threshold 2 and 3 below, the project would not exceed the SJVAPCD's significance thresholds for criteria air pollutant emissions. Therefore, the project would not conflict with applicable air plans, and impact would be less than significant.

Threshold 2:	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
Threshold 3:	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the SJVAB is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Impact AQ-2 THE PROJECT WOULD NOT VIOLATE ANY AIR QUALITY STANDARDS OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION OR RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NONATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under Section 2.2.1, Air Quality Regulation, criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, PM_{10}, $PM_{2.5}$, sulfur dioxide, and lead. The SJVAB is designated nonattainment for the NAAQS and CAAQS for ozone and $PM_{2.5}$ and the CAAQS for PM_{10}. The SJVAB

is designated unclassifiable or in attainment for all other federal and state standards.

Construction and Decommissioning Emissions

Construction of the Project would require approximately 11 months of activity. Project construction would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by construction worker daily commute trips and heavy-duty diesel haul and vendor truck trips. The decommissioning emissions would be similar or slightly less than the construction activities. All decommissioning activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all applicable federal, state, and county regulations.

As shown in Table 5 emissions (from construction and decommissioning) would be below the applicable threshold for all construction phases. Therefore, Project construction activities would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 5 Estimated Annual Construction Emissions

	Annual Construction Emissions (tons/year)					
Construction Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
2023	<1	3	6	<1	1	<1
2024	<1	2	2	<1	<1	<1
Maximum Annual Emissions	<1	3	6	<1	1	<1
SJVAPCD Thresholds of Significance	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

ROG = reactive organic gas, NO_X = nitrogen oxides, CO = carbon monoxide, SO_X = sulfur oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter.

Notes: All calculations were made using CalEEMod v.2020.4.0. See Appendix B for calculations. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Source: Appendix B.

As shown in Table 6, maximum daily emissions associated with the project (from construction and decommissioning) would not exceed the SJVAPCD's 100-pounds-per-day screening threshold during construction, under *8.4.2 Ambient Air Quality Screening Tools* in SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts. Therefore, an ambient air quality assessment is not required for construction activities.

Table 6 Maximum Daily Project Construction Emissions

Year	Daily Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Access Road Repair	1	9	13	<1	2	1
Site Prep/Grading	2	18	35	<1	6	3
Install Foundations & Equipment	3	28	54	<1	3	1
Set Modules, Inverters, Switchgear	3	23	44	<1	2	1
Elec Wire Install/Finish Grading	3	22	40	<1	5	3
Commissioning/Testing	2	17	24	<1	2	1
Construction Phase Overlaps						
Access Road & Site Prep/Grading	3	27	48	<1	8	3
Site Prep/Grading & Installation	5	46	89	<1	9	4
Installation & Set Modules etc.	6	51	98	<1	5	2
Set Modules etc. & Wire/Grading	5	45	84	<1	7	4
Wire/Grading & Testing	5	39	63	<1	7	3
Max Daily	6	51	98	<1	9	4
SJVAPCD Screening Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Exceed Threshold?	No	No	No	No	No	No

ROG = reactive organic gas, NO_X = nitrogen oxides, CO = carbon monoxide, SO_X = sulfur oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter.

[1] Emissions include implementation of Tier 4 final equipment and measures from Rule 8021 to control fugitive dust.

Source: Appendix B.

Because the SJVAPCD annual and daily thresholds would not be exceeded, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

In addition, the Henrietta Peaker Plant Project Air Quality Conditions of Certification AQ-C1 and AQ-C2 as detailed in *Section 1.2 Project Summary*, shall be incorporated as part of the pre-construction, construction and post construction activities, as applicable. Consistent with Condition of Certification AQ-1, a Construction Fugitive Dust Mitigation Plan (CMP) will be submitted to the SJVAPCD prior to the beginning of construction. The CMP shall detail how fugitive dust will be reduced during the construction activities. In addition, the project would submit a Construction Mitigation Plan to the CPM for approval prior to rough grading on the project site. The project shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired equipment. The project would incorporate Tier 4 final equipment except for equipment less than 50 Hp, such as the plate compactor and welders. CEC Conditions of Certification AQ-C3, and AQ-1 through AQ-57 for the HPP are not applicable to the Henrietta BESS Project.

Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by weekly O&M visits and battery augmentation visits that would occur every three to five years. Battery augmentation is anticipated to occur every three years for one month duration. Operations of the Project would result in negligible long-term emissions from vehicle trips and area source emissions

periodic re-coating of battery enclosures, as shown in Table 7. There are no energy sources associated with the operation of the Project. As shown in Table 7, new operational emissions would not exceed applicable thresholds for criteria pollutants; therefore, Project operation would not violate any air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 7 Project Operational Emissions

	Emissions (tons/year)					
Emissions Source	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	<1	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation	<1	<1	1	<1	<1	<1
SJVAPCD Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = Reactive organic compounds, NOX = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter.

Source: All emissions modeling was completed made using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Project-related operational emissions must be compared to the SJVAPCD's 100-pounds-per-day ambient air quality screening threshold for ROG, NO_x, sulfur dioxide, carbon monoxide, PM_{10}, and $PM_{2.5}$. As shown in Table 8, maximum daily emissions associated with project operation would not exceed the SJVAPCD's 100-pounds-per-day screening threshold during construction. Therefore, an ambient air quality assessment is not required for operational activities.

Table 8 Maximum Daily Project Operational Emissions

	Daily Emissions (lbs/day)					
Source	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area	<1	<1	<1	0	<1	<1
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation	1	5	11	<1	1	<1
Total	<1	<1	<1	<1	<1	<1
SJVAPCD Screening Threshold	*100*	100	100	100	*100*	100
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = Reactive organic compounds, NOX = nitrogen oxides, CO = carbon monoxide, SO_2 = sulfur dioxide, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Source: All emissions modeling was completed made using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Furthermore, energy storage systems, such as the proposed BESS, assist utilities like PG&E and the State of California in achieving criteria air pollutant emission reductions by providing the means of storing excess electricity generated during off-peak hours for use during peak hours as an alternative to operating the peaker plant, which generates air quality emissions from fossil fuel combustion.[4] By expanding PG&E's and the California Independent System Operator's (CAISO) access to energy storage systems, the project would increase the stability and reliability of the existing electrical grid, thereby reducing the need for additional electricity to be generated by fossil fuel power plants during peak hours. The energy conservation achieved by the project would reduce fossil fuel consumption, thereby reducing criteria air pollutant emissions from the electricity sector. Impacts would be less than significant.

In addition, the Henrietta Peaker Plant Project Air Quality Conditions of Certification AQ-C1 and AQ-C2 as detailed in *Section 1.2 Project Summary*, are applicable to the Henrietta BESS Project. CEC Conditions of Certification AQ-C3, and AQ-1 through AQ57 for the HPP are not applicable to the Henrietta BESS Project.

Threshold 4:	Would the project expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS RELATED TO CARBON MONOXIDE HOTSPOTS OR TACS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

The entire SJVAB is in conformance with the CAAQS and NAAQS for carbon monoxide, and most air quality monitoring stations no longer report carbon monoxide levels. As shown in Table 8, maximum daily carbon monoxide emissions during project operations would be less than one pounds, which would not exceed the threshold of 100 pounds per day. These thresholds are designed to be protective of public health. Based on the low background level of carbon monoxide in the project area, ever-improving vehicle emissions standards for new cars in accordance with state and federal regulations, and the Project's minimal level of operational carbon monoxide emissions, the Project would not create new hotspots or contribute substantially to existing hotspots. Therefore, the project would not expose sensitive receptors to substantial carbon monoxide concentrations.

Toxic Air Contaminants

Health impacts associated with TACs are generally associated with long-term exposure. Due to the minimal emissions expected on-site from routine maintenance and off-site from two employees commuting to the Project site each week, there are no meaningful sources of TACs for the operating

[4] Peaker plants are power plants that are operated only when demand for electricity is high (i.e., during times of peak demand). The Henrietta peaker plant is powered by natural gas.

phase of the Project and therefore no reason to expect health impacts related to TACs. As such, the greatest potential for TAC emissions would be during construction and decommissioning which may result in a short-term increase of TAC emissions.

Construction and Decommissioning

The greatest potential for TAC emissions during construction and decommissioning would be from heavy equipment operations that generate DPM emissions. Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed Project would occur over approximately 11 months.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. While these siting distances are not particular to construction activities, the primary source of TAC emissions from both freeways and construction equipment is DPM. Therefore, for projects within 1,000 feet of sensitive receptors a refined health risk should be conducted. However, as the nearest receptors to the Project site are over 5,800 feet away, the onsite construction and deconstruction activity would have a negligible impact on the closest sensitive receptors.

Operational

Sources of operational TAC's typically include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The proposed Project is not one of these uses, although use of consumer products, such as aerosol cleaning products, may result in minimal emissions of TACs. The proposed Project will not require any new or additional stationary sources of air pollutant emissions. The nearest sensitive receptor is greater than 5,800 feet to the northeast of the Project site, in front of Avenger Avenue. Operations of the Project would not be a substantial source of TACs. Therefore, impacts would be less than significant.

Threshold 5:	Would the project create objectionable odors affecting a substantial number of people?

Impact AQ-4 **THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

As discussed in Section 3.2, *Significance Thresholds*, the State of California Health and Safety Code Sections 41700 and 41705 and SJVAPCD Rule 4102 prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. An unreasonable odor discernible at the property line of the Project site would be considered a significant odor impact. The Project would generate oil and diesel fuel odors during construction from equipment use as well as odors related to asphalt paving. The odors would be limited to the construction period and would be intermittent and temporary. Furthermore, these odors would dissipate rapidly with distance from in-use construction equipment. With respect to operation, CARB's Air Quality and Land Use Handbook: A Community Health Perspective (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of odors (e.g., sewage treatment plants, landfills, recycling facilities, biomass operations, autobody shops, fiberglass manufacturing, and livestock operations). BESS site operations

are not identified on this list. Therefore, the proposed project would not generate objectionable odors affecting a substantial number of people, and impacts would be less than significant.

3.3 Cumulative Air Quality Impacts

The geographic scope for the cumulative air quality impact analysis is the SJVAB. Because the SJVAB is designated nonattainment for the NAAQS and CAAQS for ozone and $PM_{2.5}$ and the CAAQS for PM10, there is an existing adverse cumulative effect in the SJVAB relative to these pollutants.

A project would have a significant cumulative impact if it is inconsistent with the applicable adopted federal and state air quality plans. As discussed under Impact AQ-2, the project would be consistent with the SJVAPCD's criteria pollutant and screening thresholds since new operational emissions would not exceed applicable thresholds for criteria pollutants. Additionally, as discussed above under Impact AQ-1, the Project would not conflict with the SJVAPCD's air quality plans since significance thresholds for criteria air pollutant emissions were not exceeded. Therefore, the Project's contribution to cumulative air quality impacts related to criteria air pollutant emissions would be less than significant.

TAC emissions are a localized issue. In general, TAC concentrations are typically highest near the emissions sources and decline with increased distance. CARB recommends distances that should be incorporated when siting new sources or sensitive receptors near a source of TACs. This generally ranges from 500 to 1,000 feet depending on the source category (CARB 2005). Therefore, in the absence of any specific guidance from the SJVAPCD, the potential cumulative impacts from TACs were analyzed based on a radius of 1,000 feet measured from the Project site boundary. There are no sensitive receptors within 1,000 feet from the Project boundary; therefore, there is no risk that the combined emissions would result in a cumulatively considerable impact to health risk.

As discussed under Impact AQ-3, construction, operation and decommissioning-related traffic is not anticipated to create a CO hotspot, as construction and decommissioning would be short-term there are negligible operational vehicle trips. Therefore, the Project's contribution to cumulative impacts to sensitive receptors related to CO hotspots would be less than significant.

3.4 Project-Level Greenhouse Gas Project Impacts

Threshold 1:	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 CONSTRUCTION, OPERATION AND DECOMMISSIONING OF THE PROJECTS WOULD DIRECTLY AND INDIRECTLY GENERATE GHG EMISSIONS. HOWEVER, SUCH EMISSIONS WOULD BE OFFSET BY THE LONG-TERM STORAGE OF RENEWABLE ENERGY AND THE PROJECTS WOULD BE CONSISTENT WITH APPLICABLE

PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. NO IMPACT WOULD OCCUR.

Construction and Decommissioning Emissions

Project-related construction emissions are confined to a relatively short period in relation to the overall life of the Project. Construction-related GHG emissions were quantified for informational purposes. Emissions were amortized over the lifetime of the Project (i.e., 40 years). It is assumed that decommissioning GHG emissions would be similar to or slightly less than the construction GHG emissions. Table 9 shows that Project construction would result in a total of approximately 1,857 MT CO_2e and amortized GHG emissions of 46 MT CO_2e.

Table 9 Estimated Construction GHG Emissions

Construction Phase	Projects Emissions (MT CO_2e)
Access Road Repair	72
Site Prep/Grading	263
Install Foundations & Equipment	356
Set Modules, Inverters, Switchgear	542
Elec Wire Install/Finish Grading	370
Commissioning/Testing	254
Total	**1,857**
Amortized (40 years)	**46**

MT of CO_2e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.

Source: Appendix B.

Operational Emissions

The proposed Project would generate GHG emissions during operation from minimal area source, energy consumption and mobile emissions[5]. Operation-related GHG emissions were quantified for informational purposes and are shown in Table 10. As shown, the Project would generate approximately 136 MT of CO_2e per year and, including the amortized construction and decommissioning emissions, would result in approximately 228 MT of CO_2e per year.

The Project would help address the limitations of the electric grid and the increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset

[5] Area sources for this project refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage enclosures).

the annual GHG emissions anticipated from the project. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

Table 10 Annual GHG Emissions for Proposed Projects

Emission Source	Annual Emissions (MT CO_2e)
Operational	
Area	0
Energy	0
Mobile	<1
Waste	0
Augmentation	136
Total	136
Amortized Construction	**46**
Amortized Decommissioning	**46**
Total Annual Project Emissions	**228**

MT of CO_2e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.
Source: See Appendix B.

Threshold 2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-2 CONSTRUCTION, OPERATION AND DECOMMISSIONING OF THE PROJECTS WOULD BE CONSISTENT WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. NO IMPACT WOULD OCCUR.

As mentioned in *Significance Thresholds*, neither the County of Kings nor SJVAPCD have adapted a communitywide Climate Action Plan or other CEQA-compliant GHG reduction plan. Therefore, the regional GHG reduction policies and regulations most applicable to the project are those found in CARB's 2017 Scoping Plan, KCAG's 2018 RTP/SCS, and the County's 2035 General Plan.

2017 Scoping Plan

The principal State plan and policy is AB 32, the California Global Warming Solutions Act of 2006, and the follow up, SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Pursuant to the SB 32 goal, the 2017 Scoping Plan was created to outline goals and measures for the state to achieve the reductions. CARB recommends statewide targets of no more than six metric tons of CO_2e per capita by 2030 and no more than two metric tons of CO_2e per capita by 2050 to achieve GHG reduction targets. The 2017 Scoping Plan's goals include reducing fossil fuel use and energy demand and maximizing recycling and diversion from landfills and ensuring that mitigation will benefit both the environment and the health of the surrounding communities. Operations of the project is consistent with the scoping plan by increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to

disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset the annual GHG emissions anticipated from the project. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

Kings County Association of Governments 2018 RTP/SCS

In 2018, Kings County Association of Governments (KCAG) adopted the 2018 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). The KCAG RTP/SCS is forecast to help California reach its GHG reduction goals by providing a framework for transportation infrastructure needs and planned growth patterns that reduce transportation related GHG consistent with the Sustainable Communities and Climate Protection Act (SB 375). The 2018 RTP/SCS includes five categories that strategizes reducing GHG emissions that are reasonable in rural Kings County. The proposed Project would be operated remotely and anticipates four worker trips per week for maintenance activities. In addition, for one month every 3-5 years, the project would replace the battery modules, and the daily vehicle trips would be similar to the Set Modules, Inverters, and Switchgear construction phase. Therefore, the project would produce minimal long-term GHG emissions for vehicle trips. The proposed Project would not conflict with the 2018 RTP/SCS goal of mixed-use developments in high density urbanized areas, active transportation, and mobility. The BESS facility would expand PG&E's access to energy storage systems, which increases the stability and reliability of the existing electrical grid, thereby reducing the need for additional electricity to be generated by fossil fuel power plants during peak hours. The energy conservation achieved by the project would reduce fossil fuel consumption, thereby reducing criteria air pollutant emissions from the electricity sector. As shown therein, the proposed Project would not conflict with the 2018 RTP/SCS and would reduce GHG emissions in the electricity sector.

2035 Kings County General Plan

In 2010, the Kings County Board of Supervisors adopted the 2035 Kings County General Plan. This long-term plan is a comprehensive blueprint for future land use and development, and covers many topics, with Air Quality being one of them. In this element, or "chapter", the Air Quality element sets out a vision to achieve air quality and GHG reduction with a total of seven goals. The goals to reduce GHG emissions include transportation enhancement, and energy efficiency and conservation. While Kings County is a rural area and not compact, the primary role of the strategies is to direct development towards urban centers. The Project's consistency with the 2035 General Plan includes increase the use of energy conservation, and renewable energy source. The proposed Project would implement an energy storage system that increases the stability and reliability of the current electricity grid. The proposed Project would reduce GHG emissions from non-renewable electricity generating facilities and would more than offset the annual GHG emissions anticipated from the project. Therefore, the proposed Project would be consistent with the County's 2035 General Plan to minimize climate change impacts related to energy consumption.

3.5 Greenhouse Gas Cumulative Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. Therefore, GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed under Impact GHG-1 and GHG-2, Project impacts related to GHG emissions would be less than significant since the Project would be consistent with the state plans, regional, and local plans for reducing GHG emissions. Therefore, the Project's contribution to cumulative GHG impacts would be less than significant and the Project would have a net benefit in the long-term.

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Appendix A

Assumptions and Calculations

Henrietta BESS
General Assumptions

Project Characteristics

Project Location	County	Title:	CalEEMod File Title
	Kings County	Date:	7/22/2022
Climate Zone	3		
Urbanization	Rual		
Operational Year (Buildout)	2024		
Construction Year	2023		
Utility Company	PG&E		

Project Land Use	**sqft**	**Acres**	
Construction Area	248.5	3.14	Refrigerated Warehouse[1]
Laydown area (grading only)		1.50	non-asphalt
Road Repair	32,500	0.83	parking lot (no existing striping or painting based on google earth)
Detension Basin		0.77	non-asphalt
	Facility Size	99	MW System
Go-by for facility size [2]		400	MW System
		1000	SF building

[1] Refrigerated warehouse used to capture energy required to keep the batteries cool.

[2] Source: Dudek 2021. *Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study* - August 16.

Cable connection - overhead

690 feet of cable

Road Repair

Access Road

1,300 feet long area

remove existing asphalt
repaving with asphalt

Notes:
- Modules added every 3-5 years, would be similar to Set Modules, Inverters, and Switchgear phase emissions.
- Project Life is 40 years

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Construction Assumptions

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.

Project Schedule: Hours: 7 am to 7 pm
8 hrs per day equipment usage
Monday thru Saturday

Construction July 2023
May 2024

Phase Name	Start Date	End Date	Days/Week	Total Days
Access Road Repair	7/1/2023	7/31/2023	6	26
Site Prep/Grading	7/1/2023	8/31/2023	6	53
Install Foundations & Equipment	8/1/2023	9/29/2023	6	53
Set Modules, Inverters, Switchgear	9/1/2023	12/30/2023	6	104
Elec Wire Install/Finish Grading	10/2/2023	3/30/2024	6	156
Commissioning/Testing	3/1/2024	5/31/2024	6	79
25 Haul Trucks Per day	7/1/2023	7/1/2023	5	1
5 Haul Trucks Per day	10/1/2023	10/1/23	5	1

Trips and VMT Use CalEEMod Defaults

PhaseName	Worker Trips	Vendor Trips	Haul trips/day	Trip distance	
Worker Trips (Peak)	100	0	0		(Peak 40-50 workers; Ave is 30-35 workers)
25 Haul Trucks Per day	0	0	50	default	
5 Haul Trucks Per day	0	0	10	default	

First 5/6 weeks + 4/5weeks 25 trucks per day 15/day per day
6 Months 5 trucks per day

Offroad Equipment

Access Road Repair

Equipment	Number	Hours/day
Backhoe	1	8
Compactor	1	8
Dozer	1	8
Loader	1	8

Henrietta BESS
Construction Assumptions

Pickup Trucks[4]	1	4	341 hp

4 Carbuzz 2021. Pickup Trucks have 40% More horsepower than all other cars. Nov 24. https://carbuzz.com/news/pickup-trucks-have-40-more-horsepower-than-all-other-cars#:~:text=Today's%20average%20truck%20puts%20down,years%20ago%20to%20231%20hp.

Site Prep/Grading

Equipment	Number	Hours/day
Backhoe	1	8
Compactor	1	8
Compressor	2	8
Dozer	1	8
Loader	1	8
Off-Highway Trucks	1	8
Sweeper/Scrubbers	1	1
Pickup Trucks (gas)	2	8
Rough Terrain Forklifts	1	8

0.5886	0.5886		

Install Foundations & Equipment

Equipment	Number	Hours/day	
Backhoe	1	8	
Compactor	1	8	
Compressor	2	8	
Cranes	1	8	
Dozer	1	8	
Loader	1	8	
Off-Highway Trucks	2	8	
Rough Terrain Forklifts	2	8	
Sweeper/Scrubbers	1	8	
Pickup Trucks (gas)	3	8	
Welder	2	8	
0.5681	0.5681	8	30kVA,25KW, LP/NG
0.5681	0.5681	**8**	

Set Modules, Inverters, Switchgear

Equipment	Number	Hours/day
Compressor	1	8
Cranes	2	8
Off-Highway Trucks	2	8
Forklifts	1	8
Sweeper/Scrubbers	1	8

Henrietta BESS
Construction Assumptions

Pickup Trucks (gas)	3	8	
Welder	2	8	
Portable Generator	1	8	30kVA,25KW, LP/NG

0.5508 0.5508

Elec Wire Install/Finish Grading

Equipment	Number	Hours/day	
Backhoe	1	8	
Compactor	1	8	
Compressor	1	8	
Cranes	1	8	
Dozer	1	8	
Loader	1	8	
Off-Highway Trucks	1	8	
Forklifts	1	8	
Sweeper/Scrubbers	1	8	
Pickup Trucks (gas)	3	8	
Welder	2	8	
Portable Generator	1	8	30kVA,25KW, LP/NG

Commissioning/Testing

Equipment	Number	Hours/day
Off-Highway Trucks	1	8
Pickup Trucks (gas)	3	8
Welder	2	8

Dust from Material Movement Soil assumed to be balanced onsite
Gravel import for road surface 1,340 Cubic Yards
Demolition

Material export is accounted for in the
50 truck trips per day assumption.

Water Use

1st 2 months	5,000	gal/day	53		265000
balance	3,000	gal/day		233	699000
					964,000.00

Henrietta BESS
Operational Emissions

CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Operational Assumptions below.

Mobile Sources	2 workers, 1 day per week.
Area Sources	No building constructed, no new area sources
Energy Use	Energy storage system being implemented, energy not consumed.
Water/Wastewater	Fire water or landscaping. Negligible annual use. No Wastewater generation
Solid Waste	No new solid waste generation activities.

Augmentation	The project was modeled for replacement of modules to occur every three years. The event would last one month and would be similair to Set Modules, Inverters, and Switchgear phase Augmentation emissions was estimated to be 1/4 of Set Modules, Inverter, and Switchgear phase

Henrietta BESS
Air Quality Emissions

Estimated Annual Construction Emissions

Construction Year	Annual Construction Emissions (tons/year)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
2023	<1	3	6	<1	1	<1
2024	<1	2	2	<1	<1	<1
Maximum Annual Emissions	<1	3	6	<1	1	<1
SJVAPCD Thresholds of Significance	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

ROG = reactive organic gas, NO_x = nitrogen oxides, CO = carbon monoxide, SO_x = sulfur oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Notes: All calculations were made using CalEEMod v.2020.4.0. See Appendix AQ for calculations. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Source: Appendix A

Source: Appendix A

Project Operational Emissions

Emissions Source	Emissions (tons/year)					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	<1	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation	<1	<1	1	<1	<1	<1
SJVAPCD Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = Reactive organic compounds, NOX = nitrogen oxides, CO = carbon monoxide, SO2 = sulfur dioxide, PM10 = particulate matter 10 microns in diameter or less, PM2.5 = particulate matter 2.5 microns or less in diameter

Source: All emissions modeling was completed made using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Henrietta BESS
Air Quality Emissions

Maximum Daily Project Construction Emissions

Year	Daily Emissions (lbs/day)[1]					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Access Road Repair	1	3	13	<1	1	<1
Site Prep/Grading	2	12	35	<1	5	2
Install Foundations & Equipment	3	22	54	<1	2	1
Set Modules, Inverters, Switchgear	3	22	45	<1	2	1
Elec Wire Install/Finish Grading	3	20	40	<1	5	2
Commissioning/Testing	2	16	24	<1	2	1
Construction Phase Overlaps						
Access Road & Site Prep/Grading	3	15	48	<1	6	3
Site Prep/Grading & Installation	5	34	89	<1	7	3
Installation & Set Modules etc.	6	44	99	<1	4	2
Set Modules etc. & Wire/Grading	6	42	84	<1	7	3
Wire/Grading & Testing	5	36	64	<1	7	3
Max Daily	6	44	99	<1	7	3
SJVAPCD Screening Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Exceed Threshold?	No	No	No	No	No	No

ROG = reactive organic gas, NO_x = nitrogen oxides, CO = carbon monoxide, SO_x = sulfur oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

[1] Emissions include implementation of Tier 4 final equipment and measures from Rule 8021 to control fugitive dust.

Maximum Daily Project Operational Emissions

Source	Daily Emissions (lbs/day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	0	<1	<1
Energy	0	0	0	0	0	0
Mobile	<1	<1	<1	<1	<1	<1
Augmentation	1	5	11	<1	1	<1
Total	<1	<1	<1	<1	<1	<1
SJVAPCD Screening Threshold	*100*	100	100	100	*100*	100
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = Reactive organic compounds, NOX = nitrogen oxides, CO = carbon monoxide, SO2 = sulfur dioxide, PM10 = particulate matter 10 microns in diameter or less, PM2.5 = particulate matter 2.5 microns or less in diameter

Source: All emissions modeling was completed made using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from CalEEMod's "mitigated" results, which account for project design features.

Henrietta BESS
GHG Emissions

Estimated Construction GHG Emissisons

Construction Phase	Projects Emissions (MT CO_2e)
Access Road Repair	72.0069
Site Prep/Grading	262.6688
Install Foundations & Equipment	355.6104
Set Modules, Inverters, Switchgear	542.3714
Elec Wire Install/Finish Grading	370.259
Commissioning/Testing	253.5676
Total	**1,856**

Annual GHG Emissions for Proposed Project

Emission Source	Annual Emissions (MT CO_2e)
Operational	
Area	0
Energy	0
Mobile	<1
Waste	0
Augmentation	136
Total	136
Amortized Construction	**46**
Amortized Decommissioning	**46**
Total Annual Project Emissions	**228**

MT of CO_2e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.

Source: See Appendix A.

Henrietta BESS
Mitigated CalEEMod - Winter

Construction

Summary by Task

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Access Road Repair		1	9	13	0	2	0	2	1	0	1
Site Prep/Grading		2	18	34	0	5	0	6	2	0	3
Install Foundations & Equipment		3	29	54	0	2	1	3	1	1	1
Set Modules, Inverters, Switchgear		3	23	44	0	1	1	2	0	1	1
Elec Wire Install/Finish Grading		3	22	39	0	4	1	5	2	1	2
Commissioning/Testing		2	17	23	0	1	1	2	0	0	1
Overlaps											
Access Road & Site Prep/Grading		3	28	47	0	7	1	8	3	1	3
Site Prep/Grading & Installation		5	47	88	0	7	1	8	3	1	4
Installation & Set Modules etc.		5	52	97	0	4	1	5	1	1	2
Set Modules etc. & Wire/Grading		5	45	83	0	6	1	7	2	1	3
Wire/Grading & Testing		5	39	62	0	6	1	7	2	1	3
Max Daily		**5**	**52**	**97**	**0**	**7**	**1**	**8**	**3**	**1**	**4**

Henrietta BESS
Mitigated CalEEMod - Winter

Construction - Detailed by Phase

Access Road Repair onsite 2023

		ROG	NOx	CO	SO2	Fugitiv PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		0.3595	2.7975	7.8548	0.0181		0.1018	0.1018		0.0951	0.0951
Total		**0.3595**	**2.7975**	**7.8548**	**0.0181**	**0**	**0.1018**	**0.1018**	**0**	**0.0951**	**0.0951**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.02E-01	6.35E+00	1.33E+00	2.93E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.434	0.3268	3.4639	1.04E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.36E-01**	**6.68E+00**	**4.80E+00**	**3.97E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Site Prep/Grading onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						2.9486	0	2.9486	1.5154	0	1.5154
Off-Road		1.4157	11.4854	29.4914	0.0677		0.4143	0.4143		0.3865	0.3865
Total		**1.4157**	**11.4854**	**29.4914**	**0.0677**	**2.9486**	**0.4143**	**3.3629**	**1.5154**	**0.3865**	**1.9019**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.02E-01	6.35E+00	1.33E+00	2.93E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.434	0.3268	3.4639	1.04E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.36E-01**	**6.68E+00**	**4.80E+00**	**3.97E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Henrietta BESS
Mitigated CalEEMod - Winter

Install Foundations & Equipment onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		2.3005	22.0951	48.782	0.1083		0.6303	0.6303		0.5886	0.5886
Total		**2.3005**	**22.0951**	**48.782**	**0.1083**	**0**	**0.6303**	**0.6303**	**0**	**0.5886**	**0.5886**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.02E-01	6.35E+00	1.33E+00	2.93E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.434	0.3268	3.4639	1.04E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.36E-01**	**6.68E+00**	**4.80E+00**	**3.97E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Set Modules, Inverters, Switchgear onsite 2022

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		**2.1469**	**21.4296**	**40.1594**	**0.0945**	**0**	**0.6098**	**0.6098**	**0**	**0.5681**	**0.5681**
Total		**2.1469**	**21.4296**	**40.1594**	**0.0945**	**0**	**0.6098**	**0.6098**	**0**	**0.5681**	**0.5681**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.03E-02	1.27E+00	2.67E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.434	0.3268	3.4639	1.04E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**4.54E-01**	**1.60E+00**	**3.73E+00**	**1.63E-02**	**1.45E+00**	**1.82E-02**	**1.47E+00**	**3.87E-01**	**1.72E-02**	**4.04E-01**

Henrietta BESS
Mitigated CalEEMod - Winter

Elec Wire Install/Finish Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						2.9486	0	2.9486	1.5154	0	1.5154
Off-Road		2.0172	20.8678	35.3652	0.0837		0.5926	0.5926		0.5508	0.5508
Total		**2.1272**	**20.8678**	**35.3652**	**0.0837**	**2.9486**	**0.5926**	**3.5412**	**1.5154**	**0.5508**	**2.0662**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.03E-02	1.27E+00	2.67E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.434	0.3268	3.4639	1.04E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**4.54E-01**	**1.60E+00**	**3.73E+00**	**1.63E-02**	**1.45E+00**	**1.82E-02**	**1.47E+00**	**3.87E-01**	**1.72E-02**	**4.04E-01**

Commissioning/Testing onsite 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.5753	15.416	19.3973	0.0557		0.5152	0.5152		0.4762	0.4762
Total		**1.5753**	**15.416**	**19.3973**	**0.0557**	**0**	**0.5152**	**0.5152**	**0**	**0.4762**	**0.4762**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.03E-02	1.27E+00	2.67E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4015	0.2864	3.1955	1.01E-02	1.2773	6.00E-03	1.2833	0.3387	5.52E-03	0.3443
Total		**4.22E-01**	**1.56E+00**	**3.46E+00**	**1.60E-02**	**1.45E+00**	**1.79E-02**	**1.47E+00**	**3.87E-01**	**1.69E-02**	**4.04E-01**

Henrietta BESS
Mitigated CalEEMod - Winter

On-Road Vehicles

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
25 Trucks per day		0.1015	6.351	1.3332	0.0293	0.8765	0.0596	0.936	0.2404	0.057	0.2974
5 Trucks per day		0.0203	1.2702	0.2666	5.86E-03	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595

Henrietta BESS
Mitigated CalEEMod - Winter

Operational Emissions 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area		0.0524	0.00003	3.48E-03	0		0.00001	0.00001		0.00001	0.00001
Energy		0	0	0	0		0	0		0	0
Mobile		6.00E-05	2.10E-04	1.80E-03	0.00001	6.80E-04	0	6.90E-04	1.80E-04	0	1.80E-04
Total		**0.05246**	**0.00024**	**0.00528**	**0.00001**	**0.00068**	**0.00001**	**0.0007**	**0.00018**	**0.00001**	**0.00019**
Total		**5.25E-02**	**4.50E-04**	**7.08E-03**	**2.00E-05**	**1.36E-03**	**1.00E-05**	**1.39E-03**	**3.60E-04**	**1.00E-05**	**3.70E-04**

Operational Emissions 2025

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area											
Energy											
Mobile											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Henrietta BESS
Mitigated CalEEMod - Summer

Construction

Summary by Task

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category						lb/day					
Access Road Repair		1	9	13	0	2	0	2	1	0	1
Site Prep/Grading		2	18	35	0	5	0	6	2	0	3
Install Foundations & Equipment		3	28	54	0	2	1	3	1	1	1
et Modules, Inverters, Switchgear		3	23	45	0	1	1	2	0	1	1
Elec Wire Install/Finish Grading		2	22	40	0	4	1	5	2	1	2
Commissioning/Testing		2	17	24	0	1	1	2	0	0	1
Overlaps											
Access Road & Site Prep/Grading		3	27	48	0	7	1	8	3	1	3
Site Prep/Grading & Installation		5	46	89	0	7	1	8	3	1	4
Installation & Set Modules etc.		5	51	99	0	4	1	5	1	1	2
Set Modules etc. & Wire/Grading		5	45	84	0	6	1	7	2	1	3
Wire/Grading & Testing		5	39	64	0	6	1	7	2	1	3
Max Daily		5	51	99	0	7	1	8	3	1	4

Henrietta BESS
Mitigated CalEEMod - Summer

Construction - Detailed by Phase

Access Road Repair onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust							0			0	
Off-Road		0.3595	2.7975	7.8548	0.0181		0.01018	0.1018		0.0951	0.0951
Total		**0.3595**	**2.7975**	**7.8548**	**0.0181**	**0**	**0.01018**	**0.1018**	**0**	**0.0951**	**0.0951**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.10E-01	5.92E+00	1.31E+00	2.92E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.70E-01**	**6.20E+00**	**5.53E+00**	**4.09E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Site Prep/Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						2.9486	0	2.9486	1.5154	0	1.5154
Off-Road		1.4157	11.4854	29.4914	0.0677		0.4143	0.4143		0.3865	0.3865
Total		**1.4157**	**11.4854**	**29.4914**	**0.0677**	**2.9486**	**0.4143**	**3.3629**	**1.5154**	**0.3865**	**1.9019**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.10E-01	5.92E+00	1.31E+00	2.92E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.70E-01**	**6.20E+00**	**5.53E+00**	**4.09E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Henrietta BESS
Mitigated CalEEMod - Summer

Install Foundations & Equipment onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		2.3005	22.0951	48.782	0.1083		0.6303	0.6303		0.5886	0.5886
Total		**2.3005**	**22.0951**	**48.782**	**0.1083**	**0**	**0.6303**	**0.6303**	**0**	**0.5886**	**0.5886**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		1.10E-01	5.92E+00	1.31E+00	2.92E-02	8.77E-01	5.96E-02	9.36E-01	2.40E-01	5.70E-02	2.97E-01
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**5.70E-01**	**6.20E+00**	**5.53E+00**	**4.09E-02**	**2.15E+00**	**6.59E-02**	**2.22E+00**	**5.79E-01**	**6.28E-02**	**6.42E-01**

Set Modules, Inverters, Switchgear onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		2.1469	21.4296	40.1594	0.0945		0.6098	0.6098		0.5681	0.5681
Total		**2.1469**	**21.4296**	**40.1594**	**0.0945**	**0**	**0.6098**	0.6098	**0**	0.5681	0.5681

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.19E-02	1.18E+00	2.62E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**4.82E-01**	**1.46E+00**	**4.48E+00**	**1.76E-02**	**1.45E+00**	**1.82E-02**	**1.47E+00**	**3.87E-01**	**1.72E-02**	**4.04E-01**

Henrietta BESS
Mitigated CalEEMod - Summer

Elec Wire Install/Finish Grading onsite 2023

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust						2.9486	0	2.9486	1.5411	0	1.5411
Off-Road		2.0172	20.8678	35.3652	0.0837		0.5926	0.5926		0.5508	0.5508
Total		**2.0172**	**20.8678**	**35.3652**	**0.0837**	**2.9486**	**0.5926**	**3.5412**	**1.5411**	**0.5508**	**2.0919**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.19E-02	1.18E+00	2.62E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**4.82E-01**	**1.46E+00**	**4.48E+00**	**1.76E-02**	**1.45E+00**	**1.82E-02**	**1.47E+00**	**3.87E-01**	**1.72E-02**	**4.04E-01**

Commissioning/Testing onsite 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Fugitive Dust											
Off-Road		1.5753	15.416	19.3973	0.0557		0.5152	0.5152		0.4762	0.4762
Total		**1.5753**	**15.416**	**19.3973**	**0.0557**	**0**	**0.5152**	**0.5152**	**0**	**0.4762**	**0.4762**

offsite

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Hauling		2.19E-02	1.18E+00	2.62E-01	5.86E-03	1.75E-01	1.19E-02	1.87E-01	4.81E-02	1.14E-02	5.95E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0.4604	0.2769	4.2187	1.17E-02	1.2773	6.32E-03	1.2836	0.3387	5.82E-03	0.3446
Total		**4.82E-01**	**1.46E+00**	**4.48E+00**	**1.76E-02**	**1.45E+00**	**1.82E-02**	**1.47E+00**	**3.87E-01**	**1.72E-02**	**4.04E-01**

Henrietta BESS
Mitigated CalEEMod - Summer

On-Road Vehicles

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
25 Trucks per day		0.1095	5.921	1.3078	0.0292	0.8765	0.0596	0.936	0.2404	0.057	0.2974
5 Trucks per day		0.0219	1.1842	0.2616	5.86E-03	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595

Henrietta BESS
Mitigated CalEEMod - Summer

Operational Emissions 2024

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area		0.0524	0.00003	3.49E-03	0		0.00001	0.00001		0.00001	0.00001
Energy		0	0	0	0		0	0		0	0
Mobile		8.00E-05	1.80E-04	2.32E-03	0	1.00E-05	0	6.90E-04	1.80E-04	0	1.80E-04
Total		**0.05248**	**0.00021**	**0.00581**	**0**	**0.00001**	**0.00001**	**0.0007**	**0.00018**	**0.00001**	**0.00019**

Operational Emissions 2025

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category		lb/day									
Area											
Energy											
Mobile											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Henrietta BESS
Mitigated CalEEMod - Annual

Construction

Summary by Year

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Access Road Repair	0.00	33.43	33.43	0.01	0.00	72.01
Site Prep/Grading	0.00	183.23	183.23	0.05	0.00	262.67
Install Foundations & Equip	0.00	275.54	275.54	0.07	0.00	355.61
Set Modules, Inverters, Sw	0.00	478.73	478.73	0.13	0.00	542.37
Elec Wire Install/Finish Gra	0.00	321.87	321.87	0.09	0.00	370.26
Commissioning/Testing	0.00	306.68	306.68	0.08	0.00	253.57
Water Consumption (From	0	2.8328	2.8328	1.70E-04	2.00E-05	2.8433
Total Project						1859
Amortized over 40 years						46

Henrietta BESS
Mitigated CalEEMod - Annual

Construction - Detailed by Phase

Access Road Repair

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust	0	0	0	0	0	0
Off-Road	0	20.4713	20.4713	0.00653	0	20.6346
Total	**0**	**20.4713**	**20.4713**	**0.00653**	**0**	**20.6346**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 25/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	38.3006	26	0
Vendor	0	0	0	0	0	0		
Worker	0	12.9627	12.9627	3.20E-04	3.40E-04	13.0717		
Total	**0.00**	**12.96**	**12.96**	**0.00**	**0.00**	**51.37**		

Site Prep/Grading

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust	0	0	0	0	0	0
Off-Road	0	156.8039	156.8039	0.0458	0	157.9482
Total	**0**	**156.8039**	**156.8039**	**0.0458**	**0**	**157.9482**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 25/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	78.0743	53	0
Vendor	0	0	0	0	0	0		
Worker	0	26.4239	26.4239	6.50E-04	6.90E-04	26.6463		
Total	**0.00**	**26.42**	**26.42**	**0.00**	**0.00**	**104.72**		

Henrietta BESS
Mitigated CalEEMod - Annual

Install Foundations & Equipment

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust						
Off-Road	0	249.1185	249.1185	0.0709	0	250.8898
Total	**0**	**249.1185**	**249.1185**	**0.0709**	**0**	**250.8898**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 15/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	78.0743	53	0
Vendor	0	0	0	0	0	0		
Worker	0	26.4239	26.4239	6.50E-04	6.90E-04	26.6463		
Total	**0.00**	**26.42**	**26.42**	**0.00**	**0.00**	**104.72**		

Set Modules, Inverters, Switchgear

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust						
Off-Road	0	426.883	426.883	0.124	0	429.9835
Total	**0**	**426.883**	**426.883**	**0.124**	**0**	**429.9835**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 25/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	60.1009	25	79
Vendor	0	0	0	0	0	0		
Worker	0	51.8507	51.8507	1.27E-03	1.36E-03	52.287		
Total	**0.00**	**51.85**	**51.85**	**0.00**	**0.00**	**112.39**		

Henrietta BESS
Mitigated CalEEMod - Annual

Elec Wire Install/Finish Grading

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust	0	0	0	0	0	0
Off-Road	0	282.9807	282.9807	0.0842	0	285.0862
Total	**0**	**282.9807**	**282.9807**	**0.0842**	**0**	**285.0862**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 25/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	45.9576	0	156
Vendor	0	0	0	0	0	0		
Worker	0	38.888	38.888	9.50E-04	1.02E-03	39.2152		
Total	**0.00**	**38.89**	**38.89**	**0.00**	**0.00**	**85.17**		

Commissioning/Testi 2023

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Fugitive Dust						
Off-Road	0	190.1359	190.1359	0.0582	0	191.5909
Total	**0**	**190.1359**	**190.1359**	**0.0582**	**0**	**191.5909**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	# days 25/day	# days 5/day
Category	tons/year							
Hauling	0	0	0	0	0	23.2734	0	79
Vendor	0	0	0	0	0	0		
Worker	0	38.399	38.399	8.60E-04	9.50E-04	38.7033		
Total	**0.00**	**38.40**	**38.40**	**0.00**	**0.00**	**61.98**		

Henrietta BESS
Mitigated CalEEMod - Annual

Commissioning/Testi 2024

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
Off-Road	0	63.1158	63.1158	0.0184	0	63.5761
Fugitive						
Total	**0**	**63.1158**	**63.1158**	**0.0184**	**0**	**63.5761**

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	**# days 25/day**	**5/day**
Category	tons/year							
Hauling	0	0	0	0	0	23.2734	0	79
Vendor	0	0	0	0	0	0		
Worker	0	15.0337	15.0337	4.10E-04	4.00E-04	15.1623		
Total	**0.00**	**15.03**	**15.03**	**0.00**	**0.00**	**38.44**		

Offsite Vehicles

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/year					
1 day - 15 trucks per day	0	1.407	1.407	1.00E-05	2.20E-04	1.4731
5 days - 15 trucks per day	0	0.2814	0.2814	0.00E+00	4.00E-05	0.2946

Henrietta BESS
Mitigated CalEEMod - Annual

Operational Emissions

	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	MT/yr					
Area	0	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	0	0.01928	0.01928	0	0	0.01942
Waste	0	0	0	0	0	0
Water	0	0	0	0	0	0
Total	**0**	**0.01928**	**0.01928**	**0**	**0**	**0.01942**

Mobile Adjustment	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
1040 trips per year	0	0.0964	0.0964	0	0	0.0971	4 trips per day/20 trips per week/52 weeks pe
	0	9.269E-05	9.269E-05	0	0	9.337E-05	
208 trips per year	0	0.01928	0.01928	0	0	0.01942	4 trips per day/1 day per week/52 weeks per

Appendix B

CalEEMod Outputs

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Henrietta BESS-AQGHG

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.25	1000sqft	3.91	248.50	0
Other Non-Asphalt Surfaces	1.50	Acre	1.50	65,340.00	0
Parking Lot	32.50	1000sqft	0.83	32,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BESS Site/Switchyard/Detension Basin = Refrigerated Warehouse-No Rail, Temporary Laydown = Other Non-Asphalt Surfaces, and Site Access Road Improvements = Parking Lot (1,300 feet x 25 feet wide)

Construction Phase - See Assumptions attachment for construction schedule

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Trips and VMT - See Assumptions. Information provided by the applicant

Grading -

Vehicle Trips - See Assumptions. Based on information by the applicant.

Landscape Equipment - Based on information provided by the applicant

Energy Use - No operational energy consumption

Water And Wastewater - See Assumptions. Based on applicant information

Solid Waste - Project site would not generate waste

Construction Off-road Equipment Mitigation - Based on SJVAPCD Rule 8021 and project would use tier 4 equipment

Area Mitigation -

Fleet Mix - See assumptions. Based on information provided by the applicant.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	104.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	79.00
tblConstructionPhase	NumDays	20.00	26.00
tblConstructionPhase	NumDays	20.00	156.00
tblConstructionPhase	NumDays	10.00	53.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	2.45	0.00
tblEnergyUse	NT24E	21.99	0.00
tblEnergyUse	T24E	0.42	0.00
tblEnergyUse	T24NG	0.15	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.51	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LHD2	7.6490e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	1.00
tblFleetMix	MH	3.5520e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.5400e-004	0.00
tblFleetMix	SBUS	1.4720e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LandUseSquareFeet	250.00	248.50
tblLandUse	LotAcreage	0.01	3.91
tblLandUse	LotAcreage	0.75	0.83
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	LoadFactor	0.42	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	0.24	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripNumber	0.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	35.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	14.70	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.06
tblWater	IndoorWaterUseRate	57,812.50	0.00
tblWater	OutdoorWaterUseRate	0.00	964,000.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6880	5.6671	5.3565	0.0148	0.6455	0.2334	0.8789	0.2748	0.2178	0.4926	0.0000	1,294.4962	1,294.4962	0.3352	4.3600e-003	1,304.1779
2024	0.2749	2.1550	2.1379	6.2800e-003	0.3738	0.0850	0.4588	0.1595	0.0790	0.2385	0.0000	549.5289	549.5289	0.1440	1.8900e-003	553.6911
Maximum	**0.6880**	**5.6671**	**5.3565**	**0.0148**	**0.6455**	**0.2334**	**0.8789**	**0.2748**	**0.2178**	**0.4926**	**0.0000**	**1,294.4962**	**1,294.4962**	**0.3352**	**4.3600e-003**	**1,304.1779**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3580	2.9049	6.2055	0.0148	0.3981	0.0849	0.4830	0.1523	0.0791	0.2313	0.0000	1,294.4949	1,294.4949	0.3352	4.3600e-003	1,304.1765
2024	0.1691	1.4033	2.3997	6.2800e-003	0.2219	0.0426	0.2645	0.0860	0.0395	0.1256	0.0000	549.5283	549.5283	0.1440	1.8900e-003	553.6905
Maximum	**0.3580**	**2.9049**	**6.2055**	**0.0148**	**0.3981**	**0.0849**	**0.4830**	**0.1523**	**0.0791**	**0.2313**	**0.0000**	**1,294.4949**	**1,294.4949**	**0.3352**	**4.3600e-003**	**1,304.1765**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**45.26**	**44.92**	**-14.82**	**0.00**	**39.18**	**59.96**	**44.12**	**45.13**	**60.05**	**51.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2023**	**9-30-2023**	3.0103	1.3902
2	**10-1-2023**	**12-31-2023**	3.3357	1.8718
3	**1-1-2024**	**3-31-2024**	1.8454	1.1030
4	**4-1-2024**	**6-30-2024**	0.5688	0.4616
		Highest	3.3357	1.8718

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.5100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0964	0.0964	0.0000	0.0000	0.0971
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.3122	0.3122	5.0000e-005	1.0000e-005	0.3153
Total	**9.5200e-003**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.4086**	**0.4086**	**5.0000e-005**	**1.0000e-005**	**0.4124**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.5100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0964	0.0964	0.0000	0.0000	0.0971
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.3122	0.3122	5.0000e-005	1.0000e-005	0.3153
Total	**9.5200e-003**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.4086**	**0.4086**	**5.0000e-005**	**1.0000e-005**	**0.4124**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	7/1/2023	7/31/2023	6	26	
2	Site Prep/Grading	Site Preparation	7/1/2023	8/31/2023	6	53	
3	15/25 Haul Truck Per Day	Building Construction	7/1/2023	7/3/2023	5	1	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Install Foundation & Equipment	Building Construction	8/1/2023	9/30/2023	6	53	
5	Set Modules, Inverters, Switchgear	Building Construction	9/1/2023	12/30/2023	6	104	
6	Elec Wire Install/Finish Grading	Grading	10/2/2023	3/30/2024	6	156	
7	5 Haul Trucks Per Day	Building Construction	10/2/2023	10/2/2023	5	1	
8	Commissioning/Testing	Building Construction	3/1/2024	5/31/2024	6	79	

Acres of Grading (Site Preparation Phase): 26.5

Acres of Grading (Grading Phase): 78

Acres of Paving: 2.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Other Construction Equipment	1	4.00	341	0.40
Access Road Repair	Pavers	0	8.00	130	0.42
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Prep/Grading	Air Compressors	2	8.00	78	0.48
Site Prep/Grading	Cranes	1	8.00	231	0.29
Site Prep/Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Prep/Grading	Other Construction Equipment	2	8.00	341	0.42
Site Prep/Grading	Plate Compactors	1	8.00	8	0.43
Site Prep/Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Site Prep/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Prep/Grading	Sweepers/Scrubbers	1	1.00	64	0.46

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Prep/Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
15/25 Haul Truck Per Day	Cranes	0	7.00	231	0.29
15/25 Haul Truck Per Day	Forklifts	0	8.00	89	0.20
15/25 Haul Truck Per Day	Generator Sets	0	8.00	84	0.74
15/25 Haul Truck Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15/25 Haul Truck Per Day	Welders	0	8.00	46	0.45
Install Foundation & Equipment	Air Compressors	2	8.00	78	0.48
Install Foundation & Equipment	Cranes	1	8.00	231	0.29
Install Foundation & Equipment	Excavators	0	8.00	158	0.38
Install Foundation & Equipment	Forklifts	0	8.00	89	0.20
Install Foundation & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundation & Equipment	Generator Sets	0	8.00	84	0.74
Install Foundation & Equipment	Graders	0	8.00	187	0.41
Install Foundation & Equipment	Off-Highway Trucks	2	8.00	402	0.38
Install Foundation & Equipment	Other Construction Equipment	3	8.00	341	0.42
Install Foundation & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundation & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40
Install Foundation & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundation & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundation & Equipment	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Install Foundation & Equipment	Welders	2	8.00	46	0.45
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	2	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	8.00	341	0.42
Set Modules, Inverters, Switchgear	Pavers	0	8.00	130	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Air Compressors	1		78	0.48
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29
Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	0	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	8.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	0	8.00	130	0.42
Elec Wire Install/Finish Grading	Paving Equipment	0	8.00	132	0.36
Elec Wire Install/Finish Grading	Plate Compactors	1	8.00	8	0.43
Elec Wire Install/Finish Grading	Rollers	0	8.00	80	0.38
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
5 Haul Trucks Per Day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per Day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per Day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
5 Haul Trucks Per Day	Welders	0	8.00	46	0.45
Commissioning/Testing	Air Compressors	0	6.00	78	0.48
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Commissioning/Testing	Other Construction Equipment	3	8.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Commissioning/Testing	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	4	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep/Grading	11	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
15/25 Haul Truck Per Day	0	0.00	0.00	50.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundation & Equipment	17	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	13	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	14	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per Day	0	0.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0142	0.1442	0.0940	2.3000e-004		6.3600e-003	6.3600e-003		5.8600e-003	5.8600e-003	0.0000	20.4714	20.4714	6.5300e-003	0.0000	20.6347
Total	**0.0142**	**0.1442**	**0.0940**	**2.3000e-004**		**6.3600e-003**	**6.3600e-003**		**5.8600e-003**	**5.8600e-003**	**0.0000**	**20.4714**	**20.4714**	**6.5300e-003**	**0.0000**	**20.6347**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3400e-003	3.8700e-003	0.0464	1.4000e-004	0.0162	8.0000e-005	0.0162	4.2900e-003	8.0000e-005	4.3700e-003	0.0000	12.9627	12.9627	3.2000e-004	3.4000e-004	13.0717
Total	**5.3400e-003**	**3.8700e-003**	**0.0464**	**1.4000e-004**	**0.0162**	**8.0000e-005**	**0.0162**	**4.2900e-003**	**8.0000e-005**	**4.3700e-003**	**0.0000**	**12.9627**	**12.9627**	**3.2000e-004**	**3.4000e-004**	**13.0717**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6700e-003	0.0364	0.1021	2.3000e-004		1.3200e-003	1.3200e-003		1.2400e-003	1.2400e-003	0.0000	20.4713	20.4713	6.5300e-003	0.0000	20.6346
Total	**4.6700e-003**	**0.0364**	**0.1021**	**2.3000e-004**		**1.3200e-003**	**1.3200e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**20.4713**	**20.4713**	**6.5300e-003**	**0.0000**	**20.6346**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3400e-003	3.8700e-003	0.0464	1.4000e-004	0.0162	8.0000e-005	0.0162	4.2900e-003	8.0000e-005	4.3700e-003	0.0000	12.9627	12.9627	3.2000e-004	3.4000e-004	13.0717
Total	**5.3400e-003**	**3.8700e-003**	**0.0464**	**1.4000e-004**	**0.0162**	**8.0000e-005**	**0.0162**	**4.2900e-003**	**8.0000e-005**	**4.3700e-003**	**0.0000**	**12.9627**	**12.9627**	**3.2000e-004**	**3.4000e-004**	**13.0717**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1736	0.0000	0.1736	0.0892	0.0000	0.0892	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0870	0.8093	0.6646	1.7900e-003		0.0342	0.0342		0.0319	0.0319	0.0000	156.8040	156.8040	0.0458	0.0000	157.9484
Total	**0.0870**	**0.8093**	**0.6646**	**1.7900e-003**	**0.1736**	**0.0342**	**0.2078**	**0.0892**	**0.0319**	**0.1211**	**0.0000**	**156.8040**	**156.8040**	**0.0458**	**0.0000**	**157.9484**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.9000e-003	0.0946	2.8000e-004	0.0329	1.7000e-004	0.0331	8.7500e-003	1.5000e-004	8.9100e-003	0.0000	26.4239	26.4239	6.5000e-004	6.9000e-004	26.6463
Total	**0.0109**	**7.9000e-003**	**0.0946**	**2.8000e-004**	**0.0329**	**1.7000e-004**	**0.0331**	**8.7500e-003**	**1.5000e-004**	**8.9100e-003**	**0.0000**	**26.4239**	**26.4239**	**6.5000e-004**	**6.9000e-004**	**26.6463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0781	0.0000	0.0781	0.0402	0.0000	0.0402	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0375	0.3044	0.7815	1.7900e-003		0.0110	0.0110		0.0102	0.0102	0.0000	156.8039	156.8039	0.0458	0.0000	157.9482
Total	**0.0375**	**0.3044**	**0.7815**	**1.7900e-003**	**0.0781**	**0.0110**	**0.0891**	**0.0402**	**0.0102**	**0.0504**	**0.0000**	**156.8039**	**156.8039**	**0.0458**	**0.0000**	**157.9482**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.9000e-003	0.0946	2.8000e-004	0.0329	1.7000e-004	0.0331	8.7500e-003	1.5000e-004	8.9100e-003	0.0000	26.4239	26.4239	6.5000e-004	6.9000e-004	26.6463
Total	**0.0109**	**7.9000e-003**	**0.0946**	**2.8000e-004**	**0.0329**	**1.7000e-004**	**0.0331**	**8.7500e-003**	**1.5000e-004**	**8.9100e-003**	**0.0000**	**26.4239**	**26.4239**	**6.5000e-004**	**6.9000e-004**	**26.6463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	3.1000e-003	6.6000e-004	1.0000e-005	4.3000e-004	3.0000e-005	4.6000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.4070	1.4070	1.0000e-005	2.2000e-004	1.4731
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**3.1000e-003**	**6.6000e-004**	**1.0000e-005**	**4.3000e-004**	**3.0000e-005**	**4.6000e-004**	**1.2000e-004**	**3.0000e-005**	**1.5000e-004**	**0.0000**	**1.4070**	**1.4070**	**1.0000e-005**	**2.2000e-004**	**1.4731**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	3.1000e-003	6.6000e-004	1.0000e-005	4.3000e-004	3.0000e-005	4.6000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.4070	1.4070	1.0000e-005	2.2000e-004	1.4731
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**3.1000e-003**	**6.6000e-004**	**1.0000e-005**	**4.3000e-004**	**3.0000e-005**	**4.6000e-004**	**1.2000e-004**	**3.0000e-005**	**1.5000e-004**	**0.0000**	**1.4070**	**1.4070**	**1.0000e-005**	**2.2000e-004**	**1.4731**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.2225	1.1006	2.8700e-003		0.0510	0.0510		0.0477	0.0477	0.0000	249.1188	249.1188	0.0709	0.0000	250.8901
Total	**0.1380**	**1.2225**	**1.1006**	**2.8700e-003**		**0.0510**	**0.0510**		**0.0477**	**0.0477**	**0.0000**	**249.1188**	**249.1188**	**0.0709**	**0.0000**	**250.8901**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.9000e-003	0.0946	2.8000e-004	0.0329	1.7000e-004	0.0331	8.7500e-003	1.5000e-004	8.9100e-003	0.0000	26.4239	26.4239	6.5000e-004	6.9000e-004	26.6463
Total	**0.0109**	**7.9000e-003**	**0.0946**	**2.8000e-004**	**0.0329**	**1.7000e-004**	**0.0331**	**8.7500e-003**	**1.5000e-004**	**8.9100e-003**	**0.0000**	**26.4239**	**26.4239**	**6.5000e-004**	**6.9000e-004**	**26.6463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0610	0.5855	1.2929	2.8700e-003		0.0167	0.0167		0.0156	0.0156	0.0000	249.1185	249.1185	0.0709	0.0000	250.8898
Total	**0.0610**	**0.5855**	**1.2929**	**2.8700e-003**		**0.0167**	**0.0167**		**0.0156**	**0.0156**	**0.0000**	**249.1185**	**249.1185**	**0.0709**	**0.0000**	**250.8898**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.9000e-003	0.0946	2.8000e-004	0.0329	1.7000e-004	0.0331	8.7500e-003	1.5000e-004	8.9100e-003	0.0000	26.4239	26.4239	6.5000e-004	6.9000e-004	26.6463
Total	**0.0109**	**7.9000e-003**	**0.0946**	**2.8000e-004**	**0.0329**	**1.7000e-004**	**0.0331**	**8.7500e-003**	**1.5000e-004**	**8.9100e-003**	**0.0000**	**26.4239**	**26.4239**	**6.5000e-004**	**6.9000e-004**	**26.6463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2248	1.9706	1.7220	4.9100e-003		0.0800	0.0800		0.0747	0.0747	0.0000	426.8835	426.8835	0.1240	0.0000	429.9840
Total	**0.2248**	**1.9706**	**1.7220**	**4.9100e-003**		**0.0800**	**0.0800**		**0.0747**	**0.0747**	**0.0000**	**426.8835**	**426.8835**	**0.1240**	**0.0000**	**429.9840**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0214	0.0155	0.1857	5.6000e-004	0.0646	3.3000e-004	0.0650	0.0172	3.0000e-004	0.0175	0.0000	51.8507	51.8507	1.2700e-003	1.3600e-003	52.2870
Total	**0.0214**	**0.0155**	**0.1857**	**5.6000e-004**	**0.0646**	**3.3000e-004**	**0.0650**	**0.0172**	**3.0000e-004**	**0.0175**	**0.0000**	**51.8507**	**51.8507**	**1.2700e-003**	**1.3600e-003**	**52.2870**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1116	1.1143	2.0883	4.9100e-003		0.0317	0.0317		0.0295	0.0295	0.0000	426.8830	426.8830	0.1240	0.0000	429.9835
Total	**0.1116**	**1.1143**	**2.0883**	**4.9100e-003**		**0.0317**	**0.0317**		**0.0295**	**0.0295**	**0.0000**	**426.8830**	**426.8830**	**0.1240**	**0.0000**	**429.9835**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0214	0.0155	0.1857	5.6000e-004	0.0646	3.3000e-004	0.0650	0.0172	3.0000e-004	0.0175	0.0000	51.8507	51.8507	1.2700e-003	1.3600e-003	52.2870
Total	**0.0214**	**0.0155**	**0.1857**	**5.6000e-004**	**0.0646**	**3.3000e-004**	**0.0650**	**0.0172**	**3.0000e-004**	**0.0175**	**0.0000**	**51.8507**	**51.8507**	**1.2700e-003**	**1.3600e-003**	**52.2870**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2762	0.0000	0.2762	0.1336	0.0000	0.1336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1594	1.4699	1.2139	3.2600e-003		0.0609	0.0609		0.0566	0.0566	0.0000	282.9811	282.9811	0.0842	0.0000	285.0866
Total	**0.1594**	**1.4699**	**1.2139**	**3.2600e-003**	**0.2762**	**0.0609**	**0.3371**	**0.1336**	**0.0566**	**0.1902**	**0.0000**	**282.9811**	**282.9811**	**0.0842**	**0.0000**	**285.0866**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0160	0.0116	0.1393	4.2000e-004	0.0485	2.5000e-004	0.0487	0.0129	2.3000e-004	0.0131	0.0000	38.8880	38.8880	9.5000e-004	1.0200e-003	39.2152
Total	**0.0160**	**0.0116**	**0.1393**	**4.2000e-004**	**0.0485**	**2.5000e-004**	**0.0487**	**0.0129**	**2.3000e-004**	**0.0131**	**0.0000**	**38.8880**	**38.8880**	**9.5000e-004**	**1.0200e-003**	**39.2152**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1243	0.0000	0.1243	0.0601	0.0000	0.0601	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0787	0.8138	1.3792	3.2600e-003		0.0231	0.0231		0.0215	0.0215	0.0000	282.9807	282.9807	0.0842	0.0000	285.0862
Total	**0.0787**	**0.8138**	**1.3792**	**3.2600e-003**	**0.1243**	**0.0231**	**0.1474**	**0.0601**	**0.0215**	**0.0816**	**0.0000**	**282.9807**	**282.9807**	**0.0842**	**0.0000**	**285.0862**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0160	0.0116	0.1393	4.2000e-004	0.0485	2.5000e-004	0.0487	0.0129	2.3000e-004	0.0131	0.0000	38.8880	38.8880	9.5000e-004	1.0200e-003	39.2152
Total	**0.0160**	**0.0116**	**0.1393**	**4.2000e-004**	**0.0485**	**2.5000e-004**	**0.0487**	**0.0129**	**2.3000e-004**	**0.0131**	**0.0000**	**38.8880**	**38.8880**	**9.5000e-004**	**1.0200e-003**	**39.2152**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2762	0.0000	0.2762	0.1336	0.0000	0.1336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1545	1.3920	1.2060	3.2600e-003		0.0567	0.0567		0.0527	0.0527	0.0000	283.0808	283.0808	0.0841	0.0000	285.1833
Total	**0.1545**	**1.3920**	**1.2060**	**3.2600e-003**	**0.2762**	**0.0567**	**0.3330**	**0.1336**	**0.0527**	**0.1863**	**0.0000**	**283.0808**	**283.0808**	**0.0841**	**0.0000**	**285.1833**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0148	0.0102	0.1283	4.1000e-004	0.0485	2.3000e-004	0.0487	0.0129	2.2000e-004	0.0131	0.0000	37.9130	37.9130	8.5000e-004	9.4000e-004	38.2134
Total	**0.0148**	**0.0102**	**0.1283**	**4.1000e-004**	**0.0485**	**2.3000e-004**	**0.0487**	**0.0129**	**2.2000e-004**	**0.0131**	**0.0000**	**37.9130**	**37.9130**	**8.5000e-004**	**9.4000e-004**	**38.2134**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1243	0.0000	0.1243	0.0601	0.0000	0.0601	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0771	0.7739	1.3753	3.2600e-003		0.0218	0.0218		0.0203	0.0203	0.0000	283.0805	283.0805	0.0841	0.0000	285.1830
Total	**0.0771**	**0.7739**	**1.3753**	**3.2600e-003**	**0.1243**	**0.0218**	**0.1461**	**0.0601**	**0.0203**	**0.0804**	**0.0000**	**283.0805**	**283.0805**	**0.0841**	**0.0000**	**285.1830**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0148	0.0102	0.1283	4.1000e-004	0.0485	2.3000e-004	0.0487	0.0129	2.2000e-004	0.0131	0.0000	37.9130	37.9130	8.5000e-004	9.4000e-004	38.2134
Total	**0.0148**	**0.0102**	**0.1283**	**4.1000e-004**	**0.0485**	**2.3000e-004**	**0.0487**	**0.0129**	**2.2000e-004**	**0.0131**	**0.0000**	**37.9130**	**37.9130**	**8.5000e-004**	**9.4000e-004**	**38.2134**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	6.2000e-004	1.3000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2814	0.2814	0.0000	4.0000e-005	0.2946
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**6.2000e-004**	**1.3000e-004**	**0.0000**	**9.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.2814**	**0.2814**	**0.0000**	**4.0000e-005**	**0.2946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	6.2000e-004	1.3000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2814	0.2814	0.0000	4.0000e-005	0.2946
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**6.2000e-004**	**1.3000e-004**	**0.0000**	**9.0000e-005**	**1.0000e-005**	**9.0000e-005**	**2.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.2814**	**0.2814**	**0.0000**	**4.0000e-005**	**0.2946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0906	0.7425	0.6736	2.2000e-003		0.0278	0.0278		0.0258	0.0258	0.0000	190.1361	190.1361	0.0582	0.0000	191.5912
Total	**0.0906**	**0.7425**	**0.6736**	**2.2000e-003**		**0.0278**	**0.0278**		**0.0258**	**0.0258**	**0.0000**	**190.1361**	**190.1361**	**0.0582**	**0.0000**	**191.5912**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0150	0.0103	0.1299	4.1000e-004	0.0491	2.4000e-004	0.0493	0.0131	2.2000e-004	0.0133	0.0000	38.3990	38.3990	8.6000e-004	9.5000e-004	38.7033
Total	**0.0150**	**0.0103**	**0.1299**	**4.1000e-004**	**0.0491**	**2.4000e-004**	**0.0493**	**0.0131**	**2.2000e-004**	**0.0133**	**0.0000**	**38.3990**	**38.3990**	**8.6000e-004**	**9.5000e-004**	**38.7033**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0622	0.6089	0.7662	2.2000e-003		0.0204	0.0204		0.0188	0.0188	0.0000	190.1359	190.1359	0.0582	0.0000	191.5909
Total	**0.0622**	**0.6089**	**0.7662**	**2.2000e-003**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**190.1359**	**190.1359**	**0.0582**	**0.0000**	**191.5909**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0150	0.0103	0.1299	4.1000e-004	0.0491	2.4000e-004	0.0493	0.0131	2.2000e-004	0.0133	0.0000	38.3990	38.3990	8.6000e-004	9.5000e-004	38.7033
Total	**0.0150**	**0.0103**	**0.1299**	**4.1000e-004**	**0.0491**	**2.4000e-004**	**0.0493**	**0.0131**	**2.2000e-004**	**0.0133**	**0.0000**	**38.3990**	**38.3990**	**8.6000e-004**	**9.5000e-004**	**38.7033**

4.0 Operational Detail - Mobile

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0964	0.0964	0.0000	0.0000	0.0971
Unmitigated	1.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0964	0.0964	0.0000	0.0000	0.0971

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.02	0.00	0.00	234	234
Total	0.02	0.00	0.00	234	234

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Parking Lot	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.5100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	9.5100e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.2100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.3000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.5100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.2100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.3000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.5100e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3122	5.0000e-005	1.0000e-005	0.3153
Unmitigated	0.3122	5.0000e-005	1.0000e-005	0.3153

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0.964	0.3122	5.0000e-005	1.0000e-005	0.3153
Total		**0.3122**	**5.0000e-005**	**1.0000e-005**	**0.3153**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0.964	0.3122	5.0000e-005	1.0000e-005	0.3153
Total		**0.3122**	**5.0000e-005**	**1.0000e-005**	**0.3153**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Henrietta BESS-AQGHG

San Joaquin Valley Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.25	1000sqft	3.91	248.50	0
Other Non-Asphalt Surfaces	1.50	Acre	1.50	65,340.00	0
Parking Lot	32.50	1000sqft	0.83	32,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BESS Site/Switchyard/Detension Basin = Refrigerated Warehouse-No Rail, Temporary Laydown = Other Non-Asphalt Surfaces, and Site Access Road Improvements = Parking Lot (1,300 feet x 25 feet wide)

Construction Phase - See Assumptions attachment for construction schedule

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Trips and VMT - See Assumptions. Information provided by the applicant

Grading -

Vehicle Trips - See Assumptions. Based on information by the applicant.

Landscape Equipment - Based on information provided by the applicant

Energy Use - No operational energy consumption

Water And Wastewater - See Assumptions. Based on applicant information

Solid Waste - Project site would not generate waste

Construction Off-road Equipment Mitigation - Based on SJVAPCD Rule 8021 and project would use tier 4 equipment

Area Mitigation -

Fleet Mix - See assumptions. Based on information provided by the applicant.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	104.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	79.00
tblConstructionPhase	NumDays	20.00	26.00
tblConstructionPhase	NumDays	20.00	156.00
tblConstructionPhase	NumDays	10.00	53.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	2.45	0.00
tblEnergyUse	NT24E	21.99	0.00
tblEnergyUse	T24E	0.42	0.00
tblEnergyUse	T24NG	0.15	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.51	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LHD2	7.6490e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	1.00
tblFleetMix	MH	3.5520e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.5400e-004	0.00
tblFleetMix	SBUS	1.4720e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LandUseSquareFeet	250.00	248.50
tblLandUse	LotAcreage	0.01	3.91
tblLandUse	LotAcreage	0.75	0.83
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	LoadFactor	0.42	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	0.24	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripNumber	0.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	35.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	14.70	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.06
tblWater	IndoorWaterUseRate	57,812.50	0.00
tblWater	OutdoorWaterUseRate	0.00	964,000.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	10.4523	84.5831	83.0851	0.2261	9.9834	3.4740	12.4054	4.2853	3.2502	7.0604	0.0000	21,803.4397	21,803.4397	5.6299	0.5423	21,960.5373
2024	7.1033	54.9755	55.7386	0.1620	9.1069	2.1691	11.2761	4.0449	2.0172	6.0621	0.0000	15,638.3440	15,638.3440	4.0491	0.0505	15,754.6162
Maximum	**10.4523**	**84.5831**	**83.0851**	**0.2261**	**9.9834**	**3.4740**	**12.4054**	**4.2853**	**3.2502**	**7.0604**	**0.0000**	**21,803.4397**	**21,803.4397**	**5.6299**	**0.5423**	**21,960.5373**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.3681	44.0785	97.3859	0.2261	6.3796	1.2528	6.9678	2.4332	1.1684	3.3829	0.0000	21,803.4397	21,803.4397	5.6299	0.5423	21,960.5372
2024	4.4000	35.7440	62.4211	0.1620	5.5032	1.0862	6.5893	2.1928	1.0072	3.2000	0.0000	15,638.3439	15,638.3439	4.0491	0.0505	15,754.6162
Maximum	**5.3681**	**44.0785**	**97.3859**	**0.2261**	**6.3796**	**1.2528**	**6.9678**	**2.4332**	**1.1684**	**3.3829**	**0.0000**	**21,803.4397**	**21,803.4397**	**5.6299**	**0.5423**	**21,960.5372**

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	44.36	42.80	-15.11	0.00	37.76	58.55	42.75	44.47	58.70	49.84	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.0000e-005	1.8000e-004	2.3200e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.8720	0.8720	1.0000e-005	2.0000e-005	0.8776
Total	**0.0525**	**2.1000e-004**	**5.8100e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**		**0.8795**	**0.8795**	**3.0000e-005**	**2.0000e-005**	**0.8855**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	8.0000e-005	1.8000e-004	2.3200e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.8720	0.8720	1.0000e-005	2.0000e-005	0.8776
Total	**0.0525**	**2.1000e-004**	**5.8100e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**		**0.8795**	**0.8795**	**3.0000e-005**	**2.0000e-005**	**0.8855**

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	7/1/2023	7/31/2023	6	26	
2	Site Prep/Grading	Site Preparation	7/1/2023	8/31/2023	6	53	
3	15/25 Haul Truck Per Day	Building Construction	7/1/2023	7/3/2023	5	1	
4	Install Foundation & Equipment	Building Construction	8/1/2023	9/30/2023	6	53	
5	Set Modules, Inverters, Switchgear	Building Construction	9/1/2023	12/30/2023	6	104	
6	Elec Wire Install/Finish Grading	Grading	10/2/2023	3/30/2024	6	156	
7	5 Haul Trucks Per Day	Building Construction	10/2/2023	10/2/2023	5	1	
8	Commissioning/Testing	Building Construction	3/1/2024	5/31/2024	6	79	

Acres of Grading (Site Preparation Phase): 26.5

Acres of Grading (Grading Phase): 78

Acres of Paving: 2.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Other Construction Equipment	1	4.00	341	0.40

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Access Road Repair	Pavers	0	8.00	130	0.42
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Prep/Grading	Air Compressors	2	8.00	78	0.48
Site Prep/Grading	Cranes	1	8.00	231	0.29
Site Prep/Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Prep/Grading	Other Construction Equipment	2	8.00	341	0.42
Site Prep/Grading	Plate Compactors	1	8.00	8	0.43
Site Prep/Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Site Prep/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Prep/Grading	Sweepers/Scrubbers	1	1.00	64	0.46
Site Prep/Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
15/25 Haul Truck Per Day	Cranes	0	7.00	231	0.29
15/25 Haul Truck Per Day	Forklifts	0	8.00	89	0.20
15/25 Haul Truck Per Day	Generator Sets	0	8.00	84	0.74
15/25 Haul Truck Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15/25 Haul Truck Per Day	Welders	0	8.00	46	0.45
Install Foundation & Equipment	Air Compressors	2	8.00	78	0.48
Install Foundation & Equipment	Cranes	1	8.00	231	0.29
Install Foundation & Equipment	Excavators	0	8.00	158	0.38
Install Foundation & Equipment	Forklifts	0	8.00	89	0.20
Install Foundation & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundation & Equipment	Generator Sets	0	8.00	84	0.74
Install Foundation & Equipment	Graders	0	8.00	187	0.41
Install Foundation & Equipment	Off-Highway Trucks	2	8.00	402	0.38
Install Foundation & Equipment	Other Construction Equipment	3	8.00	341	0.42
Install Foundation & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundation & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Install Foundation & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundation & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundation & Equipment	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Install Foundation & Equipment	Welders	2	8.00	46	0.45
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	2	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	8.00	341	0.42
Set Modules, Inverters, Switchgear	Pavers	0	8.00	130	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40
Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Air Compressors	1		78	0.48
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29
Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	0	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	8.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	0	8.00	130	0.42
Elec Wire Install/Finish Grading	Paving Equipment	0	8.00	132	0.36
Elec Wire Install/Finish Grading	Plate Compactors	1	8.00	8	0.43
Elec Wire Install/Finish Grading	Rollers	0	8.00	80	0.38
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	8.00	64	0.46

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
5 Haul Trucks Per Day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per Day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per Day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
5 Haul Trucks Per Day	Welders	0	8.00	46	0.45
Commissioning/Testing	Air Compressors	0	6.00	78	0.48
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38
Commissioning/Testing	Other Construction Equipment	3	8.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Commissioning/Testing	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	4	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep/Grading	11	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
15/25 Haul Truck Per Day	0	0.00	0.00	50.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundation & Equipment	17	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	13	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	14	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per Day	0	0.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0931	11.0940	7.2273	0.0181		0.4893	0.4893		0.4509	0.4509		1,735.8316	1,735.8316	0.5538		1,749.6774
Total	**1.0931**	**11.0940**	**7.2273**	**0.0181**		**0.4893**	**0.4893**		**0.4509**	**0.4509**		**1,735.8316**	**1,735.8316**	**0.5538**		**1,749.6774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3595	2.7975	7.8548	0.0181		0.1018	0.1018		0.0951	0.0951	0.0000	1,735.8316	1,735.8316	0.5538		1,749.6774
Total	**0.3595**	**2.7975**	**7.8548**	**0.0181**		**0.1018**	**0.1018**		**0.0951**	**0.0951**	**0.0000**	**1,735.8316**	**1,735.8316**	**0.5538**		**1,749.6774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.2823	30.5402	25.0801	0.0677		1.2898	1.2898		1.2025	1.2025		6,522.5231	6,522.5231	1.9041		6,570.1258
Total	**3.2823**	**30.5402**	**25.0801**	**0.0677**	**6.5523**	**1.2898**	**7.8422**	**3.3675**	**1.2025**	**4.5700**		**6,522.5231**	**6,522.5231**	**1.9041**		**6,570.1258**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.4157	11.4854	29.4914	0.0677		0.4143	0.4143		0.3865	0.3865	0.0000	6,522.5231	6,522.5231	1.9041		6,570.1258
Total	**1.4157**	**11.4854**	**29.4914**	**0.0677**	**2.9486**	**0.4143**	**3.3629**	**1.5154**	**0.3865**	**1.9019**	**0.0000**	**6,522.5231**	**6,522.5231**	**1.9041**		**6,570.1258**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1095	5.9210	1.3078	0.0292	0.8765	0.0595	0.9359	0.2404	0.0569	0.2973		3,100.1260	3,100.1260	0.0134	0.4875	3,245.7258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1095**	**5.9210**	**1.3078**	**0.0292**	**0.8765**	**0.0595**	**0.9359**	**0.2404**	**0.0569**	**0.2973**		**3,100.1260**	**3,100.1260**	**0.0134**	**0.4875**	**3,245.7258**

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1095	5.9210	1.3078	0.0292	0.8765	0.0595	0.9359	0.2404	0.0569	0.2973		3,100.1260	3,100.1260	0.0134	0.4875	3,245.7258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1095**	**5.9210**	**1.3078**	**0.0292**	**0.8765**	**0.0595**	**0.9359**	**0.2404**	**0.0569**	**0.2973**		**3,100.1260**	**3,100.1260**	**0.0134**	**0.4875**	**3,245.7258**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.2088	46.1323	41.5318	0.1083		1.9240	1.9240		1.8012	1.8012		10,362.5075	10,362.5075	2.9473		10,436.1890
Total	**5.2088**	**46.1323**	**41.5318**	**0.1083**		**1.9240**	**1.9240**		**1.8012**	**1.8012**		**10,362.5075**	**10,362.5075**	**2.9473**		**10,436.1890**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3005	22.0951	48.7892	0.1083		0.6303	0.6303		0.5886	0.5886	0.0000	10,362.5075	10,362.5075	2.9473		10,436.1890
Total	**2.3005**	**22.0951**	**48.7892**	**0.1083**		**0.6303**	**0.6303**		**0.5886**	**0.5886**	**0.0000**	**10,362.5075**	**10,362.5075**	**2.9473**		**10,436.1890**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3227	37.8970	33.1160	0.0945		1.5374	1.5374		1.4373	1.4373		9,049.2026	9,049.2026	2.6290		9,114.9276
Total	**4.3227**	**37.8970**	**33.1160**	**0.0945**		**1.5374**	**1.5374**		**1.4373**	**1.4373**		**9,049.2026**	**9,049.2026**	**2.6290**		**9,114.9276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.4296	40.1594	0.0945		0.6098	0.6098		0.5681	0.5681	0.0000	9,049.2026	9,049.2026	2.6290		9,114.9276
Total	**2.1469**	**21.4296**	**40.1594**	**0.0945**		**0.6098**	**0.6098**		**0.5681**	**0.5681**	**0.0000**	**9,049.2026**	**9,049.2026**	**2.6290**		**9,114.9276**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	4.0880	37.6904	31.1264	0.0837		1.5612	1.5612		1.4523	1.4523		7,998.2874	7,998.2874	2.3805		8,057.7988
Total	**4.0880**	**37.6904**	**31.1264**	**0.0837**	**6.5523**	**1.5612**	**8.1135**	**3.3675**	**1.4523**	**4.8198**		**7,998.2874**	**7,998.2874**	**2.3805**		**8,057.7988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0172	20.8678	35.3652	0.0837		0.5926	0.5926		0.5508	0.5508	0.0000	7,998.2874	7,998.2874	2.3805		8,057.7988
Total	**2.0172**	**20.8678**	**35.3652**	**0.0837**	**2.9486**	**0.5926**	**3.5411**	**1.5154**	**0.5508**	**2.0662**	**0.0000**	**7,998.2874**	**7,998.2874**	**2.3805**		**8,057.7988**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4604	0.2769	4.2187	0.0117	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,195.8648	1,195.8648	0.0268	0.0274	1,204.7103
Total	**0.4604**	**0.2769**	**4.2187**	**0.0117**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,195.8648**	**1,195.8648**	**0.0268**	**0.0274**	**1,204.7103**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.9602	35.6930	30.9240	0.0837		1.4546	1.4546		1.3522	1.3522		8,001.1073	8,001.1073	2.3771		8,060.5339
Total	**3.9602**	**35.6930**	**30.9240**	**0.0837**	**6.5523**	**1.4546**	**8.0069**	**3.3675**	**1.3522**	**4.7197**		**8,001.1073**	**8,001.1073**	**2.3771**		**8,060.5339**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4242	0.2428	3.8803	0.0113	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,165.5908	1,165.5908	0.0239	0.0252	1,173.7107
Total	**0.4242**	**0.2428**	**3.8803**	**0.0113**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,165.5908**	**1,165.5908**	**0.0239**	**0.0252**	**1,173.7107**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9763	19.8423	35.2631	0.0837		0.5590	0.5590		0.5200	0.5200	0.0000	8,001.1073	8,001.1073	2.3771		8,060.5339
Total	**1.9763**	**19.8423**	**35.2631**	**0.0837**	**2.9486**	**0.5590**	**3.5075**	**1.5154**	**0.5200**	**2.0353**	**0.0000**	**8,001.1073**	**8,001.1073**	**2.3771**		**8,060.5339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4242	0.2428	3.8803	0.0113	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,165.5908	1,165.5908	0.0239	0.0252	1,173.7107
Total	**0.4242**	**0.2428**	**3.8803**	**0.0113**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,165.5908**	**1,165.5908**	**0.0239**	**0.0252**	**1,173.7107**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0219	1.1842	0.2616	5.8500e-003	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595		620.0252	620.0252	2.6800e-003	0.0975	649.1452
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0219**	**1.1842**	**0.2616**	**5.8500e-003**	**0.1753**	**0.0119**	**0.1872**	**0.0481**	**0.0114**	**0.0595**		**620.0252**	**620.0252**	**2.6800e-003**	**0.0975**	**649.1452**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0219	1.1842	0.2616	5.8500e-003	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595		620.0252	620.0252	2.6800e-003	0.0975	649.1452
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0219**	**1.1842**	**0.2616**	**5.8500e-003**	**0.1753**	**0.0119**	**0.1872**	**0.0481**	**0.0114**	**0.0595**		**620.0252**	**620.0252**	**2.6800e-003**	**0.0975**	**649.1452**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2947	18.7969	17.0539	0.0557		0.7025	0.7025		0.6539	0.6539		5,306.0550	5,306.0550	1.6242		5,346.6608
Total	**2.2947**	**18.7969**	**17.0539**	**0.0557**		**0.7025**	**0.7025**		**0.6539**	**0.6539**		**5,306.0550**	**5,306.0550**	**1.6242**		**5,346.6608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4242	0.2428	3.8803	0.0113	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,165.5908	1,165.5908	0.0239	0.0252	1,173.7107
Total	**0.4242**	**0.2428**	**3.8803**	**0.0113**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,165.5908**	**1,165.5908**	**0.0239**	**0.0252**	**1,173.7107**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5753	15.4160	19.3973	0.0557		0.5152	0.5152		0.4762	0.4762	0.0000	5,306.0550	5,306.0550	1.6242		5,346.6608
Total	**1.5753**	**15.4160**	**19.3973**	**0.0557**		**0.5152**	**0.5152**		**0.4762**	**0.4762**	**0.0000**	**5,306.0550**	**5,306.0550**	**1.6242**		**5,346.6608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4242	0.2428	3.8803	0.0113	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,165.5908	1,165.5908	0.0239	0.0252	1,173.7107
Total	**0.4242**	**0.2428**	**3.8803**	**0.0113**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,165.5908**	**1,165.5908**	**0.0239**	**0.0252**	**1,173.7107**

4.0 Operational Detail - Mobile

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.0000e-005	1.8000e-004	2.3200e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.8720	0.8720	1.0000e-005	2.0000e-005	0.8776
Unmitigated	8.0000e-005	1.8000e-004	2.3200e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.8720	0.8720	1.0000e-005	2.0000e-005	0.8776

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.02	0.00	0.00	234	234
Total	0.02	0.00	0.00	234	234

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Parking Lot	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Unmitigated	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Total	**0.0524**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.5000e-003**	**7.5000e-003**	**2.0000e-005**		**7.9800e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Total	**0.0524**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.5000e-003**	**7.5000e-003**	**2.0000e-005**		**7.9800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Henrietta BESS-AQGHG

San Joaquin Valley Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	0.25	1000sqft	3.91	248.50	0
Other Non-Asphalt Surfaces	1.50	Acre	1.50	65,340.00	0
Parking Lot	32.50	1000sqft	0.83	32,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BESS Site/Switchyard/Detension Basin = Refrigerated Warehouse-No Rail, Temporary Laydown = Other Non-Asphalt Surfaces, and Site Access Road Improvements = Parking Lot (1,300 feet x 25 feet wide)

Construction Phase - See Assumptions attachment for construction schedule

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Based on applicant construction equipment list

Off-road Equipment - Based on applicant construction equipment list

Trips and VMT - See Assumptions. Information provided by the applicant

Grading -

Vehicle Trips - See Assumptions. Based on information by the applicant.

Landscape Equipment - Based on information provided by the applicant

Energy Use - No operational energy consumption

Water And Wastewater - See Assumptions. Based on applicant information

Solid Waste - Project site would not generate waste

Construction Off-road Equipment Mitigation - Based on SJVAPCD Rule 8021 and project would use tier 4 equipment

Area Mitigation -

Fleet Mix - See assumptions. Based on information provided by the applicant.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	104.00
tblConstructionPhase	NumDays	230.00	1.00
tblConstructionPhase	NumDays	230.00	79.00
tblConstructionPhase	NumDays	20.00	26.00
tblConstructionPhase	NumDays	20.00	156.00
tblConstructionPhase	NumDays	10.00	53.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	2.45	0.00
tblEnergyUse	NT24E	21.99	0.00
tblEnergyUse	T24E	0.42	0.00
tblEnergyUse	T24NG	0.15	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.51	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LHD2	7.6490e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.16	1.00
tblFleetMix	MH	3.5520e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.5400e-004	0.00
tblFleetMix	SBUS	1.4720e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LandUseSquareFeet	250.00	248.50
tblLandUse	LotAcreage	0.01	3.91
tblLandUse	LotAcreage	0.75	0.83
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	84.00	53.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	HorsePower	172.00	341.00
tblOffRoadEquipment	LoadFactor	0.42	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	0.24	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripNumber	0.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	100.00
tblTripsAndVMT	WorkerTripNumber	28.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblTripsAndVMT	WorkerTripNumber	35.00	100.00
tblTripsAndVMT	WorkerTripNumber	41.00	0.00
tblTripsAndVMT	WorkerTripNumber	41.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	14.70	60.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	WD_TR	2.12	0.06
tblWater	IndoorWaterUseRate	57,812.50	0.00
tblWater	OutdoorWaterUseRate	0.00	964,000.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	10.3994	84.6830	81.5757	0.2235	9.9834	3.4740	12.4054	4.2853	3.2502	7.0604	0.0000	21,537.8444	21,537.8444	5.6326	0.5494	21,696.9056
2024	7.0579	55.0628	54.3689	0.1595	9.1069	2.1691	11.2761	4.0449	2.0172	6.0621	0.0000	15,380.1917	15,380.1917	4.0517	0.0563	15,498.2649
Maximum	**10.3994**	**84.6830**	**81.5757**	**0.2235**	**9.9834**	**3.4740**	**12.4054**	**4.2853**	**3.2502**	**7.0604**	**0.0000**	**21,537.8444**	**21,537.8444**	**5.6326**	**0.5494**	**21,696.9056**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.3152	44.2213	95.8764	0.2235	6.3796	1.2528	6.9679	2.4332	1.1684	3.3829	0.0000	21,537.8443	21,537.8443	5.6326	0.5494	21,696.9056
2024	4.3546	35.8312	61.0513	0.1595	5.5032	1.0862	6.5893	2.1928	1.0072	3.2000	0.0000	15,380.1917	15,380.1917	4.0517	0.0563	15,498.2649
Maximum	**5.3152**	**44.2213**	**95.8764**	**0.2235**	**6.3796**	**1.2528**	**6.9679**	**2.4332**	**1.1684**	**3.3829**	**0.0000**	**21,537.8443**	**21,537.8443**	**5.6326**	**0.5494**	**21,696.9056**

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	44.61	42.72	-15.44	0.00	37.76	58.55	42.75	44.47	58.70	49.83	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.0000e-005	2.1000e-004	1.8000e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.7984	0.7984	1.0000e-005	2.0000e-005	0.8045
Total	**0.0525**	**2.4000e-004**	**5.2900e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**		**0.8059**	**0.8059**	**3.0000e-005**	**2.0000e-005**	**0.8125**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.0000e-005	2.1000e-004	1.8000e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.7984	0.7984	1.0000e-005	2.0000e-005	0.8045
Total	**0.0525**	**2.4000e-004**	**5.2900e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**		**0.8059**	**0.8059**	**3.0000e-005**	**2.0000e-005**	**0.8125**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Repair	Demolition	7/1/2023	7/31/2023	6	26	
2	Site Prep/Grading	Site Preparation	7/1/2023	8/31/2023	6	53	
3	15/25 Haul Truck Per Day	Building Construction	7/1/2023	7/3/2023	5	1	
4	Install Foundation & Equipment	Building Construction	8/1/2023	9/30/2023	6	53	
5	Set Modules, Inverters, Switchgear	Building Construction	9/1/2023	12/30/2023	6	104	
6	Elec Wire Install/Finish Grading	Grading	10/2/2023	3/30/2024	6	156	
7	5 Haul Trucks Per Day	Building Construction	10/2/2023	10/2/2023	5	1	
8	Commissioning/Testing	Building Construction	3/1/2024	5/31/2024	6	79	

Acres of Grading (Site Preparation Phase): 26.5

Acres of Grading (Grading Phase): 78

Acres of Paving: 2.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Repair	Concrete/Industrial Saws	0	8.00	81	0.73
Access Road Repair	Excavators	0	8.00	158	0.38
Access Road Repair	Other Construction Equipment	1	4.00	341	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Access Road Repair	Pavers	0	8.00	130	0.42
Access Road Repair	Plate Compactors	1	8.00	8	0.43
Access Road Repair	Rubber Tired Dozers	1	8.00	247	0.40
Access Road Repair	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Prep/Grading	Air Compressors	2	8.00	78	0.48
Site Prep/Grading	Cranes	1	8.00	231	0.29
Site Prep/Grading	Off-Highway Trucks	1	8.00	402	0.38
Site Prep/Grading	Other Construction Equipment	2	8.00	341	0.42
Site Prep/Grading	Plate Compactors	1	8.00	8	0.43
Site Prep/Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Site Prep/Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Prep/Grading	Sweepers/Scrubbers	1	1.00	64	0.46
Site Prep/Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
15/25 Haul Truck Per Day	Cranes	0	7.00	231	0.29
15/25 Haul Truck Per Day	Forklifts	0	8.00	89	0.20
15/25 Haul Truck Per Day	Generator Sets	0	8.00	84	0.74
15/25 Haul Truck Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
15/25 Haul Truck Per Day	Welders	0	8.00	46	0.45
Install Foundation & Equipment	Air Compressors	2	8.00	78	0.48
Install Foundation & Equipment	Cranes	1	8.00	231	0.29
Install Foundation & Equipment	Excavators	0	8.00	158	0.38
Install Foundation & Equipment	Forklifts	0	8.00	89	0.20
Install Foundation & Equipment	Generator Sets	1	8.00	53	0.74
Install Foundation & Equipment	Generator Sets	0	8.00	84	0.74
Install Foundation & Equipment	Graders	0	8.00	187	0.41
Install Foundation & Equipment	Off-Highway Trucks	2	8.00	402	0.38
Install Foundation & Equipment	Other Construction Equipment	3	8.00	341	0.42
Install Foundation & Equipment	Plate Compactors	1	8.00	8	0.43
Install Foundation & Equipment	Rough Terrain Forklifts	2	8.00	100	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Install Foundation & Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Install Foundation & Equipment	Sweepers/Scrubbers	1	8.00	64	0.46
Install Foundation & Equipment	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Install Foundation & Equipment	Welders	2	8.00	46	0.45
Set Modules, Inverters, Switchgear	Air Compressors	1	8.00	78	0.48
Set Modules, Inverters, Switchgear	Cranes	2	8.00	231	0.29
Set Modules, Inverters, Switchgear	Forklifts	0	8.00	89	0.20
Set Modules, Inverters, Switchgear	Generator Sets	1	8.00	53	0.74
Set Modules, Inverters, Switchgear	Off-Highway Trucks	2	8.00	402	0.38
Set Modules, Inverters, Switchgear	Other Construction Equipment	3	8.00	341	0.42
Set Modules, Inverters, Switchgear	Pavers	0	8.00	130	0.42
Set Modules, Inverters, Switchgear	Rough Terrain Forklifts	1	8.00	100	0.40
Set Modules, Inverters, Switchgear	Sweepers/Scrubbers	1	8.00	64	0.46
Set Modules, Inverters, Switchgear	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Set Modules, Inverters, Switchgear	Welders	2	8.00	46	0.45
Elec Wire Install/Finish Grading	Air Compressors	1		78	0.48
Elec Wire Install/Finish Grading	Cranes	1	8.00	231	0.29
Elec Wire Install/Finish Grading	Excavators	0	8.00	158	0.38
Elec Wire Install/Finish Grading	Generator Sets	1	8.00	53	0.74
Elec Wire Install/Finish Grading	Graders	0	8.00	187	0.41
Elec Wire Install/Finish Grading	Off-Highway Trucks	1	8.00	402	0.38
Elec Wire Install/Finish Grading	Other Construction Equipment	3	8.00	341	0.42
Elec Wire Install/Finish Grading	Pavers	0	8.00	130	0.42
Elec Wire Install/Finish Grading	Paving Equipment	0	8.00	132	0.36
Elec Wire Install/Finish Grading	Plate Compactors	1	8.00	8	0.43
Elec Wire Install/Finish Grading	Rollers	0	8.00	80	0.38
Elec Wire Install/Finish Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Elec Wire Install/Finish Grading	Rubber Tired Dozers	1	8.00	247	0.40
Elec Wire Install/Finish Grading	Sweepers/Scrubbers	1	8.00	64	0.46

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Elec Wire Install/Finish Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Elec Wire Install/Finish Grading	Welders	2	8.00	46	0.45
5 Haul Trucks Per Day	Cranes	0	7.00	231	0.29
5 Haul Trucks Per Day	Forklifts	0	8.00	89	0.20
5 Haul Trucks Per Day	Generator Sets	0	8.00	84	0.74
5 Haul Trucks Per Day	Tractors/Loaders/Backhoes	0	7.00	97	0.37
5 Haul Trucks Per Day	Welders	0	8.00	46	0.45
Commissioning/Testing	Air Compressors	0	6.00	78	0.48
Commissioning/Testing	Cranes	0	7.00	231	0.29
Commissioning/Testing	Forklifts	0	8.00	89	0.20
Commissioning/Testing	Generator Sets	0	8.00	84	0.74
Commissioning/Testing	Off-Highway Trucks	1	8.00	402	0.38
Commissioning/Testing	Other Construction Equipment	3	8.00	341	0.42
Commissioning/Testing	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Commissioning/Testing	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Repair	4	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Prep/Grading	11	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
15/25 Haul Truck Per Day	0	0.00	0.00	50.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Install Foundation & Equipment	17	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Set Modules, Inverters, Switchgear	13	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Elec Wire Install/Finish Grading	14	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
5 Haul Trucks Per Day	0	0.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning/Testing	6	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Access Road Repair - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0931	11.0940	7.2273	0.0181		0.4893	0.4893		0.4509	0.4509		1,735.8316	1,735.8316	0.5538		1,749.6774
Total	**1.0931**	**11.0940**	**7.2273**	**0.0181**		**0.4893**	**0.4893**		**0.4509**	**0.4509**		**1,735.8316**	**1,735.8316**	**0.5538**		**1,749.6774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Access Road Repair - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3595	2.7975	7.8548	0.0181		0.1018	0.1018		0.0951	0.0951	0.0000	1,735.8316	1,735.8316	0.5538		1,749.6774
Total	**0.3595**	**2.7975**	**7.8548**	**0.0181**		**0.1018**	**0.1018**		**0.0951**	**0.0951**	**0.0000**	**1,735.8316**	**1,735.8316**	**0.5538**		**1,749.6774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.2823	30.5402	25.0801	0.0677		1.2898	1.2898		1.2025	1.2025		6,522.5231	6,522.5231	1.9041		6,570.1258
Total	**3.2823**	**30.5402**	**25.0801**	**0.0677**	**6.5523**	**1.2898**	**7.8422**	**3.3675**	**1.2025**	**4.5700**		**6,522.5231**	**6,522.5231**	**1.9041**		**6,570.1258**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Prep/Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.4157	11.4854	29.4914	0.0677		0.4143	0.4143		0.3865	0.3865	0.0000	6,522.5231	6,522.5231	1.9041		6,570.1258
Total	**1.4157**	**11.4854**	**29.4914**	**0.0677**	**2.9486**	**0.4143**	**3.3629**	**1.5154**	**0.3865**	**1.9019**	**0.0000**	**6,522.5231**	**6,522.5231**	**1.9041**		**6,570.1258**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1015	6.3510	1.3332	0.0293	0.8765	0.0596	0.9360	0.2404	0.0570	0.2974		3,104.2375	3,104.2375	0.0130	0.4881	3,250.0225
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1015**	**6.3510**	**1.3332**	**0.0293**	**0.8765**	**0.0596**	**0.9360**	**0.2404**	**0.0570**	**0.2974**		**3,104.2375**	**3,104.2375**	**0.0130**	**0.4881**	**3,250.0225**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 15/25 Haul Truck Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1015	6.3510	1.3332	0.0293	0.8765	0.0596	0.9360	0.2404	0.0570	0.2974		3,104.2375	3,104.2375	0.0130	0.4881	3,250.0225
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1015**	**6.3510**	**1.3332**	**0.0293**	**0.8765**	**0.0596**	**0.9360**	**0.2404**	**0.0570**	**0.2974**		**3,104.2375**	**3,104.2375**	**0.0130**	**0.4881**	**3,250.0225**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.2088	46.1323	41.5318	0.1083		1.9240	1.9240		1.8012	1.8012		10,362.5075	10,362.5075	2.9473		10,436.1890
Total	**5.2088**	**46.1323**	**41.5318**	**0.1083**		**1.9240**	**1.9240**		**1.8012**	**1.8012**		**10,362.5075**	**10,362.5075**	**2.9473**		**10,436.1890**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Install Foundation & Equipment - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3005	22.0951	48.7892	0.1083		0.6303	0.6303		0.5886	0.5886	0.0000	10,362.5075	10,362.5075	2.9473		10,436.1890
Total	**2.3005**	**22.0951**	**48.7892**	**0.1083**		**0.6303**	**0.6303**		**0.5886**	**0.5886**	**0.0000**	**10,362.5075**	**10,362.5075**	**2.9473**		**10,436.1890**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.3227	37.8970	33.1160	0.0945		1.5374	1.5374		1.4373	1.4373		9,049.2026	9,049.2026	2.6290		9,114.9276
Total	**4.3227**	**37.8970**	**33.1160**	**0.0945**		**1.5374**	**1.5374**		**1.4373**	**1.4373**		**9,049.2026**	**9,049.2026**	**2.6290**		**9,114.9276**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Set Modules, Inverters, Switchgear - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.4296	40.1594	0.0945		0.6098	0.6098		0.5681	0.5681	0.0000	9,049.2026	9,049.2026	2.6290		9,114.9276
Total	**2.1469**	**21.4296**	**40.1594**	**0.0945**		**0.6098**	**0.6098**		**0.5681**	**0.5681**	**0.0000**	**9,049.2026**	**9,049.2026**	**2.6290**		**9,114.9276**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	4.0880	37.6904	31.1264	0.0837		1.5612	1.5612		1.4523	1.4523		7,998.2874	7,998.2874	2.3805		8,057.7988
Total	**4.0880**	**37.6904**	**31.1264**	**0.0837**	**6.5523**	**1.5612**	**8.1135**	**3.3675**	**1.4523**	**4.8198**		**7,998.2874**	**7,998.2874**	**2.3805**		**8,057.7988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.0172	20.8678	35.3652	0.0837		0.5926	0.5926		0.5508	0.5508	0.0000	7,998.2874	7,998.2874	2.3805		8,057.7988
Total	**2.0172**	**20.8678**	**35.3652**	**0.0837**	**2.9486**	**0.5926**	**3.5411**	**1.5154**	**0.5508**	**2.0662**	**0.0000**	**7,998.2874**	**7,998.2874**	**2.3805**		**8,057.7988**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4340	0.3268	3.4639	0.0104	1.2773	6.3200e-003	1.2836	0.3387	5.8200e-003	0.3446		1,063.0671	1,063.0671	0.0282	0.0306	1,072.8945
Total	**0.4340**	**0.3268**	**3.4639**	**0.0104**	**1.2773**	**6.3200e-003**	**1.2836**	**0.3387**	**5.8200e-003**	**0.3446**		**1,063.0671**	**1,063.0671**	**0.0282**	**0.0306**	**1,072.8945**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.9602	35.6930	30.9240	0.0837		1.4546	1.4546		1.3522	1.3522		8,001.1073	8,001.1073	2.3771		8,060.5339
Total	**3.9602**	**35.6930**	**30.9240**	**0.0837**	**6.5523**	**1.4546**	**8.0069**	**3.3675**	**1.3522**	**4.7197**		**8,001.1073**	**8,001.1073**	**2.3771**		**8,060.5339**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4015	0.2864	3.1955	0.0101	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,036.5147	1,036.5147	0.0252	0.0282	1,045.5351
Total	**0.4015**	**0.2864**	**3.1955**	**0.0101**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,036.5147**	**1,036.5147**	**0.0252**	**0.0282**	**1,045.5351**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Elec Wire Install/Finish Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9763	19.8423	35.2631	0.0837		0.5590	0.5590		0.5200	0.5200	0.0000	8,001.1073	8,001.1073	2.3771		8,060.5339
Total	**1.9763**	**19.8423**	**35.2631**	**0.0837**	**2.9486**	**0.5590**	**3.5075**	**1.5154**	**0.5200**	**2.0353**	**0.0000**	**8,001.1073**	**8,001.1073**	**2.3771**		**8,060.5339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4015	0.2864	3.1955	0.0101	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,036.5147	1,036.5147	0.0252	0.0282	1,045.5351
Total	**0.4015**	**0.2864**	**3.1955**	**0.0101**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,036.5147**	**1,036.5147**	**0.0252**	**0.0282**	**1,045.5351**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0203	1.2702	0.2666	5.8600e-003	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595		620.8475	620.8475	2.6000e-003	0.0976	650.0045
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0203**	**1.2702**	**0.2666**	**5.8600e-003**	**0.1753**	**0.0119**	**0.1872**	**0.0481**	**0.0114**	**0.0595**		**620.8475**	**620.8475**	**2.6000e-003**	**0.0976**	**650.0045**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 5 Haul Trucks Per Day - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0203	1.2702	0.2666	5.8600e-003	0.1753	0.0119	0.1872	0.0481	0.0114	0.0595		620.8475	620.8475	2.6000e-003	0.0976	650.0045
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0203**	**1.2702**	**0.2666**	**5.8600e-003**	**0.1753**	**0.0119**	**0.1872**	**0.0481**	**0.0114**	**0.0595**		**620.8475**	**620.8475**	**2.6000e-003**	**0.0976**	**650.0045**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2947	18.7969	17.0539	0.0557		0.7025	0.7025		0.6539	0.6539		5,306.0550	5,306.0550	1.6242		5,346.6608
Total	**2.2947**	**18.7969**	**17.0539**	**0.0557**		**0.7025**	**0.7025**		**0.6539**	**0.6539**		**5,306.0550**	**5,306.0550**	**1.6242**		**5,346.6608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4015	0.2864	3.1955	0.0101	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,036.5147	1,036.5147	0.0252	0.0282	1,045.5351
Total	**0.4015**	**0.2864**	**3.1955**	**0.0101**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,036.5147**	**1,036.5147**	**0.0252**	**0.0282**	**1,045.5351**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Commissioning/Testing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5753	15.4160	19.3973	0.0557		0.5152	0.5152		0.4762	0.4762	0.0000	5,306.0550	5,306.0550	1.6242		5,346.6608
Total	**1.5753**	**15.4160**	**19.3973**	**0.0557**		**0.5152**	**0.5152**		**0.4762**	**0.4762**	**0.0000**	**5,306.0550**	**5,306.0550**	**1.6242**		**5,346.6608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4015	0.2864	3.1955	0.0101	1.2773	6.0000e-003	1.2833	0.3387	5.5200e-003	0.3443		1,036.5147	1,036.5147	0.0252	0.0282	1,045.5351
Total	**0.4015**	**0.2864**	**3.1955**	**0.0101**	**1.2773**	**6.0000e-003**	**1.2833**	**0.3387**	**5.5200e-003**	**0.3443**		**1,036.5147**	**1,036.5147**	**0.0252**	**0.0282**	**1,045.5351**

4.0 Operational Detail - Mobile

Henrietta BESS-AQGHG - San Joaquin Valley Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.0000e-005	2.1000e-004	1.8000e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.7984	0.7984	1.0000e-005	2.0000e-005	0.8045
Unmitigated	6.0000e-005	2.1000e-004	1.8000e-003	1.0000e-005	6.8000e-004	0.0000	6.9000e-004	1.8000e-004	0.0000	1.8000e-004		0.7984	0.7984	1.0000e-005	2.0000e-005	0.8045

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.02	0.00	0.00	234	234
Total	0.02	0.00	0.00	234	234

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	60.00	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Parking Lot	0.511221	0.052103	0.170611	0.160645	0.028932	0.007649	0.013284	0.025916	0.000654	0.000315	0.023645	0.001472	0.003552
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Unmitigated	0.0524	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Total	**0.0524**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.5000e-003**	**7.5000e-003**	**2.0000e-005**		**7.9800e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0400					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.5000e-003	7.5000e-003	2.0000e-005		7.9800e-003
Total	**0.0524**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.5000e-003**	**7.5000e-003**	**2.0000e-005**		**7.9800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX D

BIOLOGICAL RESOURCES TECHNICAL REPORT

This appendix presents the Biological Resources Technical Report prepared for the Henrietta BESS Project.

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August 9, 2022
Project No. 22-12592

Henrietta BESS LLC
16027 25th Avenue
Kings County, California 92154

Subject: Biological Resources Technical Report for the Henrietta Battery Energy Storage System (BESS) Project in Kings County, California

Rincon Consultants, Inc. (Rincon) is pleased to provide Henrietta BESS LLC with this biological resources technical report for the Henrietta Battery Energy Storage System Project (BESS Project) in unincorporated Kings County (County), California. This report documents the findings of a literature review and reconnaissance field survey conducted by Rincon for the proposed Henrietta BESS Project. The project is located on the parcel of the larger 99.4 MW Henrietta Peaker Plant (HPP) which was licensed by the California Energy Commission (CEC) in 2001 (Docket No. 01-AFC-18). The HPP project was certified by the CEC in March 2002 and began commercial operation on July 1, 2002. The peaking plant is interconnected to the adjacent Pacific Gas & Electric (PG&E) Henrietta Substation to the north via a short 70 kilovolt (kV) transmission line. The CEC approved a Post-Certification Amendment (PCA) on March 24, 2010, to modify the HPP to a 120 MW combined-cycle power plant. The HPP was never converted, and the CEC approved the request for revocation of the PCA on November 17, 2014. The current Henrietta BESS project will be licensed via a CEC post-certification amendment to the HPP license as confirmed by the CEC in April 2022.

As a part of the original licensing of the HPP project, a biological review was included as part of CEC permitting documentation covering the entire HPP parcel inclusive of the Henrietta BESS Project site. The 2001 licensing process and CEC Commission Decision established biological Conditions of Certification (CoC) for the HPP.

The purpose of this report is to document existing conditions at the BESS Project site and to evaluate the potential for the project to impact special status biological resources beyond those identified in the 2001 documents. This report finds that no new impacts were identified, and while existing conditions are not consistent with those described in 2001, the previously stipulated CoCs for the HPP are generally applicable to the Henrietta BESS Project except as noted in this report. The changes to on-site conditions are noted in the existing conditions review below. This report serves to update the findings of the initial 2001 biological review and verifies that the previously applied relevant CoCs still apply and no new potential impacts to biological resources nor new CoCs are required to address previously unidentified impacts. The off-site mitigation credits previously required by Kern Water Bank Authority Habitat Conservation Plan (KWBHCP) for San Joaquin kit fox (*Vulpes macrotis*) for the HPP project has been deemed no longer necessary or applicable to the 99.4 MW BESS Project.

Project Location

The proposed BESS Project occupies an approximate 5.5-acre site within an overall 20-acre site that currently contains the HPP on Assessor's Parcel Number (APN) APN 024-190-070-000. The BESS Project is located generally south of State Route (SR) 198 and north of Avenal Cutoff Road at 16027 25th Avenue, Lemoore, in Kings County, California (Figure 1, Attachment 1). The project is located within the *Westhaven*, *California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle within Township 19 South, Range 19 East, Section 34, Mount Diablo baseline and meridian. The approximate center of the project site is located at latitude 36.239859°N and longitude -119.902188°W (WGS84). Most of the BESS Project site is vacant, barren, and has been graded, and disked as a result of historic agricultural use and ongoing vegetation clearing for fire maintenance. The site has not been utilized for agriculture since approximately 2015.

For the purposes of this report, the BESS Project area is defined as the approximately 6-acre footprint containing the BESS, BESS switchyard, 13.8 kV electrical interconnection from BESS to HPP, stormwater detention basin, construction laydown/parking area, and access road while the study area is comprised of the entire HPP parcel plus a 300-foot buffer.

Project Description

The BESS Project includes the development of a 99.4 MW BESS on the eastern portion of the existing nominal 99.4 MW HPP property and the utilization of a temporary construction laydown yard. See Attachment 1, Figure 2 and Figure 3 for project site limits and detailed project plans. The key components of the project are listed below:

- BESS site including battery enclosures and inverters to be installed on concrete pad or pile
- foundations (approximately 2.99 acres).
- BESS 13.8 kilovolt (kV) switchyard adjacent to BESS site to be installed (approximately 0.13 acre).
- 13.8 kV dual circuit, overhead distribution line from BESS switchyard to HPP 13.8 kV
- Buss duct to be installed (approximately 690 feet long; 3 poles up to 80 feet high plus dead-end/transition structures on each end).
- Access road extension and improvements on existing dirt HPP perimeter road to provide access to BESS site, BESS switchyard, and construction laydown area. Access road extension and improvements for 25-foot-wide roadway with gravel surfacing will be implemented for stability and dust control (approximately 0.66-acre total).
- Stormwater detention basin in southeastern portion of site located between the BESS area and the construction laydown area (0.77 acre)
- Construction laydown area in southeast portion of HPP property to the south of BESS site to be used for equipment and material storage and personnel parking during construction phase (approximately 1.5 acres).

The HPP is interconnected to the adjacent PG&E Henrietta Substation to the north via an existing approximately 650-foot-long transmission line. The BESS Project will include an onsite switchyard. An approximately 690-foot-long overhead dual circuit distribution line will connect the BESS switchyard to the existing HPP. The project will not require any high voltage modifications at the HPP switchyard.

Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged from the electrical grid and not the HPP. The BESS and the HPP may be operated simultaneously in accordance with the market optimized dispatch instructions received from the California Independent System Operator (CAISO's) Automated Dispatching System ("ADS"), but the combined output will be control limited to never exceed a net of 99.4 MW per the Generator Interconnection Agreement.

The project will be constructed in part to support California's current need for additional renewable electrical energy supply especially during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's (CPUC's) policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The project offers the CAISO a renewable dispatchable energy resource to the electrical grid and responds to the CAISO requirement to provide additional Resource Adequacy capacity and capability to California's existing transmission system.

Regulatory Background

Regulatory authority over biological resources is normally shared by federal, state, and local authorities under a variety of statutes and guidelines. However, in this instance, the CEC has exclusive state and local jurisdiction over the project under the Warren-Alquist Act and will include all necessary state and local approvals in its license amendment. The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the state under the California Environmental Quality Act (CEQA) and normally has direct jurisdiction under the California Fish and Game Code (CFGC). The CDFW and Regional Water Quality Control Board (RWQCB) protect streams, lakes, and associated riparian habitat and waters of the State, respectively, at the state level and normally are responsible for issuing permits to authorize stream modifications. the U.S. Fish and Wildlife Service (USFWS) has direct regulatory authority over species formally listed as Threatened or Endangered as well as native bird species listed under the Federal Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA). The U.S. Army Corps of Engineers (USACE) has regulatory authority over waters of the United States, including wetlands, under Section 404 of the Clean Water Act. These federal authorities are not preempted by the Warren-Alquist Act. The analysis in this report is guided by the requirements of these laws, and by the operating standards of the implementing agencies.

Methods

The biological resources study for the BESS Project consisted of a review of relevant literature and background information, followed by a field reconnaissance survey and a consistency analysis of the 2001 biological review as part of the HPP licensing in the context of current existing conditions and the status of those biological resources protected under current state and federal laws and regulations. The potential for special status species to occur is based on the literature review and a survey designed to assess habitat suitability for special status species. The findings and opinions conveyed in this report are based on this methodology. The study area evaluated is defined in Figure 2 (Attachment 1) and includes the entire HPP parcel plus a 300-foot buffer while the BESS Project area is defined as the BESS, switchyard, substation, access road, 13.8 kV connection route from BESS switchyard to HPP, stormwater detention basis and construction laydown yard. Although the entire study area was reviewed for this report for consistency with previous licensing, focus was placed on the BESS Project area in the context of potential impacts.

Literature Review

The literature review included queries of the CDFW California Natural Diversity Data Base (CNDDB), Biogeographic Information Observation System (BIOS) (2022a and 2022b), and California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California (Inventory; CNPS 2022) for special status species occurrences within the *Westhaven, California* USGS 7.5-minute quadrangle and surrounding eight quadrangles (*Lemoore*, *Vanguard*, *Stratford SE*, *Kettleman City*, *Stratford*, *Huron*, *Calflax*, and *La Cima*). Other resources reviewed to indicate the sensitive biological resources that occur on site or in the vicinity of the site included the USFWS National Wetlands Inventory (NWI; USFWS 2022a), National Hydrography Dataset (NHD; USGS 2022b), USFWS Information for Planning and Consultation (IPaC) Unofficial Species List (USFWS 2022c), and USFWS Critical Habitat Portal (USFWS 2022d). Other resources included the CDFW Special Animals List (CDFW 2022c) and CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022d). Aerial photographs, topographic maps, soil survey maps, geologic maps, and climatic data in the area were also examined.

Field Survey

A biological resources reconnaissance survey (survey) was conducted in the study area, as defined in Figure 2 (Attachment 1), to assess the habitat suitability for potential special status species, map the existing vegetation communities and land cover types present, map any evident sensitive biological resources currently on the project, document the presence of potential jurisdictional waters and/or wetlands, document any wildlife connectivity/movement features, and record all observations of plant and wildlife species within the study area. Areas where access was restricted, including private/inaccessible property, were surveyed with binoculars.

Rincon Biologist Adam Card conducted the survey on April 4, 2022, between the hours of 10:15 a.m. and 1:00 p.m. Weather conditions were calm and clear at the time of the survey, with temperatures ranging from 61°Fahrenheit (F) to 67°F and wind speeds of approximately 5 miles per hour (mph) to 11 mph. Site photos from the survey are included as Attachment 3.

Mr. Card searched for special status plants that would have been apparent and identifiable during the time of the survey; however, it should be noted that the reconnaissance survey does not meet the standards of a protocol floristic survey for rare plants. Therefore, the potential for special status plants to occur was based on a habitat suitability analysis. Floral nomenclature for native and non-native plants in this report follows Baldwin et al. (2012) as updated by The Jepson Online Interchange (University of California, Berkeley 2020).

Mr. Card also documented wildlife species that were observed directly or detected from calls, burrows, tracks, scat, nests, or other signs. The detection of wildlife species was limited by seasonal and temporal factors. The survey was conducted in the spring; therefore, potentially occurring winter migrants may not have been observed. In addition, the reconnaissance survey did not serve as a protocol survey to definitively determine the presence or absence of special status wildlife if not directly observed during the survey. As the survey was performed during the day, identification of nocturnal animals was limited to sign, if present on-site. Therefore, the potential for special status wildlife species to occur on the site was determined based on a habitat suitability assessment. In this report, zoological nomenclature is based upon Dunn and Alderfer (2011) for birds, and Burt and Grossenheider (1980) for mammals.

Existing Conditions

Topography and Soils

At an elevation of approximately 235 feet above mean sea level (USGS 2022), the topography of the project area and its immediate surroundings is characterized primarily by industrial energy and agricultural uses. Based on the most recent U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) soil survey for the Kings County Area, California (USDA, NRCS 2022), the study area contains one soil map unit:

> Lethent clay loam **occurs on rims and basin floors of alluvial fans and flood plains. This soil type** comes from alluvium derived from sedimentary rock. This soil type makes up 100 percent of the study area. A typical soil profile consists of clay loam from 0 to 31 inches and sandy loam to 60 inches. This soil is considered moderately well drained. Depth to water table is more than 80 inches. This soil is not considered hydric.

Vegetation and Land Cover Types

No native vegetation communities are present within the study area. The study area is in a highly industrialized area. Because the site has been historically graded, mowed, and disked for agricultural purposes as recently as 2015 and mowed and disced on an ongoing basis for vegetation/fire control, most of the land in the study area that is not developed or landscaped is completely barren and without vegetation. The area surrounding the study area is characterized by solar energy and other industrial uses. Comparatively, at the time of the 2001 biological review for the HPP licensing, the study area was entirely comprised of active agricultural crop production.

Three land cover types and one natural community were observed in the study area: 1) developed; 2) barren; 3) landscaped; and 4) wild oats and annual brome grasslands (Figure 4; Attachment 1). Brief descriptions of the land cover types and vegetation community present in the project site are provided below and are primarily based on habitat type classifications included in the California Wildlife Habitat Relationships System (CWHR; CDFW 2022e). Vegetation community characterizations for this analysis were also based on the classification systems presented in *A Manual of California Vegetation, Second Edition* ([MCV2] Sawyer et al. 2009). *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) has been superseded by the MCV2, but is included for reference. Plant species nomenclature and taxonomy used for this report follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Developed

The northwestern portion of the study area consists of developed land including structures and roads associated with the HPP. This land cover type is not naturally occurring and is not described in the CWHR (CDFW 2022e), Holland (1986) or Sawyer et al. (2009) classification systems. This land cover type consists of areas that have been modified and are built up such that most or all vegetation has been removed or only small areas of ruderal vegetation are present. Within the study area, this land cover type consists of paved roads and structures and other infrastructure associated with the existing HPP.

Barren

Barren land cover, described by the CWHR (CDFW 2022e), occurs on the eastern portion of the BESS Project site and includes an unpaved access road that leads from the eastern portion of the project site to Avenal Cutoff Road. This land cover type is defined by the absence of vegetation and generally consists of less than two percent total herbaceous cover. The proposed BESS Project site is almost completely comprised of bare ground. This land cover is highly disturbed due to vehicle traffic and previous and ongoing maintenance activities including grading, mowing, and discing.

Landscaped

Small strips of landscaping occur on the western and southern portions of the HPP in the study area. Specifically, landscaped areas are found in the study area near the front fence and entrance of the HPP and on the north side of the unpaved access road on the southwestern portion of the study area. This land cover type corresponds most closely with urban land cover in the CWHR (CDFW 2022e), as it describes a highly variable structure of urban vegetation including street tree strips planted mainly in the urban landscape. Tree species found in this land cover type consist of either non-native (ornamental) species or native species that were planted and are not part of a natural community. Tree species observed in the study area include toyon (*Heteromeles arbutifolia*), desert fan palm (*Washingtonia filifera*), and Chinese pistache (*Pistacia chinensis*).

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* s–p. - *Bromus* spp. Herbaceous Semi-Natural Alliance) is herbaceous and typically found in all topographic settings in foothills, waste places, rangelands, and openings in woodlands between sea level and 7,217 feet (2000 meters) in elevation (Sawyer et al. 2009). In the mapped grasslands of the study area, wall barley (*Hordeum murinum*) contributes to at least 65% relative cover and ripgut brome (*Bromus diandrus*) contributes at least 5% of the relative cover. Due to the presence of ripgut brome, this vegetation community type does not meet the membership criteria, but most closely resembles the wild oats and annual brome grasslands (CDFW 2022e). The wild oats and annual brome grasslands vegetation community occurs along the southern and eastern perimeters of the study area. Wall barley is dominant in the herbaceous layer. Other plant species include common fiddleneck (*Amsinckia intermedia*), big salt brush (*Atriplex lentiformis),* common stork's bill (*Erodium cicutarium*), blue gum (*Eucalyptus globulus*), Russian thistle (*Kali tragus*), prickly lettuce (*Lactuca serriola*), dwarf mallow (*Malva neglecta*), kikuyu grass (*Pennisetum clandestinum),* and London rocket (*Sisymbrium irio*). The cover of this vegetation community is open to continuous. The wild oats and annual brome grasslands vegetation community is not considered sensitive by CDFW (CDFW 2022).

General Wildlife

The study area and its surroundings provide habitat for wildlife species that commonly occur in industrialized and disturbed habitats within the Central Valley. Avian species observed/detected on or adjacent to the site include killdeer (*Charadrius vociferus),* American crow (*Corvus brachyrhynchos*), American raven (*Corvus corax*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), Eurasian-collared dove (*Streptopelia decaocto*), and mourning dove (*Zenaida macroura*). One reptile species, western fence lizard (*Sceloporus occidentalis*), was observed within the study area. The study area contained minimal California ground squirrel (*Otospermophilus beecheyi*) burrows, and all of the burrows observed were either less than three inches in diameter or were completely closed a few inches from the entrance of the burrow.

Jurisdictional Waters and Wetlands

The study area including the BESS Project site does not support any wetlands, drainages, or other potentially jurisdictional features associated with waters of the United States or waters of the State. Standing water was not observed during the reconnaissance survey. No wetlands or other water features occur within the BESS Project area.

Special Status Biological Resources

This section discusses sensitive biological resources within the study area and evaluates the potential for the study area to support special status biological resources.

Special Status Species

Local, state, and federal agencies regulate special status species and may require an assessment of their presence or potential presence to be conducted prior to the approval of proposed development on a property. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB species occurrence records from other sites in the vicinity of the study area, and previous reports for the study area. The potential for each special status species to occur in the study area was evaluated according to the following criteria:

- **Not expected.** Habitat on and adjacent to the site is clearly unsuitable for the species' requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). The species is not analyzed further in this letter report.
- **Low Potential.** Few of the habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site and therefore is not analyzed further in this letter report.
- **Moderate Potential.** Some of the habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

For the purposes of this report, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS or the National Marine Fisheries Service (NMFS) under the ESA; those listed or candidates for listing as Rare, Threatened, or Endangered under the CESA or Native Plant Protection Act; those identified as Fully Protected by the CFGC (Sections 3511, 4700, 5050, and 5515); those identified as Species of Special Concern (SSC) by the CDFW; and plants occurring on lists 1 and 2 of the CNPS California Rare Plant Rank (CRPR) system per the following definitions:

- **Rank 1A** = Plants presumed extinct in California

- **Rank 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- **Rank 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened)
- **Rank 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened, or no current threats known)
- **Rank 2** = Rare, threatened or endangered in California, but more common elsewhere

Based on a query of the sources mentioned in the literature review, there are six special-status plant species and twenty-two special-status wildlife species documented within the *Westhaven, California* USGS 7.5-minute quadrangle and the eight surrounding quadrangles. All twenty-eight special status species have been evaluated for potential to occur within the study area (Attachment 2).

Special Status Plant Species

No federal or state listed plants were observed during the reconnaissance-level field survey. A protocol botanical survey for all species has not been completed, and the reconnaissance survey was conducted outside the bloom period for some of these species. The database and literature review performed for the project indicated that six special status plant species have been documented within the *Westhaven, California* USGS 7.5-minute quadrangle and eight surrounding quadrangles. These species occur in a variety of habitats such as vernal pools, riparian woodlands and forests, meadows, and native perennial grasslands. Based on the habitat assessment of the site and special status plant habitat requirements, no special status plant species were determined to have potential to occur within the study area. The majority of the study area is either barren ground with no vegetation present, is developed with structures and roads used for the power plant onsite, or landscaped. Historical aerial imagery shows that the study area has been maintained, mowed, graded, and disked in association with its agricultural uses. Most of the vegetation within the study area is restricted to non-native species and landscaped areas. The wild oats and annual brome grasslands within the study area do not represent suitable habitat for any of the evaluated special status plant species with potential to occur in the region. Given the existing and historical site conditions, lack of suitable habitat and presence of several non-native plant species, no special status plant species are expected to occur within the study area (see Attachment 2).

Special Status Wildlife Species

The database and literature review performed for the project indicated that twenty-two special status wildlife species have been documented within the *Westhaven, California* USGS 7.5-minute quadrangle and eight surrounding quadrangles, six of which have been documented within five miles of the study area. No federal or state listed or other special status wildlife species were observed during the survey. Of the twenty-two wildlife species evaluated, Rincon determined that one species, loggerhead shrike (*Lanius ludovicianus*; species of special concern [SSC]), is present in the study area because it was observed during the reconnaissance survey. One species, San Joaquin kit fox (*Vulpes macrotis*; Federally Endangered and State Threatened), has a low potential to occur and one species, Swainson's hawk (*Buteo swainsoni*; State Threatened), has a moderate potential to occur. Despite the determination to have a low potential to occur, a specific assessment of the San Joaquin kit fox is included in this report because the biological review previously conducted as part of the 2001 HPP CEC licensing included a CoC related to the species.

These three species are evaluated in further detail below. See the Special Status Species Evaluation Table in Attachment 2 for a summary of the potential to occur for all twenty-two special status wildlife species.

Loggerhead Shrike

Loggerhead shrike is a CDFW SSC. Suitable habitat for loggerhead shrike includes open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead shrikes are often seen along mowed roadsides with access to fence lines and utility poles. In the absence of trees or shrubs, the species sometimes nests in brush piles or tumbleweeds.

Two loggerhead shrike adults were observed perching on a Chinese pistache tree outside of the project area but inside the study area during the survey. This species could be present during construction activities while nesting in suitable habitat that consists of trees in the landscaped portions outside of the project area (within 50-feet of the project area), but inside of the study area (Attachment 1, Figure 4). The species could also be present during construction activities while perched, flying over, and/or foraging in all locations within the project area and study area.

Swainson's Hawk

Swainson's Hawk is state listed as a threatened species. Suitable habitat associated with Swainson's hawk includes grasslands, agricultural land, and open shrubland located on the San Joaquin Valley floor and surrounding low foothills. Areas they inhabit require at least small tracts of adjacent land containing lightly irrigated agricultural areas particularly with alfalfa and grass hay or non-agricultural areas with low or moderate height vegetation supporting a prey base of small mammals. Swainson's hawk typically nests in trees in open areas or along riparian corridors in a variety of tree species including small shrubby trees in shrub-steppe and desert habitats.

No Swainson's hawks were observed during the reconnaissance survey and the closest CNDDB occurrence has been recorded over five miles from the study area (CDFW 2022a). There are no trees suitable for nesting in the project area; however, there are utility towers within 0.5-mile of the study area that could potentially provide suitable nesting habitat for Swainson's hawk. This highly mobile species has the potential to move transiently or forage in the study area.

San Joaquin Kit Fox

The San Joaquin kit fox is federally listed as endangered and state listed as a threatened species. Suitable habitat associated with San Joaquin kit fox includes arid grasslands and scrublands, many of which have been extensively modified, in the San Joaquin Valley. Types of modified habitats include those with oil exploration and extraction equipment and wind turbines, agricultural mosaics of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands. Oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities also provide habitat for the species. Dens are scarce in areas with shallow soils because of the proximity to bedrock, high water tables, or impenetrable hardpan layers. The Endangered Species Recovery Program (ESRP) states the current range of the species is highly fragmented and includes the Elk Hills and Buena Vista Valley of western Kern County and the Carrizo Plain Natural Area in San Luis Obispo County (CSU Stanislaus 2019).

No San Joaquin kit foxes were observed during the reconnaissance survey and the closest CNDDB occurrence has been recorded over five miles from the study area (CDFW 2022a). Minimal burrows were observed during the reconnaissance survey and all California ground squirrel burrows observed were either less than 3-inches wide or completely closed within a few inches from the entrance of the burrow. As a result, no suitable burrows for San Joaquin kit fox were observed during the full-coverage reconnaissance survey of the project area. Atypical dens exist in the study area in the form of culverts and other man-made structures; however, all potential atypical dens were observed within the existing HPP, which is fenced off from surrounding habitat. It is not anticipated that the San Joaquin kit fox will utilize these or any dens in the study area. Although the species is highly mobile, it is also nocturnal and, therefore, there is low potential for this species to be present while moving through or foraging in the study area.

Nesting Birds

The study area contains potentially suitable nesting habitat for bird species protected under the MBTA and CFGC Section 3503. Species of birds that are common to the area and typically utilize open disturbed habitats for foraging may nest in landscaped or developed portions of the study area. The nesting season generally extends from February through August but can vary based upon annual climatic conditions.

During the survey, one active killdeer nest was observed within the study area. The killdeer nest was observed on the ground in a bed of gravel (36.240696°, -119.903162°). The nest was located inside of the closed gates in the northeastern corner of the HPP, approximately twenty-five feet away from the fence line. An adult female was observed sitting on the nest and incubating four eggs. The female appeared disturbed during the survey and conducted a distraction display (feigning a broken wing) as a result of the presence of nearby surveyors. There were no other observations of the killdeer nest.

Furthermore, during the survey, one potentially active Brewer's blackbird nest was observed within the study area. Specifically, a Brewer's blackbird (sex not determined) was observed taking nesting material (small twigs and other dried plant material) on repeated occasions to a cluster of toyon trees near the entrance of the HPP. The cluster of toyon trees was too dense for the biologist to obtain further information and therefore there were no other observations of the Brewer's blackbird nest during the survey.

Special Status Vegetation Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. The CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Some alliances with the rank of 4 and 5 have also been included in the 2022 sensitive natural communities list under CDFW's revised ranking methodology (CDFW 2022).

No native vegetation communities were mapped within the study area and no sensitive vegetation communities are present.

Jurisdictional Waters and Wetlands

There are no wetlands or potentially jurisdictional waters in the study area.

Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Wildlife movement corridors can be both large and small scale. Regionally, the study area is not located within an Essential Connectivity Area, as mapped in the report, *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010). The study area is located near Lemoore in Kings County and is not located within a significant habitat linkage or corridor. The project site is highly disturbed and developed with infrastructure associated with the existing power plant and is surrounded by industrial uses. Therefore, the study area is not considered an important regional wildlife movement area.

Local Policies and Ordinances

The study area is not within or proximate to any critical habitat or other ecologically sensitive areas, as identified by local, regional, state, or federal agencies. Furthermore, all existing trees within the study area would be retained during project activities and therefore, all County ordinances and guidelines protecting trees would not be triggered.

Habitat Conservation Plans

The study area does not occur in an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, state, or federal conservation plan. The project is not within the boundary of KWBHCP.

Impact Analysis and CoC Concurrence

This section discusses the potential impacts and effects to biological resources that may occur from implementation of the Henrietta BESS project. Construction-related activity and ground disturbance from the project are limited to the highly disturbed land along the southern boundary and eastern end of the study area (Attachment 1, Figure 2). The CoCs developed for the original HPP project will be required conditions, as applicable, under the licensing of the BESS project. As discussed previously, conditions have changed within the BESS project footprint from active agriculture at the time of the 2001 HPP licensing to the current condition of developed and barren land. The applicability of the existing CoCs to mitigate BESS project impacts is evaluated below. The existing CEC CoC include conditions BIO-1 through BIO-7, stated below:

BIO-1 Site mobilization and/or ancillary facilities preparation (described as any ground disturbing activity other than allowed geotechnical work) shall not begin until an Energy Commission Compliance Project Manager (CPM) approved Designated Biologist is available to be on-site.

The Designated Biologist must meet the following minimum qualifications:

1. a Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
3. at least one year of field experience with biological resources found in or near the project area; and
4. an ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is on-site.

CoC **BIO-1** is applicable to the BESS project, and the applicant will submit information to the CPM on the Designated Biologist at least thirty (30) days prior to the start of site mobilization activities.

BIO-2 The CPM approved Designated Biologist shall perform the following during project site mobilization construction and operation:

1. Advise the project owner's Construction Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;
2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and
3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

CoC **BIO-2** is applicable to the BESS project, and the Designated Biologist will perform the tasks as required in **BIO-2**.

BIO-3 The project owner's Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction Manager shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction Manager when to resume construction, and
2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

CoC **BIO-3** is applicable to the BESS project, and the Designated Biologist will perform the tasks as required in **BIO-3**.

BIO-4 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities (including the access road, laydown area, transmission lines, water and gas lines) during project mobilization construction and operation, are informed about sensitive biological resources associated with the project.

The Worker Environmental Awareness Program must:

1. be developed by the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;
2. discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. present the reasons for protecting these resources;
4. present the meaning of various temporary and permanent habitat protection measures; and
5. identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement. New workers shall receive environmental awareness training on or before their first day of work.

CoC **BIO-4** is applicable to the BESS project, and at least thirty (30) days prior to the start of site mobilization, information on the Worker Environmental Awareness Program will be provided to the CPM for approval.

BIO-5 Prior to the start of any site mobilization activities, the project owner shall acquire 10 credits from the Kern Water Bank Habitat Conservation Plan (KWBHCP) to satisfy the requirements for Federal and State Incidental Take Permits (issued by the US Fish & Wildlife Service and California Department of Fish & Game, respectively).

The 10 mitigation credits were purchased prior to the construction of the HPP from the KWBHCP in compliance with **BIO-5**. As no impacts to federally listed species are anticipated, and no incidental take permits are required, no mitigation credit purchase is proposed for the project, and therefore this CoC measure does not apply to the BESS Project.

BIO-6 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made in consultation with Energy Commission staff, CDFG and the USFWS.

The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant referred to, as well as those contained in, Condition of Certification **BIO-7** (and other mitigation requirements);
2. All permits the Applicant expects to obtain;
3. The responsibilities of the parties involved;
4. The proposed lines of communication;
5. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
6. All required mitigation measures for each sensitive biological resource;
7. The required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
8. All measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
9. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;
10. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
11. The duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
13. All performance standards and remedial measures to be implemented if performance standards are not met;
14. Biological resources related facility closure measures; and
15. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

The BRMIMP was developed per **BIO-6** in advance of the HPP construction. The BRMIMP will be updated for the BESS project and appropriate previously established measures to avoid and minimize impacts to sensitive species, including, but not limited to pre-construction surveys and compliance reporting. These measures will be adhered to for the project and new measures will be established as necessary based on current site conditions. Via the implementation of the measures in the BRMIMP, adverse impacts to special status plants and wildlife are not anticipated. As such, **BIO-6** is applicable to the BESS project to address the anticipated project impacts.

Special Status Plants

No special status plants were observed on-site during the reconnaissance survey, and none have the potential to occur on the BESS Project site because habitat potentially suitable for special status plants was not present. Therefore, no impacts to special status plant species are expected.

Special Status Wildlife

As discussed above, the study area contains potentially suitable habitat for special status species and nesting birds. Potential impacts for each species with potential to occur on-site are discussed below.

Loggerhead Shrike

Loggerhead shrike nesting habitat exists in landscaped portions of the study area, but outside of the BESS Project area. Being that all nesting habitat is outside of the project area, it is not anticipated that there will be any direct impacts to the species nest(s). However, nesting habitat is within 50 feet of the project area and therefore the species' nest(s) could be affected indirectly from construction noise, dust, and other anthropogenic disturbances during construction activities. The loss of an active loggerhead shrike nest due to construction activities would be a violation of the MBTA and CFGC sections 3503 and 3513. Being that the species is elusive, and the project is small and mostly developed/barren, impacts to moving or foraging individuals is not anticipated. Implementation of the measures outlined in the BRMIMP, as required in **BIO-6** and **BIO-7,** is recommended to ensure compliance with state and federal law and to avoid impacts to loggerhead shrike. CoCs **BIO-6** and **BIO-7** are adequate to preclude impacts to this species and no further CoCs are warranted.

Nesting Birds

Nesting birds and raptors protected by the CFGC and the MBTA have potential to occur on-site. If nesting birds are present on-site during construction, nesting birds could be affected directly (loss of individuals) or indirectly (construction noise, dust, and other anthropogenic disturbances) by project activities. The project could adversely affect raptors and other nesting birds if construction occurs while they are present on or adjacent to the site through direct mortality or abandonment of nests. The loss of a nest due to construction activities would be a violation of the MBTA and CFGC sections 3503 and 3513. While the loss of common avian species is not an anticipated result of the project, implementation of the measures outlined in the BRMIMP, as required in **BIO-6** and **BIO-7,** is recommended to ensure compliance with state and federal law and to avoid impacts to loggerhead shrike. CoCs **BIO-6** and **BIO-7** are adequate to preclude impacts to this species and no further CoCs are warranted.

Swainson's Hawk

The project area does not contain nesting habitat for Swainson's hawk. However, atypical nesting habitat for Swainson's hawk in the form of utility poles are present within 0.5 mile of the project. If a nest is active during the project, construction activities could indirectly impact nests through disruption of normal breeding behaviors potentially resulting in the abandonment or harm to eggs and nestlings or reduced fitness of active nests. Being that the project is small and mostly developed/barren, impacts to moving or foraging individuals is not anticipated. Impacts to both individuals and nests are not anticipated but would be considered significant under CEQA. Given the limited foraging and nesting habitat, the project would be considered unlikely to adversely affect Swainson's hawk due to lack of habitat suitability. Implementation of the measures outlined in the BRMIMP, as required in **BIO-6** and **BIO-7,** is recommended to ensure compliance with state and federal law and to avoid impacts to loggerhead shrike. CoCs **BIO-6** and **BIO-7** are adequate to preclude impacts to this species and no further CoCs are warranted.

San Joaquin Kit Fox

Due to the lack of suitable burrows or dens, the study area does not contain suitable denning habitat for San Joaquin kit fox. In addition, man-made structures such as culverts that could be used as an atypical den by San Joaquin kit fox are mostly fenced off and inaccessible. Potentially suitable movement and foraging habitat exists within the study area. However, being that the San Joaquin kit fox is nocturnal, the species is not likely to be present during daytime construction activities. As a result, direct impacts to the species in the form of mortality, injury, or general harassment from project-related vehicle traffic or construction if the species is passing by or foraging in the study area is not anticipated. Furthermore, being that the species is not likely to be present during construction activities, indirect effects to this species in the form of noise, vibrations, and other construction-related activities that may impact the species' normal behavior is not anticipated. Based on these determinations, the project would be considered unlikely to adversely affect San Joaquin kit fox due to lack of habitat suitability and the unlikelihood for the species to be present during daytime construction activities. The prior licensing of the HPP required mitigation to offset impacts to these species but is not proposed for the project. Implementation of the measures outlined in the BRMIMP, as required in **BIO-6** and **BIO-7,** is recommended to ensure compliance with state and federal law and to avoid impacts San Joaquin kit fox. CoCs **BIO-6** and **BIO-7** are adequate to preclude impacts to this species and no further CoCs are warranted.

BIO-7 The project owner shall implement the mitigation measures identified below and incorporate them into the final BRMIMP (BIO-6).

Protocol: The project owner shall:

1. site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;
2. design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;
3. implement a Worker Environmental Awareness Program;
4. clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat;
5. provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat. Specifically, the designated monitor shall be present during all activities that occur outside the fenced power plant site;
6. fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence shall be constructed of hardware cloth or similar materials that are approved by USFWS and CDFG;
7. fence the power plant site and keep all gates closed at night to avoid kit fox movement into the site;
8. inspect the natural gas line trenches each morning for entrapped animals prior to further pipeline construction. Daily construction will be allowed to begin only after trapped animals are able to escape voluntarily;

9. during the natural gas pipeline construction period, inspect all pipes, culverts, or similar structures with a diameter of 4-inches or greater for sensitive species (such as kit fox) prior to pipe burial. Pipes to be left in trenches overnight shall be capped;
10. provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the CPM;
11. make certain that all food-related trash is disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;
12. report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to the USFWS and CDFG, and the project owner shall follow instructions that are provided by USFWS and CDFG; and
13. in the event that sensitive species are observed within the active construction area, the designated biologist shall immediately cease all construction near the sighting location and inform the CPM and the appropriate resource agencies (USFWS and CDFG).

As established in **BIO-6,** the BRMIMP will be updated and utilized for the BESS Project, and therefore this CoC is applicable to the project.

Conclusion

In conclusion, while previous conditions within the project impact area have changed since the previous licensing documents, the BESS Project is anticipated to be in compliance with the CoCs pending the submittal of qualifications of the Designated Biologist (**BIO-1**), preparation of the Worker Environmental Awareness Program (**BIO-4**), and completion of requirements listed in the BRMIMP (**BIO-6, BIO-7**).

Sincerely,
Rincon Consultants, Inc.

Adam Card
Associate Biologist

Michael Tom, MS
Program Manager/Senior Biologist

Attachments

Attachment 1 Figures
Attachment 2 Special Status Species Evaluation Tables
Attachment 3 Representative Site Photographs

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Attachment 1

Figures

Figure 1 Regional Location

Basemap provided by Esri and its licensors © 2022.

Project Location

N

Figure 2 Study Area

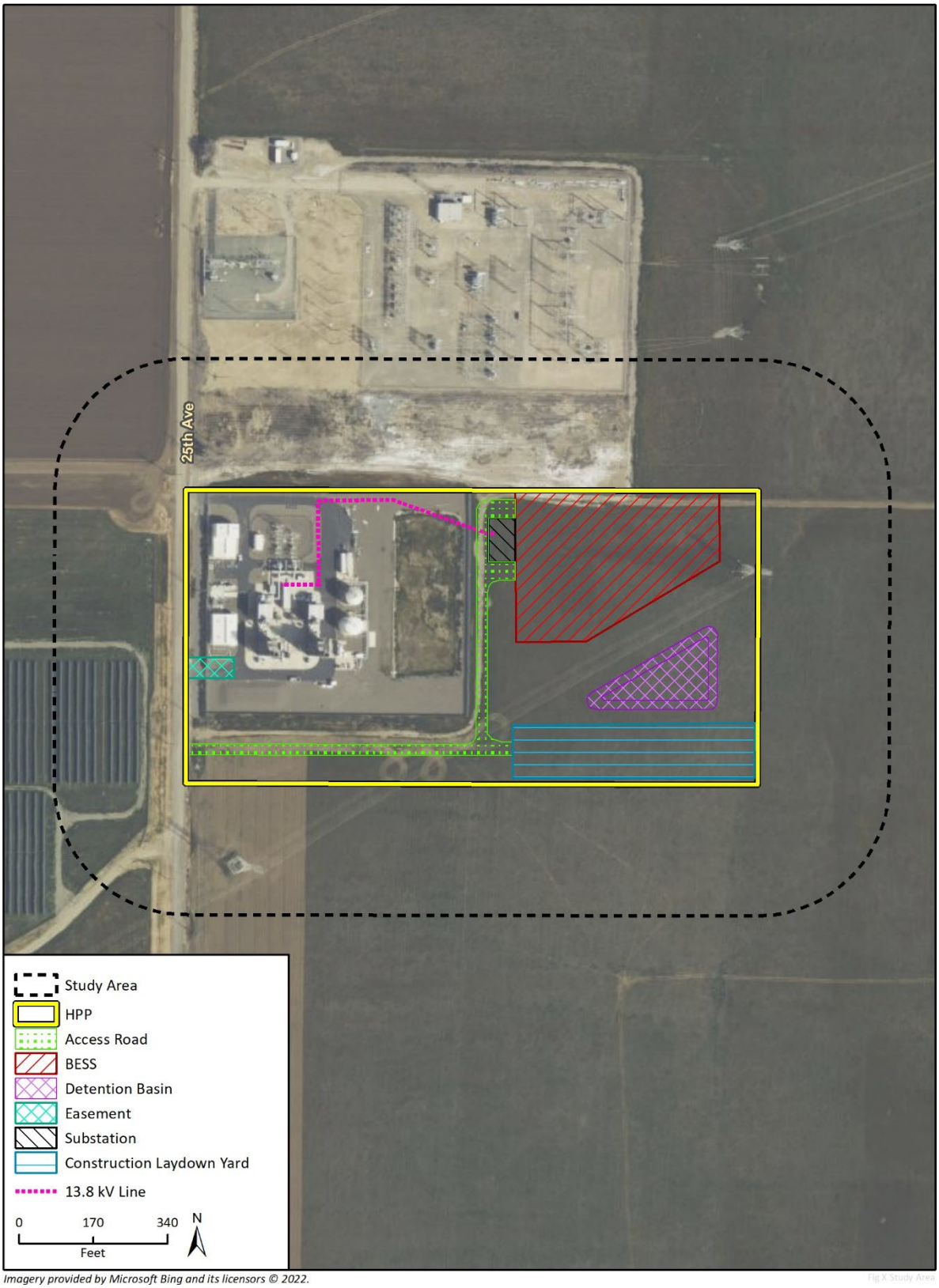

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Figure 3 Project Plans

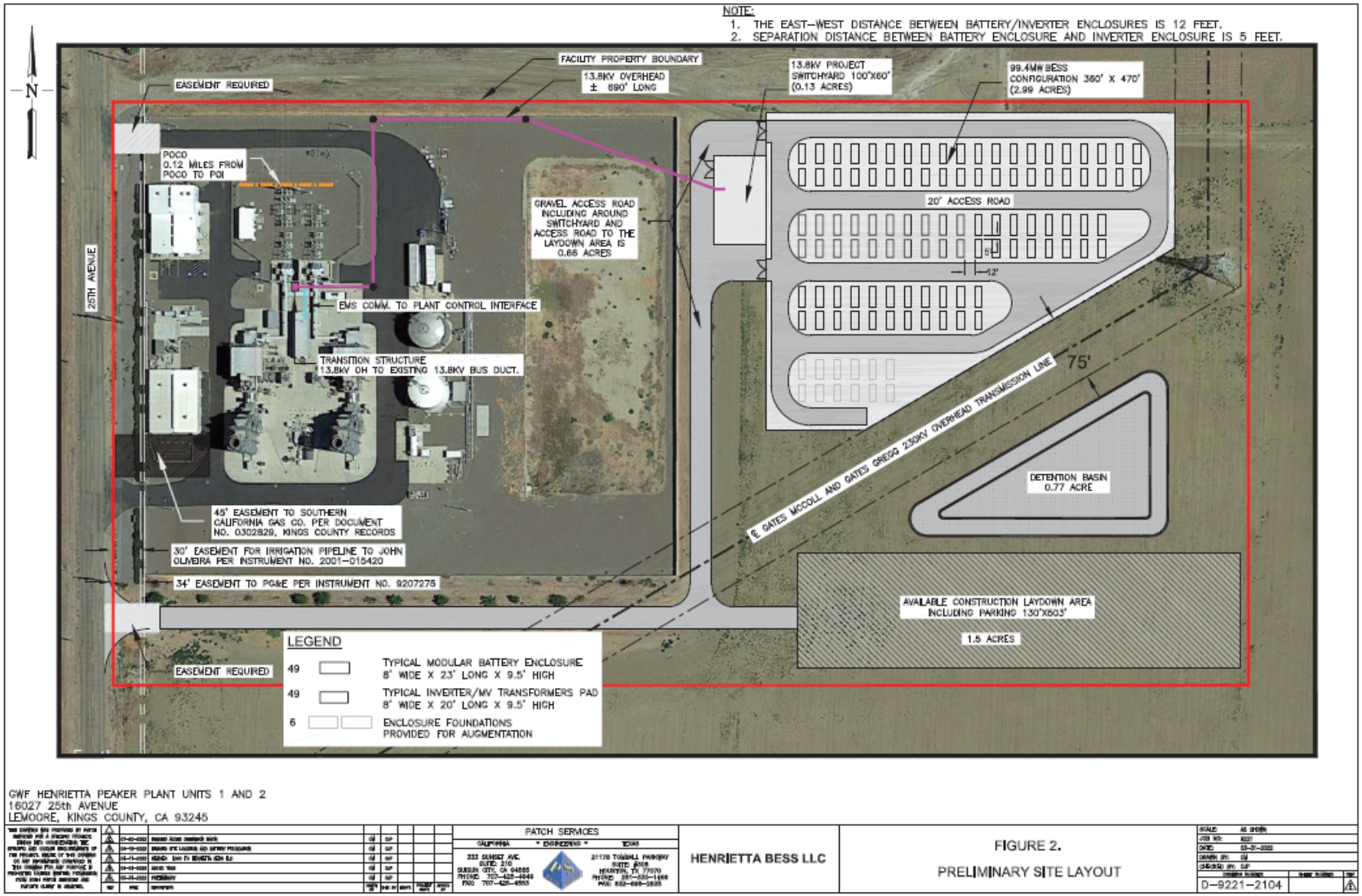
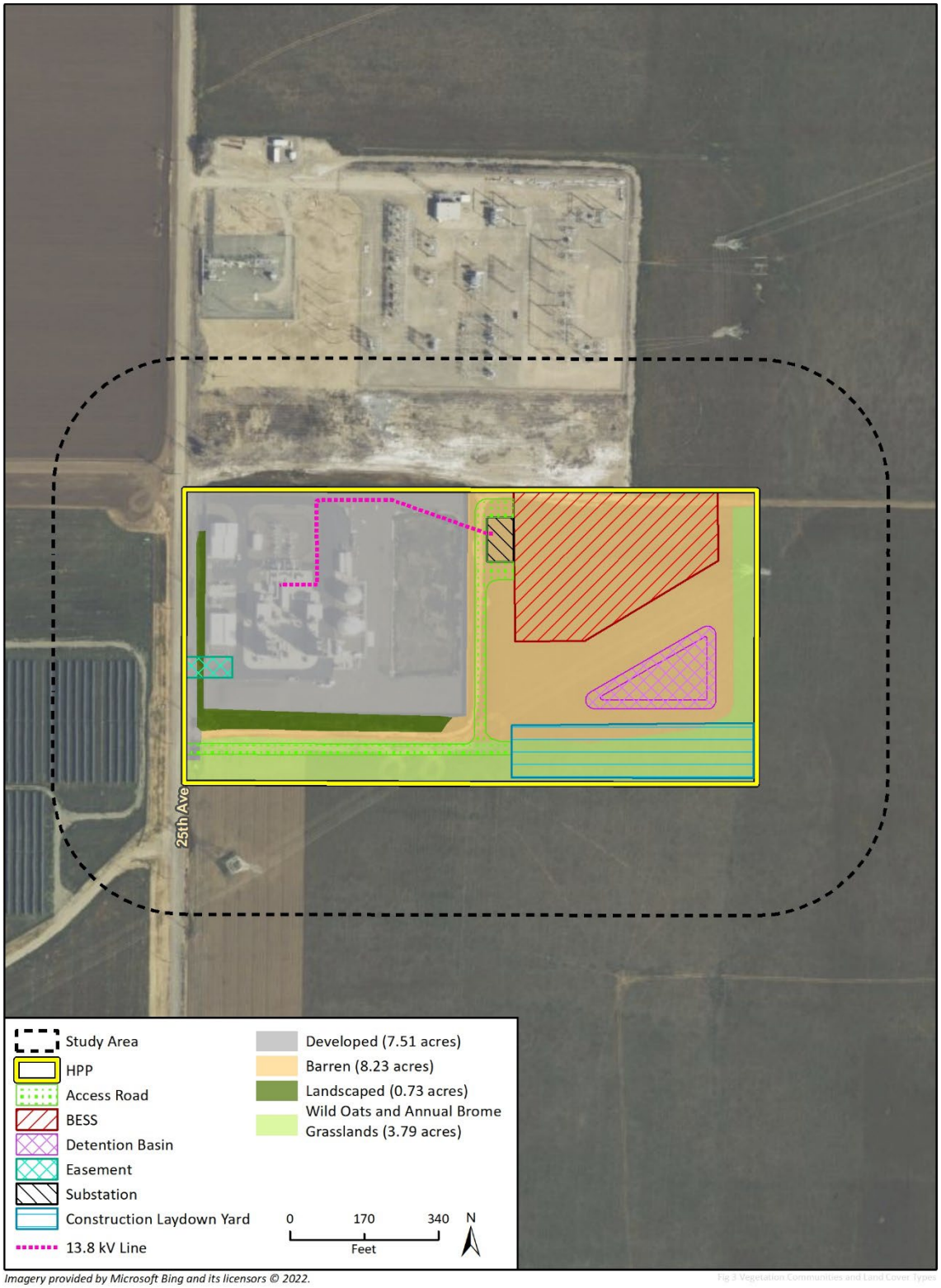


Figure 4 Land Cover Types



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Attachment 2

Special Status Species Evaluation Table

Special Status Species in the Regional Vicinity (Nine Quad) of the Study Area

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Plants				
Caulanthus californicus California jewelflower	FE/SCE G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3280ft. (61-1000m.) Blooms Feb-May.	Not Expected	No suitable habitat present within the study area. The closest CNDDB occurrence is over 5-miles from study area.
Caulanthus lemmonii Lemmon's jewelflower	None/None G3/S3 1B.2	Annual herb. Pinyon and juniper woodland, valley and foothill grassland. Elevations: 260-5185ft. (80-1580m.) Blooms Feb-May.	Not Expected	No suitable habitat present within the study area. The Study Area is outside the known elevation range for this species. The closest CNDDB occurrence is over 5-miles from study area.
Eremalche parryi ssp. kernensis Kern mallow	FE/None G3G4T3/S3 1B.2	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland; usually within valley saltbush scrub; often at edge of balds. On dry, open, sandy to clay soils. Elevations: 230-4230ft. (70-1290m.) Blooms Mar-May.	Not Expected	No suitable habitat present within the study area. The closest CNDDB occurrence is over 5-miles from study area.
Lasthenia chrysantha Alkali-sink goldfields	None/None G2/S2 1B.1	Annual herb. Vernal pools. Alkaline. Elevations: 0-655ft. (0-200m.) Blooms Feb-Apr.	Not Expected	No vernal pools present within the study area. The closest CNDDB occurrence is over 5-miles study area.
Monolopia congdonii San Joaquin woollythreads	FE/None G2/S2 1B.2	Annual herb. Chenopod scrub, valley and foothill grassland; often with grasses and within chenopod scrub Alkaline or loamy plains; sandy soils. Elevations: 195-2625ft. (60-800m.) Blooms Feb-May.	Not Expected	No suitable habitat present within the study area. The closest CNDDB occurrence is over 5-miles from study area.
Puccinellia simplex California alkali grass	None/None G3/S2 1B.2	Annual herb. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools; sinks, flats, and lake margins. Alkaline, vernally mesic. Elevations: 5-3050ft. (2-930m.) Blooms Mar-May.	Not Expected	No vernal pools present within the study area. The closest CNDDB occurrence is approximately 5-miles from study area.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Animals				
Fishes				
Hypomesus transpacificus Delta smelt	FT/SE G1/S1	Aquatic and estuarian habitat. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Not Expected	No aquatic habitat present in the study area. The closest CNDDB occurrence is approximately 5-miles from study area.
Amphibians				
Spea hammondii Western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	No aquatic habitat or vernal pools present in the study area. The closest CNDDB occurrence is approximately 5-miles from study area.
Reptiles				
Emys marmorata Western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not Expected	No aquatic habitat present in the study area. The closest CNDDB occurrence is approximately 5-miles from study area.
Gambelia sila Blunt-nosed leopard lizard	FE/SE G1/S1 FP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.	Not Expected	No habitat present in the study area. The study area is mostly barren and contains limited burrows and shrubs for cover. The closest CNDDB occurrence is approximately 5-miles from study area.
Masticophis flagellum ruddocki San Joaquin coachwhip	None/None G5T2T3/S2 SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	Not expected	Limited suitable burrows for refuge and oviposition sites. The closest CNDDB occurrence is over 5 miles away from study area.
Thamnophis gigas Giant gartersnake	FT/ST G2/S2	Marsh and swamp, riparian scrub, wetland habitat. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	Not Expected	No aquatic habitat present within the study area. The closest CNDDB occurrence is approximately 1.4 miles from the study area.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Birds				
Agelaius tricolor Tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Not Expected	No open water habitat present within the study area. The closest CNDDB occurrence is approximately 1.4 miles from the study area.
Athene cunicularia Burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low Potential	No burrowing owls were observed during the survey and the closest CNDDB occurrence has been recorded 1.82 miles from the study area (CDFW 2022a). Minimal burrows were observed during the survey and all California ground squirrel burrows observed were either less than three inches wide or completely closed within a few inches from the entrance of the burrow. No whitewash or other sign of this species was observed, and the burrows showed no sign of current use.
Buteo swainsoni Swainson's hawk	None/ST G5/S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Moderate Potential	No Swainson's hawks were observed during the reconnaissance survey and the closest CNDDB occurrence has been recorded over five miles from the study area (CDFW 2022a). Although there are no trees suitable for nesting in the project area, there are utility towers within 0.5 mile of the study area that could potentially provide suitable nesting habitat for Swainson's hawk. Being that the project is small and mostly developed/barren, impacts to moving or foraging individuals is not anticipated.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Charadrius nivosus Western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	No sandy beaches, salt pond levees and shores of large alkali lakes habitat present within the study area. The closest CNDDB occurrence is approximately 3.5 miles from the study area.
Falco columbarius Merlin	None/None G5/S3S4 WL	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Not Expected	No habitat present within the study area. The closest CNDDB occurrence is over 5 miles from the study area.
Lanius ludovicianus Loggerhead shrike	None/None G4/S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Present	Two individuals were observed within the study area during the reconnaissance survey. Open country habitat is present in the study area. Being that all nesting habitat is outside of the project area, it is not anticipated that there will be any direct impacts to the species nest(s). However, nesting habitat is within 50 feet of the project area and therefore the species' nest(s) could be affected indirectly. Also, being that the species is elusive, and the project is small and mostly developed/barren, impacts to moving or foraging individuals is not anticipated.
Xanthocephalus Yellow-headed blackbird	None/None G5/S3 SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	Not Expected	No aquatic habitat is present within the study area. The closest CNDDB occurrence is approximately 2.75 miles from the study area.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Mammals				
Ammospermophilus nelson Nelson's (=San Joaquin) antelope squirrel	None/ST G2G3/S2S3	Occurs in Western San Joaquin Valley from 200-1200 feet elevation. Uses dry, sparsely vegetated areas with a variety of soils suitable for digging. Digs burrows or uses kangaroo rat or other small mammal burrows. Needs widely scattered shrubs, forbs, and grasses in broken terrain, often with gullies and washes.	Not Expected	Limited suitable burrows exist in the study area. The closest CNDDB occurrence is over 5 miles away from study area.
Dipodomys nitratoides exilis Fresno kangaroo rat	FE/SE G3TH/SH	Alkali sink-open grassland habitats in western Fresno County. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.	Not Expected	No suitable alkali sink-open grassland habitat is present, and the study area is mostly cleared of vegetation.
Dipodomys ingens Giant kangaroo rat	FE/SE G1G2/S1S2	Chenopod scrub, valley and foothill grassland habitat. Prefers Annual grasslands on the western side of the San Joaquin Valley, marginal habitat in alkali scrub. Needs level terrain and sandy loam soils for burrowing.	Not Expected	No suitable habitat present within the study area. The closest CNDDB occurrence is over 5 miles from study area.
Dipodomys nitratoides Tipton kangaroo rat	FE/SE G3T1T2/S1S2	Found in saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils for burrowing which do not experience seasonal flooding. Often digs burrows in elevated mounds, including the base of shrubs in densely vegetated areas.	Not expected	Limited suitable burrows present in the study area. The closest CNDDB occurrence is approximately 4.7 miles from the study area.
Onychomys torridus tularensis Tulare grasshopper mouse	None/None G5T1T2/S1S2 SSC	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.	Not Expected	Limited suitable burrows present within the study area. This species is not expected to occur at a completely disturbed site.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Perognathus inornatus San Joaquin pocket mouse	None/None G2G3/S2S3	Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Associated with fine-textured, sandy, friable soils.	Not Expected	No suitable habitat present within the study area. The closest CNDDB occurrence is over 5 miles from study area.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST G4T2/S2	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	Low Potential	No San Joaquin kit foxes were observed during the reconnaissance survey and the closest CNDDB occurrence has been recorded over 5 miles from the study area (CDFW 2022a). Minimal California ground squirrel burrows were observed during the reconnaissance survey and all California ground squirrel burrows observed were either less than 3-inches wide or completely closed within a few inches from the entrance of the burrow. Atypical dens exist in the study area in the form of culverts and other man-made structures; however, all of the potential atypical dens were observed within the HPP, which is fenced off from surrounding habitat. Being that the species is nocturnal, this species is not anticipated to be present during construction activities if it were moving through or foraging in the study area.
Insects				
Danaus plexippus Monarch butterfly	FC/None G4T2T3/S2S3	Closed-cone coniferous forest. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	No roosting habitat or milkweed are present within the study area. The closest CNDDB occurrence is over 5 miles from the study area.

Scientific Name Common Name	Status Fed/State G-Rank/S-Rank CRPR or CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Crustaceans				
Branchinecta lynchi Vernal pool fairy shrimp	FT/None G3/S3	Valley and foothill grassland, vernal pool, wetland habitat. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not Expected	No vernal pools are present within the study area. The closest CNDDB occurrence is over 5 miles from the study area.

Regional Vicinity refers to within the *Westhaven*, *California* USGS 7.5-minute quadrangle and the eight surrounding quadrangles.

FE = Federally Endangered SE = State Endangered

FT = Federally Threatened ST = State Threatened

WL = Watch List SSC = CDFW Species of Special Concern

FP = Fully Protected

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3

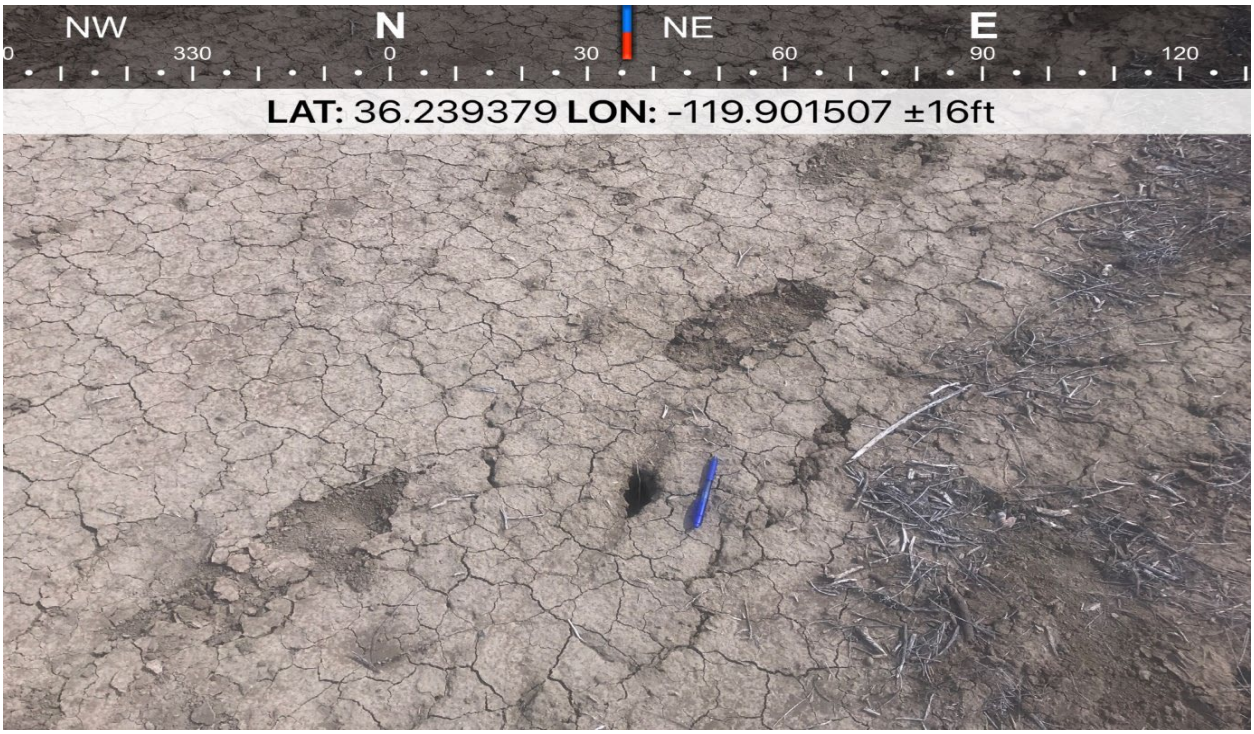
1B = California Rare Plant Rank (CRPR) - Rare, Threatened, or Endangered in California and elsewhere

Attachment 3

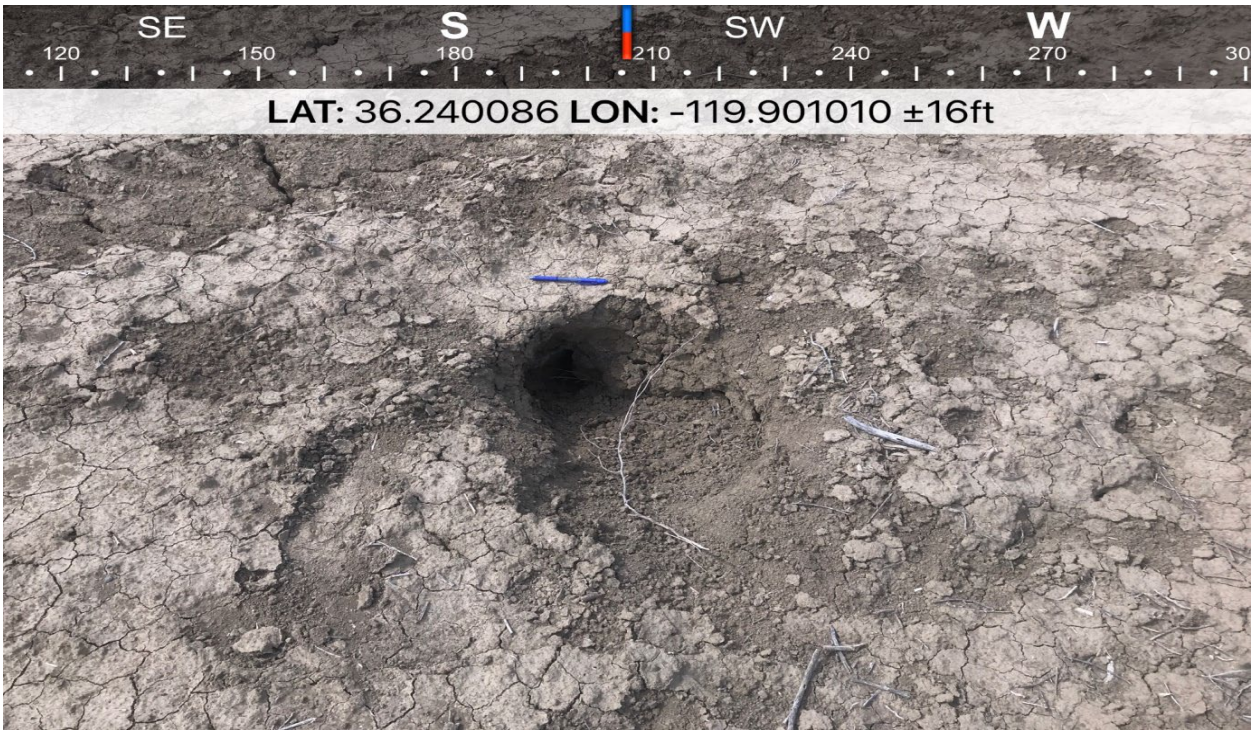
Representative Site Photographs

Photograph 1. Overview of a developed and landscaped area south of the HPP in the study area. This area includes the proposed improved gravel surface access road to the BESS site from 25th Avenue.

Photograph 2. Overview of a developed and landscaped area at the entrance of the HPP in the study area.



Photograph 3. Representative photo of a ground squirrel burrow in the study area. This burrow is closed within a few inches of the entrance.

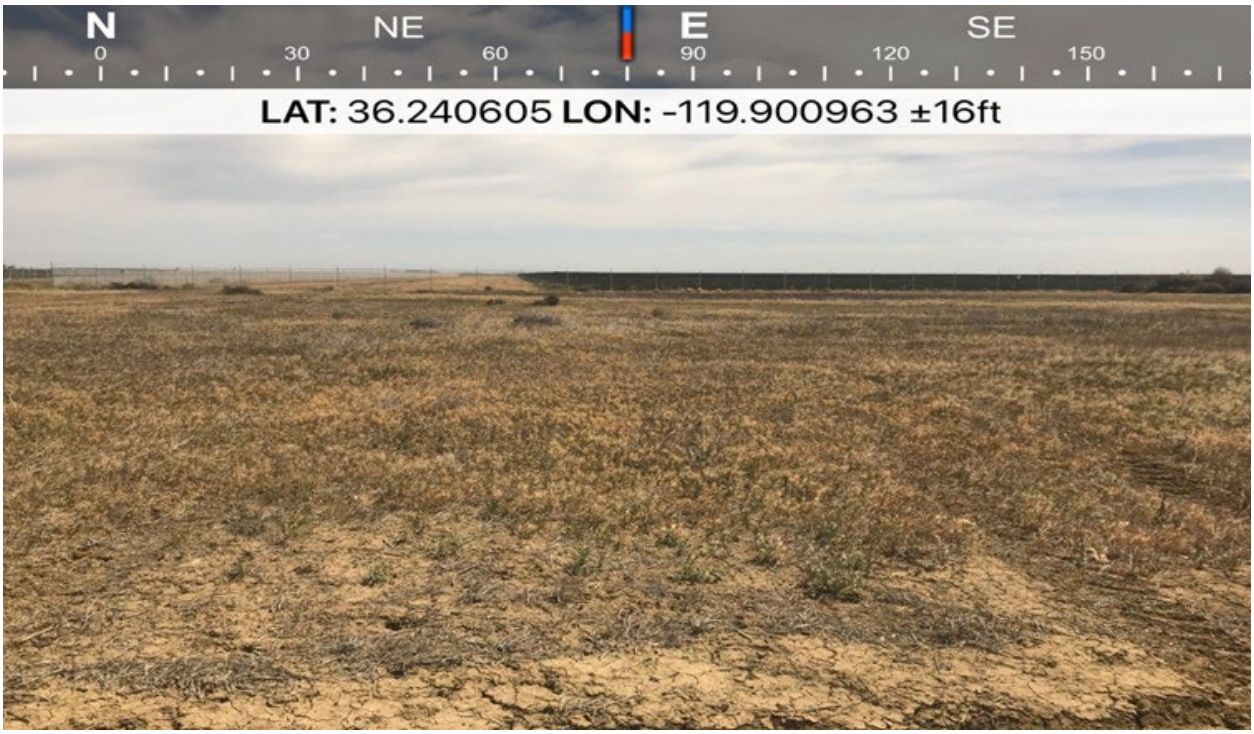


Photograph 4. Representative photo of a ground squirrel burrow in the study area. This burrow is closed within a few inches of the entrance.

Photograph 5. Overview of a developed and barren area east of the HPP in the study area. This area includes a portion of the proposed improved gravel surface access road to the BESS site from 25th Avenue.

Photograph 6. Overview of a barren area northeast of the HPP in the study area. This photograph is looking west-southwest across the BESS site towards the HPP.

Photograph 7. Overview of a barren area east of the HPP in the study area. This photograph is looking east across the southern portion of the BESS site.



Photograph 8. Overview of wild oats and annual brome grasslands east of the HPP and the BESS project footprint area on the eastern perimeter of the study area.

APPENDIX E

CULTURAL RESOURCES TECHNICAL REPORT

CONFIDENTIAL AND NOT FOR PUBLIC DISTRIBUTION

This appendix presents the Cultural Resources Technical Report prepared for the Border BESS Project. A copy of the confidential report has been provided to the California Energy Commission.

Confidentiality Statement

The Cultural Resources Technical Report prepared by Rincon Consultants, Inc. for the BESS Project contains sensitive and confidential information concerning archaeological resources. This report should be held confidential and is not for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]). Sections of this report contain locational maps and other sensitive information. Distribution should be restricted appropriately.

A copy of the Confidential Cultural Resources Technical Report is on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield. The report should be cited as follows:

Rotella, Brianna, Theadora Fuerstenberg, and Christopher Duran
2022. Cultural Resources Technical Report for the *Henrietta 99.4 Megawatt Battery Energy Storage System Project*. Rincon Consultants, Inc., Project No. 22-12592. Report on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield.

APPENDIX F

NOISE AND VIBRATION STUDY

This appendix presents the Noise and Vibration Study prepared for the Henrietta BESS Project.

Henrietta 99.4 MW Battery Energy Storage System (BESS) Project

Noise and Vibration Study

prepared for

Henrietta BESS LLC
16027 25th Avenue
Kings County, California 92154

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
Fresno, California 93720

August 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Appendices

1 Project Description and Impact Summary

1.1 Introduction

This study analyzes the potential noise and vibration impacts associated with the construction, operation, and decommissioning of the Henrietta Battery Energy Storage System (BESS) Project near Lemoore in Kings County, California. The purpose of this study is to analyze the noise and vibration levels related to both temporary construction activity and long-term operation of the project. Table 1 provides a summary of project impacts.

Table 1 Summary of Impacts

Issue	Proposed Project's Level of Significance	Applicable Recommendations
Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than significant impact (Construction) Less than significant impact (Operation)	None
Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than significant impact (Construction) Less than significant impact (Operation)	None
For a project located within the vicinity of a private airstrip or 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?	No impact	None

1.2 Project Summary

Project Location

The proposed Henrietta BESS project facilities are located in the eastern portion of an overall 20-acre site that currently contains the Henrietta Peaker Plant (HPP) on Assessor's Parcel Number (APN) APN 024-190-070-000. The project is located generally south of State Route (SR) 198 and north of Avenal Cutoff Road at 16027 25th Avenue, Lemoore, in Kings County, California (Figure 1 and Figure 2). The HPP property is bound by 25th Avenue to the west, and agricultural and utilities land uses in all other directions. Other land uses in the area include residential approximately 1.1 miles to the northeast.

Project Description

The project includes the development of a 99.4 megawatt (MW) BESS at the existing nominal 99.4 MW HPP and the utilization of a temporary construction laydown yard. See Figure 2 and Figure 3 for project site limits and detailed project plans. The key components of the project are listed below:

- BESS site including battery enclosures and inverters to be installed on concrete pad or pile foundations (approximately 2.99 acres).

- BESS 13.8 kilovolt (kV) switchyard adjacent to BESS site to be installed (approximately 0.13 acre).
- 13.8 kV dual circuit, overhead distribution line from BESS switchyard to HPP 13.8 kV buss duct connection to be installed (approximately 690 feet long; 3 poles up to 80 feet high plus dead-end/transition structures on each end).
- Access road extension and improvements on existing HPP perimeter access road (dirt) for construction and operational phase access. Improvements for approximately 1,300 feet of 25-foot-wide roadway to include compaction and addition of gravel surfacing for stability and dust control (approximately 0.83-acre total).
- Detention basin to be constructed in southeast portion of HPP property to the south of BESS site for stormwater management on the BESS site (approximately 0.77 acre).
- Construction laydown area in southeast portion of HPP property to the south of BESS site to be used for equipment and material storage and personnel parking during construction phase (approximately 1.5 acres).

The HPP is interconnected to the adjacent PG&E Henrietta Substation to the north via an existing approximately 650-foot-long transmission line. The project will include an onsite switchyard. An approximately 690-foot-long overhead dual circuit distribution line will connect the BESS switchyard to the existing HPP. The project will not require any high voltage modifications at the HPP switchyard. Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged from the electrical grid and not the HPP. The BESS and the HPP may be operated simultaneously in accordance with the market optimized dispatch instructions received from the California Independent System Operator (CAISO's) Automated Dispatching System ("ADS"), but the combined output will be control limited to never exceed a net of 99.4 MW per the Generator Interconnection Agreement.

The project will be constructed in part to support California's current need for additional renewable electrical energy supply especially during peak load demand time periods in the summer and would advance the State's and the California Public Utility Commission's (CPUC's) policy of 60% renewable power by 2030 and 100% by 2045 (Senate Bill 100). The project offers the CAISO a renewable dispatchable energy resource to the electrical grid and responds to the CAISO requirement to provide additional Resource Adequacy capacity and capability to California's existing transmission system.

Figure 1 Regional Location

Basemap provided by Esri and its licensors © 2022.

Project Location

N

Figure 2 Project Location

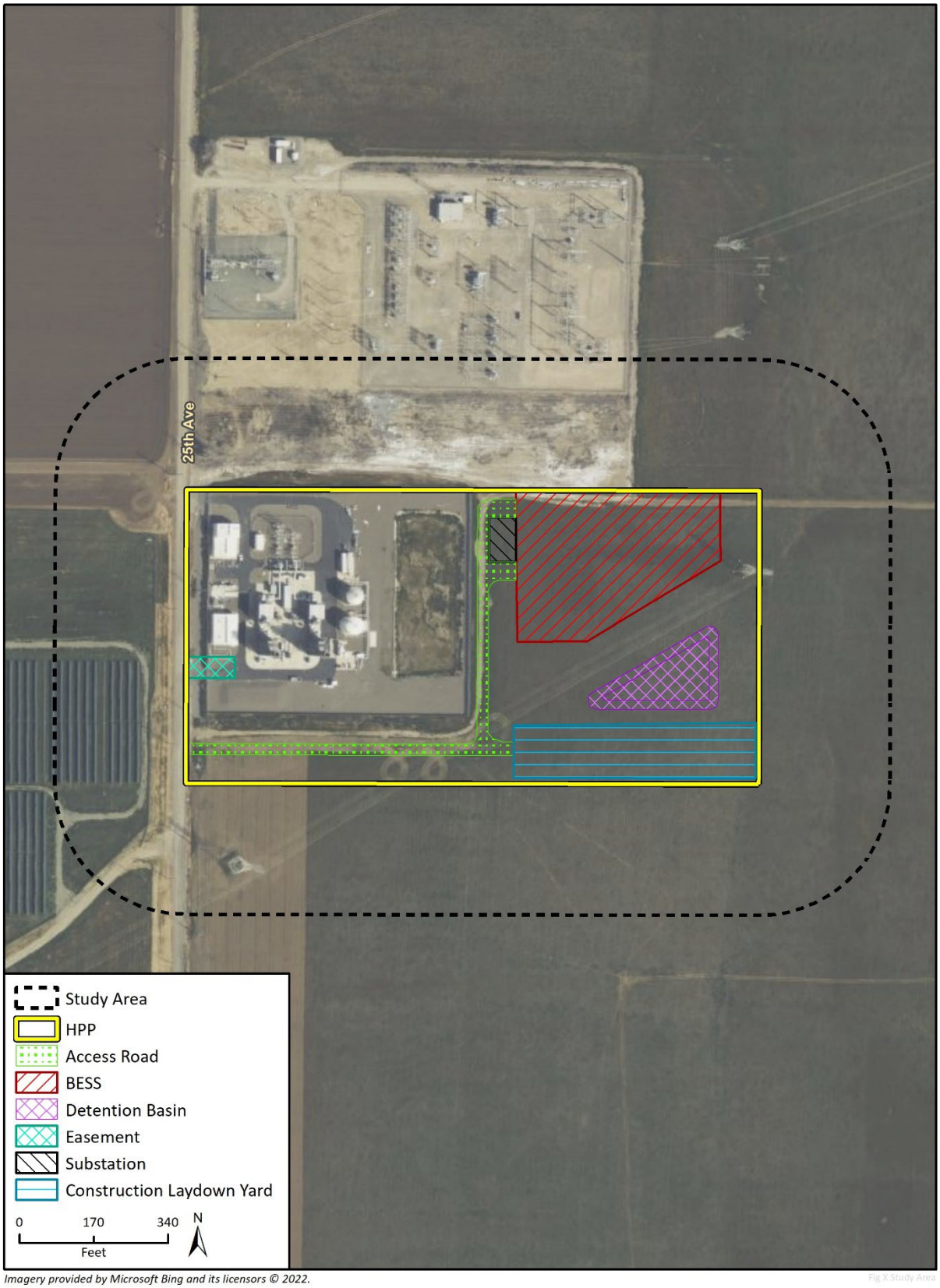

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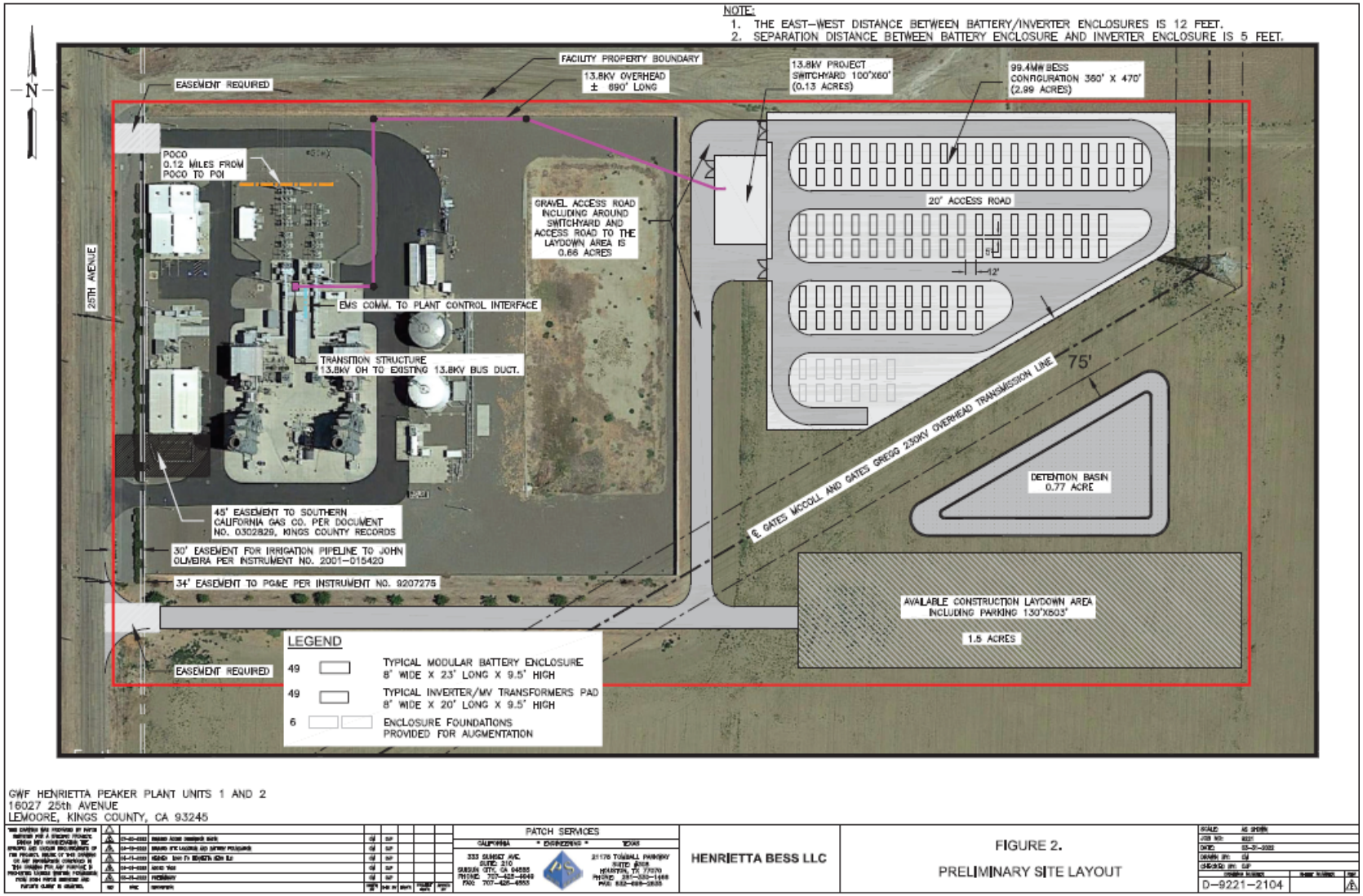
Fig X Study Area

Figure 3 Proposed Site Plan



Source: Henrietta BESS LLC

Construction

Construction site mobilization is currently anticipated to begin in third quarter of 2023 and construction activities with associated noise generation are planned to end in the first quarter of 2024. Construction hours are expected to typically start at 7 a.m. and end at 7 p.m., Monday through Saturday. Typical worker hours and equipment usage will be 8 hours/day within the 7 a.m. to 7 p.m. window. Construction equipment to be utilized would be expected to include graders and excavators, backhoes, water trucks, sheep's foot compactors, front end loaders, concrete trucks, dump trucks, trash trucks, and flatbed trailers. Cranes, man-lifts, portable welding units, line trucks, and mechanic trucks will also be required. A percussion drill rig or pile driver may be needed if a pile foundation option is selected instead of concrete pad foundations. Cut and fill will be balanced onsite to the extent practical.

Operation

Operation of the Henrietta BESS facility will be integrated with the existing HPP, but the BESS will be charged from the electrical grid and not the HPP. Commercial operation is currently anticipated for the second quarter of 2024. Once operational, the BESS facilities would operate seven days per week and 365 days per year. The facilities would be expected to require regular maintenance visits by two workers approximately one day per week on average. The planned project life is 40 years.

Henrietta Peaker Plant Project Noise Conditions of Certification

The HPP was licensed by the California Energy Commission (CEC) in 2002 (CEC Docket No. 01-AFC-18), and the Commission Decision included Conditions of Certification to minimize or avoid noise impacts from the HPP. The following CEC Conditions related to noise that are in place for the existing HPP shall also apply for the proposed Henrietta BESS project, as applicable.

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1: At least fifteen (15) days prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish and disseminate a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. The telephone number shall be posted at the project site during construction in a manner visible to passersby. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established.

NOISE COMPLAINT PROCESS

NOISE-2: Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- Use the Complaint Resolution Form or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to determine the source of noise related to the complaint;
- If the noise is project related, take all feasible measures to reduce the noise at its source; and
- If the noise is project related, submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five (5) days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, and with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

OPERATING NOISE LIMITATION

NOISE-3: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed the ambient background noise level (L_{90}) at residential receivers by more than 5 dBA, and that the noise due to plant operations will comply with the noise standards of the Kings County General Plan.

No new pure tone components may be produced by operation of the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Pressure relief valves shall be adequately treated or located to preclude noise that draws legitimate complaints.

Protocol: Within thirty (30) days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the same Site 1 used for the ambient noise survey (i.e., housing at NAS Lemoore). The survey shall also include the one-third octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that the project noise level at the residential location exceeds the standards and requirements cited above, additional mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

Verification: Within fifteen (15) days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of implementation of the mitigation measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

CONSTRUCTION TIME RESTRICTIONS

NOISE-4: Construction noise levels as measured at any affected residence shall be limited to 60 dBA L_{eq} during daytime hours (7 a.m. to 10 p.m.) and 45 dBA L_{eq} during nighttime hours (10 p.m. to 7 a.m.). If construction noise levels exceed an hourly average noise level of 60 dBA L_{eq} daytime or 45 dBA L_{eq} nighttime, the construction equipment that is the source of the excessive noise shall be shut down or the noise mitigated to a noise level below 60 dBA L_{eq} or 45 dBA L_{eq}, respectively.

Verification: The Project Owner shall monitor noise levels at the nearest residential noise receptor at random evening times when nighttime construction activities are in progress. The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project and monitoring data.

2 Background

2.1 Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impacts. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time.

The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. It is also measured using CNEL, which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night.

2.2 Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration

signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020a).

2.3 Sensitive Receivers

Noise-sensitive receivers are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, schools, transient lodging (hotels), hospitals, educational facilities, and libraries. Industrial and commercial land uses are generally not considered sensitive to noise.

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment).

The nearest sensitive receivers include the residential community located approximately 1.1 miles northeast of the site.

2.4 Project Noise Setting

The project site is located in an agricultural area of Kings County that includes substantial recent solar photovoltaic (PV) solar farm development in the area. The major noise sources in the area are freeways and roadways located near the project, including SR 198 to the north and 25th Avenue to the west. Aircraft noise is also present in the project area from the Lemoore Naval Air Station, located 4.2 miles to the northwest. To characterize ambient noise levels at and near the HPP and the Henrietta BESS portions of the parcel, three short term 15-minute sound level measurements were conducted on April 4, 2022, and one 25-hour measurement was conducted on May 3, 2022 and May 4, 2022. An Extech, Model 407780A, ANSI Type 2 integrating sound level meter was used to conduct the measurements. The sound meter was calibrated prior to measurements. For the short-term measurements, Noise Measurement (NM) 1 was conducted at the northwestern edge of the project site; NM2 was conducted at the northeastern edge of the project site; and NM3 was conducted at the southeastern edge of the project site. The long-term measurement (LT1) was conducted in a southwestern portion of the project site near 25th Avenue. Figure 4 shows the measurement locations, Table 2 summarizes the results of the short-term noise measurements, and Table 3 summarizes the results of the long-term noise measurements.

Noise measurements were not taken at the closest sensitive receptors (residences approximately 5,750 feet to the northeast at Lemoore NAS), but traffic noise modeling indicates that the existing ambient noise level at residences along SR 198/Avenger Road is 71 dBA CNEL. Refer to Section 4, Impact Analysis for more information.

Figure 4 Noise Measurement Locations

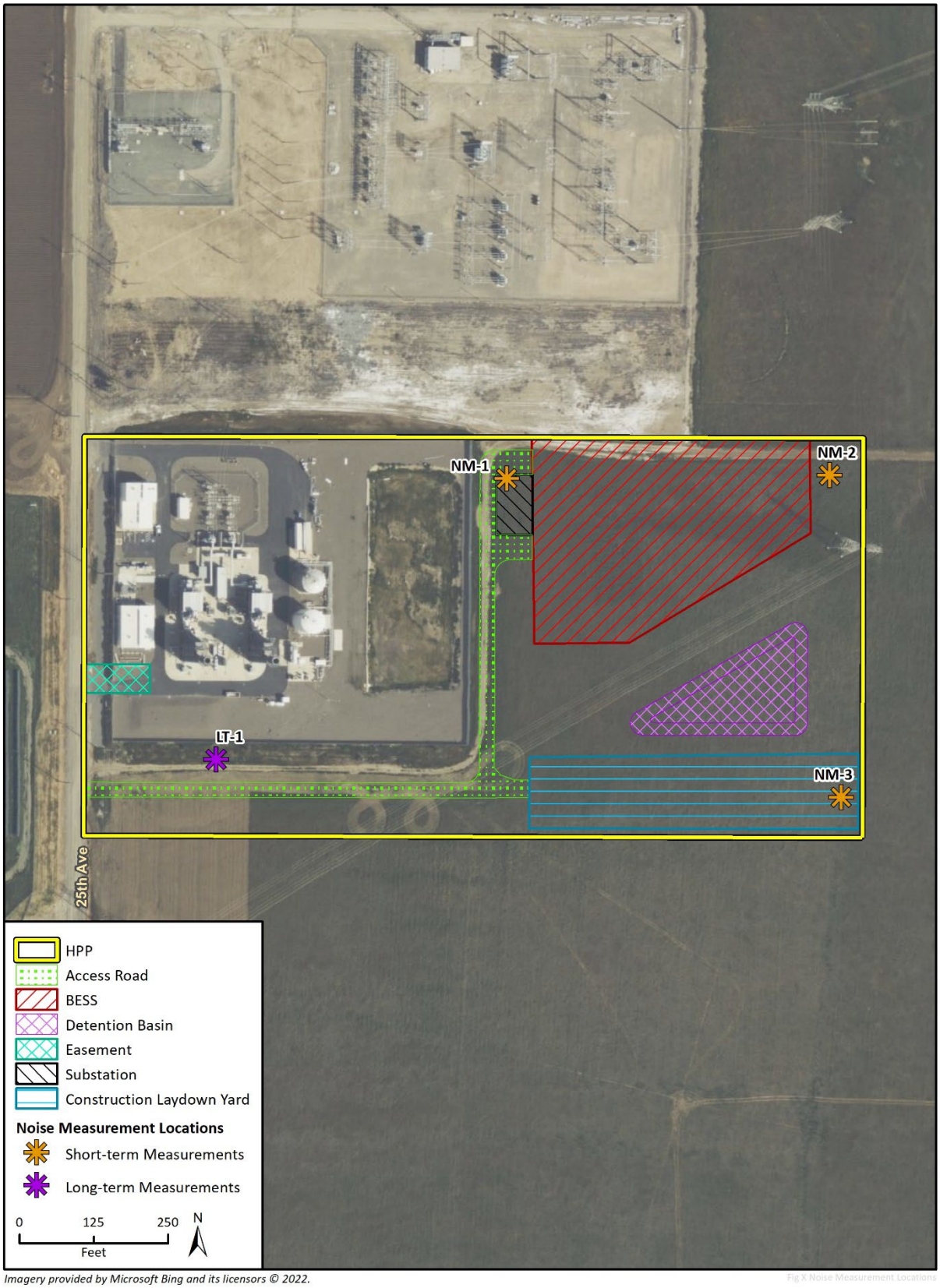


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Fig X Noise Measurement Locations

Table 2 Project Sites Noise Monitoring Results – Short Term

Measurement Location	Measurement Location	Sample Times	Primary Noise Sources	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
NM1	Northwestern portion of project site	11:05 – 11:20 a.m.	25th Avenue, aircraft	51.5	41.4	64.4	55.2	45.1	42.7
NM2	Northeastern portion of project site	11:56 a.m. – 12:11 p.m.	25th Avenue, aircraft, train horn	70.0	40.5	87.4	58.3	46.5	42.7
NM3	Southeastern edge of project site	2:12 – 2:27 p.m.	25th Avenue, aircraft	52.9	43.7	63.2	55.9	51.4	46.9

Detailed sound level measurement data are included in Appendix A and shown on Figure 4.

Table 3 Project Site Noise Monitoring Results – Long Term

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT1 – Southwestern Portion of Project Site, May 3 – May 4, 2022			
2:57 p.m.	52	3:57 a.m.	44
3:57 p.m.	59	4:47 a.m.	59
4:57 p.m.	52	5:57 a.m.	46
5:57 p.m.	45	6:57 a.m.	47
6:57 p.m.	47	7:57 a.m.	41
7:57 p.m.	52	8:57 a.m.	54
8:57 p.m.	57	9:57 a.m.	45
9:57 p.m.	54	10:57 a.m.	60
10:57 p.m.	44	11:57 a.m.	61
11:57 p.m.	43	12:57 p.m.	59
12:57 a.m.	50	1:57 p.m.	47
1:57 a.m.	42	2:57 p.m.	59
2:57 a.m.	43		
			25-hour Noise Level
		CNEL	59
		L_{eq}	55
		L_{min}	36.9
		L_{max}	94.9
		L_{10}	53.2
		L_{50}	43.2
		L_{90}	38.8

Source: Rincon Consultants, field measurements conducted on May 3 – 4, 2022, using ANSI Type II Integrating sound level meter. See Appendix A.

2.5 Regulatory Setting

Federal

There are no federal noise regulations directly applicable to the proposed project.

State

The California Code of Regulations, Title 20, Division 2, Chapter 5, Article 6, Section B, Appendix B includes the following noise regulations applicable to the project:

(4) Noise

(A) A land use map which identifies residences, hospitals, libraries, schools, places of worship, or other facilities where quiet is an important attribute of the environment within the area impacted by the proposed project. The area potentially impacted by the proposed project is that area where, during either construction or operation, there is a potential increase of 5 dBA or more, over existing background levels.

(B) A description of the ambient noise levels at those sites identified under subsection (g)(4)(A) which the applicant believes provide a representative characterization of the ambient noise levels in the project vicinity, and a discussion of the general atmospheric conditions, including temperature, humidity, and the presence of wind and rain at the time of the measurements. The existing noise levels shall be determined by taking noise measurements for a minimum of 25 consecutive hours at a minimum of one site. Other sites may be monitored for a lesser duration at the applicant's discretion, preferably during the same 25-hour period. The results of the noise level measurements shall be reported as hourly averages in L_{eq} (equivalent sound or noise level), L_{dn} (day-night sound or noise level) or CNEL (Community Noise Equivalent Level) in units of dB(A). The L_{10}, L_{50}, and L_{90} values (noise levels exceeded 10 percent, 50 percent, and 90 percent of the time, respectively) shall also be reported in units of dBA.

(C) A description of the major noise sources of the project, including the range of noise levels and the tonal and frequency characteristics of the noise emitted.

(D) An estimate of the project noise levels, during both construction and operation, at residences, hospitals, libraries, schools, places of worship, or other facilities where quiet is an important attribute of the environment, within the area impacted by the proposed project.

(E) An estimate of the project noise levels within the project site boundary during both construction and operation and the impact to the workers at the site due to the estimated noise levels.

(F) The audible noise from existing switchyards and overhead transmission lines that would be affected by the project, and estimates of the future audible noise levels that would result from existing and proposed switchyards and transmission lines. Noise levels shall be calculated at the property boundary for switchyards and at the edge of the rights-of-way for transmission lines.

Local

The project site is located near Lemoore in an unincorporated area of Kings County. Applicable noise standards are codified in the following County regulations:

Kings County General Plan

The Kings County General Plan Noise Element was adopted in 2010. The goals, objectives, and policies of the General Plan Noise Element are intended to identify the existing and projected future noise environment in Kings County and provide policy direction and implementation efforts to protect County residents from exposure to excessive noise levels. The Noise Element provides the basis for comprehensive local policies to control and abate environmental noise from stationary and mobile sources and reduce conflict between noise and noise-sensitive land uses. The following are applicable to the proposed project and impacts related to noise:

> **GOAL B1.** Protect the economic base of Kings County by preventing the encroachment of noise-sensitive land uses into area affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent byproduct of many land uses, including agriculture, and to prevent new noise-sensitive land uses from being developed in areas affected by existing noise-producing uses.
>
> **N OBJECTIVE B1.1.** Reduce the potential for exposure of County residents and noise-sensitive land uses to excessive noise generated from non-transportation noise sources.

Kings County Municipal Code

The following section of the Kings County Municipal Code is applicable to the proposed project and impacts related to noise:

> **Section 15-211, Certain Noise Prohibited:**
>
> No person shall make, suffer, or permit upon any premises owned, occupied or controlled by such person any noises or sounds which are physically annoying to the senses of persons of ordinary sensitivity, or which are so harsh or so prolonged or unnatural or unusual in their use, time or place, as to cause physical discomfort to neighbors or to interfere with the comfortable use and enjoyment of life or property, or which constitutes a public or private nuisance, within any unincorporated territory of the County of Kings.

3 Methodology

3.1 Construction Noise

Construction and decommissioning activity would result in temporary noise in the project site vicinity, exposing surrounding nearby receivers to increased noise levels. Construction noise associated with the project would be generated by heavy-duty diesel construction equipment used for site preparation, grading, foundation installation, on-site access routes, loading, unloading, placing materials, and installing battery enclosures, switchyards, on-site electrical interconnection, and ultimately, decommissioning. Typical heavy construction equipment during grading could include dozers, loaders, graders, and dump trucks. It is assumed that diesel engines would power all construction equipment. Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some have high-impact noise levels. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., site preparation and grading) and would be lower during the later construction phases (i.e., material placement, components installation, and decommissioning).

During construction, equipment goes through varying load cycles and is operated intermittently to allow for non-equipment tasks such as measurement. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the activity to determine the L_{eq} of the operation (FHWA 2018). Reference noise levels for heavy-duty construction equipment were estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). Due to the size of the project site, a likely construction scenario includes simultaneous operation of a backhoe, dozer, front-end loader, and off-highway truck during grading activities. As discussed above, a percussion drill rig or pile driver may be needed if a pile foundation option is selected instead of concrete pad foundations. A reasonable worst-case scenario of an excavator, a dozer, a grader, and an impact pile driver was analyzed. At a distance of 50 feet, an excavator, a dozer, a grader, and an impact pile driver would generate a noise level of 95 dBA L_{eq} (RCNM calculations are included in Appendix B).

Construction equipment would operate as close as 5,750 feet to the nearest residential property line to the northeast.

3.2 Groundborne Vibration

The project does not include any substantial vibration sources associated with operation. Thus, construction activities have the greatest potential to generate ground-borne vibration affecting nearby receivers, especially during grading and excavation of the project sites. The greatest vibratory source during construction in the vicinity of the BESS site would be pile driving if a pile foundation option is selected instead of concrete pad foundations. Blasting would not be required for construction of the project. Construction vibration estimates are based on vibration levels reported by Caltrans and the FTA (Caltrans 2020a, FTA 2018). Table 4 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 4 Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 ft. (in/sec)
Impact Pile Driver	1.518
Roller	0.032
Large Bulldozer	0.089
Loaded Trucks	0.076

Source: FTA 2018

Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such pile-driving, vibratory compaction, demolition, drilling, or excavation, are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020a; FTA 2018). Maximum recommended vibration limits by the American Association of State Highway and Transportation Officials (AASHTO) are identified in Table 5.

Table 5 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020a

Based on AASHTO recommendations, limiting vibration levels to below 0.2 in/sec PPV at residential structures would prevent structural damage regardless of building construction type. These limits are applicable regardless of the frequency of the source.

3.3 Operational Noise

Under normal operation, the BESS site would be remotely monitored with no personnel on-site except for periodic maintenance and battery augmentation activities. Maintenance and battery augmentation activities would not generate substantial noise. The noise sources on the project site after completion of construction would include stationary outdoor equipment such as transformers, inverters, and individual BESS units.

Noise level modeling for the BESS project's combined worst case operational sources were developed using SoundPLAN noise modeling software, Version 8.2. SoundPLAN incorporates noise propagation algorithms and reference sound levels published by various government agencies and the scientific community. Noise sources and receivers are input using three-dimensional coordinates. Intervening structures and barriers were conservatively not modeled. In all cases receivers were modeled at the average height of the human ear, which is five feet above ground elevation.

Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment

methodology assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts since only some receivers would be downwind at any one time.

On-site noise sources were modeled based on collected reference data. Inverters would be Power Electronics Inverters or similar design. Manufacturer's specifications indicate that these units generate a noise level of 79 dBA at 1 meter (see Appendix C for specification sheets). Transformers for the project would also be Power Electronics or similar design. Manufacturer's specifications indicate that these units generate a noise level of 67 dBA at 1 meter with cooling fans (see Appendix C for specification sheets). BESS units would be CATL units or similar design. Manufacturer's specifications indicate that these units generate a noise level of 75 dBA at 1 meter. For a conservative scenario, the units were assumed to operate at 100 percent of an hour for 24 hours.

3.4 Traffic Noise

It is assumed that construction traffic could access the project site via SR 198 near the residential community northeast of the project site. Existing traffic volumes are compared with proposed construction traffic along SR 198 logarithmically to estimate the potential project-related traffic noise increase. Existing volumes are based on published Caltrans average daily traffic (ADT) volumes (Caltrans 2020b). Vehicle trips generated by project construction activities are based on estimates provided by the project applicant. It is estimated that up to 50 workers and 25 delivery trucks per day would occur during peak construction periods. A vehicle trip is defined as a one-direction vehicle movement. The total number of trips generated by the project includes both inbound and outbound trips. Therefore, project construction would generate a maximum of 150 one-way trips per day. Table 6 shows the estimated number of existing and construction-generated vehicle trips on the roadway segments. All construction trips were conservatively assumed to occur on SR 198 near the existing residences closest to the project site.

To assess the increase in ambient noise levels at the nearby residences, per California Code of Regulations requirements, a version of the FHWA traffic noise prediction model (FHWA-RD-77-108) is used. Appendix D contains the traffic noise modeling inputs and outputs.

Table 6 Estimated Existing and Construction Vehicle Trips

Roadway Segment	Existing Daily Vehicle Trips[1]	Construction Daily Vehicle Trips	Existing + Construction Daily Vehicle Trips
SR 198 – Lemoore Naval Air Station to Avenal Cutoff Road	14,600	150	14,750

[1] Existing average daily vehicle trips obtained from Caltrans 2020b.

3.5 Significance Thresholds

To determine whether a project would have a significant noise impact, Appendix G of the CEQA Guidelines requires consideration of whether a project would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels; or,

3. For a project located within the vicinity of a private airstrip or 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, expose people residing or working in the project area to excessive noise levels

Construction Noise

The Kings County Municipal Code does not contain quantified limits for construction noise. Per the NOISE-4 requirement from the Henrietta Peaker Plant Noise Conditions of Certification, construction noise levels as measured at any affected residence shall be limited to 60 dBA L_{eq} during daytime hours (7 a.m. to 10 p.m.). Construction hours are expected to typically start at 7 a.m. and end at 7 p.m., Monday through Saturday. Therefore, noise levels from construction of the BESS project that exceed 60 dBA L_{eq} at residential properties would be significant.

On-site Operational Noise

The project site is in a mainly agricultural area of the County with single-family residential uses approximately 5,750 feet to the northeast. The Kings County Municipal Code does not have quantified limits for operational stationary noise. Per the NOISE-3 requirement from the Henrietta Peaker Plant Noise Conditions of Certification, project operational noise shall not exceed the ambient noise level at nearby residences by more than 5 dBA. Therefore, on-site operational noise could be significant if it exceeds the ambient noise level at residences by more than 5 dBA.

Off-site Traffic Noise

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance similar to those recommended by the Federal Aviation Administration (FAA) and N Policy B1.2.1 from the Kings County General Plan Noise Element are used to assess traffic noise impacts at sensitive receptor locations (FAA 2020, Kings County 2010). A significant impact would occur if project traffic noise increases the existing noise environment by the following:

- Greater than 1.5 dBA for ambient noise environments of 65 dBA CNEL and higher;
- Greater than 3 dBA for ambient noise environments of 60 to 64 dBA CNEL; or
- Greater than 5 dBA for ambient noise environments of less than 60 dBA CNEL.

Construction Vibration

The Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) is used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance. Based on the Caltrans criteria described above, construction vibration impacts would be significant if vibration levels exceed 0.2 in./sec. PPV for residential structures, which are the limits where minor cosmetic, i.e., non-structural, damage may occur to these buildings.

4 Impact Analysis

4.1 Issue 1

Issue: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
LESS THAN SIGNIFICANT

Construction

Construction Equipment

Construction hours are expected to typically start at 7 a.m. and end at 7 p.m., Monday through Saturday. Prior to and during the construction period, the existing CEC Noise Conditions of Certification NOISE-1, NOISE-2, and NOISE-4 will apply. Over the course of a typical construction day, construction equipment would be located as close as 5,750 feet to the nearest noise sensitive uses to the northeast (single-family residences on Avenger Avenue). At a distance of 5,750 feet, when accounting for impact pile driving if concrete foundations are not used for battery energy storage systems, construction noise would generate noise levels of up to 54 dBA L_{eq}. This conservatively does not take into account shielding from any intervening buildings, terrain, or other features. Therefore, construction noise levels would not exceed the construction noise threshold of 60 dBA L_{eq} at residential properties. In addition, traffic noise modeling indicates that the existing ambient noise level at residences along SR 198/Avenger Road is 71 dBA CNEL. Construction noise would not increase ambient noise levels by 5 dBA or more (California Code of Regulations criterion). Impacts would be less than significant.

The California Code of Regulations, Title 20, Division 2, Chapter 5, Article 6, Section B, Appendix B requires that an estimate of worker noise exposure during project construction. As discussed in Section 3.1, construction noise could reach as high as 95 dBA L_{eq}. The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the US EPA. Noise limitations would apply to the operation of construction equipment. Noise exposure of this type is addressed through a facility's Health and Safety Plan, as required under OSHA.

Construction Vehicles

The project would generate new vehicle trips that would increase noise levels on nearby roadways during construction. The project is anticipated to generate a maximum of 150 daily vehicle trips between workers and deliveries of equipment. The project would not make alterations to roadway alignments or substantially change the vehicle classifications mix on local roadways. Therefore, the primary factor affecting off-site noise levels would be increased traffic volumes. A temporary increase of 150 daily trips would result in a daily traffic noise level increase of approximately 0.4 dBA CNEL on SR 198. Project construction traffic noise increases would not exceed the 1.5 dBA CNEL impact criterion for off-site traffic noise impacts. Therefore, impacts would be less than significant.

Operation

Following the methodology discussed in Section 3.3, project operational noise levels were modeled and noise contours were estimated. Noise modeling indicates that project operational noise levels at the nearest receivers to the northeast would be 25 dBA L_{eq}. Noise contours are shown in Figure 5. Traffic noise modeling indicates that the existing ambient noise level at residences on Avenger Avenue/SR 198 is 71 dBA CNEL. Project operation would not increase ambient noise levels by 5 dBA or more (California Code of Regulations criterion) and is not anticipated to be audible at the nearest residences. Impacts would be less than significant. Once operational, the project applicant will be required to comply with Noise CoC NOISE-3.

The California Code of Regulations, Title 20, Division 2, Chapter 5, Article 6, Section B, Appendix B requires an estimate of worker noise exposure during project operation. Operational noise levels at the site could reach 79 dBA L_{eq} or more. The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise limitations would apply to the operation of industrial equipment as part of the project. Noise exposure of this type is addressed through a facility's Health and Safety Plan, as required under OSHA.

Off-site Traffic Noise

The project would be expected to require regular maintenance visits by two workers, one day per week on average. However, when compared with the existing daily traffic volumes of 14,600 on SR 198, these maintenance worker trips would cause a negligible traffic noise increase. Therefore, impacts would be less than significant. Similarly, infrequent battery augmentation activities involving addition of new batteries on existing foundations would result in negligible, less than significant traffic noise increases.

Figure 5 Project Operational Noise Contours

4.2 Issue 2

Issue:	Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels? **LESS THAN SIGNIFICANT**

Construction activities known to generate excessive ground-borne vibration, such as pile driving, may be conducted by the project. Pile driving construction equipment may be used within 4,000 feet of the nearest off-site structures, industrial buildings to the south of Henrietta D. Energy Storage on 25th Avenue. Impact pile driving generates a vibration level of approximately 1.518 in/sec PPV at a distance of 25 feet (FTA 2018). This vibration level would attenuate to 0.001 in/sec PPV for a pile driver at a distance of 4,000 feet. This vibration level would not exceed the threshold of 0.2 in/sec PPV. Vibration levels would be less at residences to the northeast at a distance of approximately 5,750 feet. Therefore, temporary impacts associated with construction would be less than significant.

Operation of the project would not include any substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

4.3 Issue 3

Issue:	For a project located within the vicinity of a private airstrip or 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? **NO IMPACT**

The closest airport to the project site is the Lemoore Naval Air Station, located approximately 4.2 miles to the northwest. The project site is located within the 65 dBA CNEL noise contour of the airport according to Figure N-8 of the Kings County General Plan Noise Element (Kings County 2010). However, based on the LT-1 noise measurement, the ambient noise level at the project site is 59 dBA CNEL. The project is a utility use and there are no noise-sensitive outdoor use areas (e.g., courtyards) and the project would not include any interior spaces. Therefore, no substantial noise exposure from airport noise would occur to users of the project, and no impacts would occur.

Cumulative Noise

Construction noise and vibration are localized and rapidly attenuate within an urban environment. Although some cumulative projects in the surrounding area may be under construction at the same time as the proposed project, these projects are not located in close enough proximity to the project sites such that noise and vibration from construction activities would impact the same sensitive receivers and structures. Therefore, no cumulative construction noise and vibration impacts would occur.

Similar to construction noise and vibration, operational noise and vibration from these sources is localized and rapidly attenuates within an industrialized setting due to the effects of intervening structures that block the line of sight and other noise sources closer to receivers that obscure project-related noise. Given the distance of the cumulative projects from the project site, these projects are not located in close enough proximity to the project sites such that operational noise

and vibration would impact the same sensitive receivers. Therefore, no cumulative operational noise and vibration impacts would occur.

5 Conclusion

The proposed project would generate both temporary construction-related noise and long-term noise associated with operation. Construction noise would not exceed noise standards at the nearby land uses and impacts from construction noise would be less than significant.

The project's stationary noise sources (BESS units, transformers, and inverters) would not exceed applicable exterior noise standards at the nearest land uses. Therefore, stationary noise impacts would be less than significant.

Project-generated traffic from the project would generate an increase of up to 0.4 dBA CNEL on SR 198 near residences during project construction and less during project operation. This is below the threshold of 1.5 dBA CNEL; therefore, the off-site traffic noise increase would be less than significant.

The project would generate groundborne vibration during construction, but vibration would not exceed the applicable thresholds at adjacent structures to the project sites. Therefore, construction-related vibration impacts would be less than significant.

No substantial noise exposure from airport noise would occur to construction workers, maintenance workers, or infrequent visitors to the facility, and no impacts would occur.

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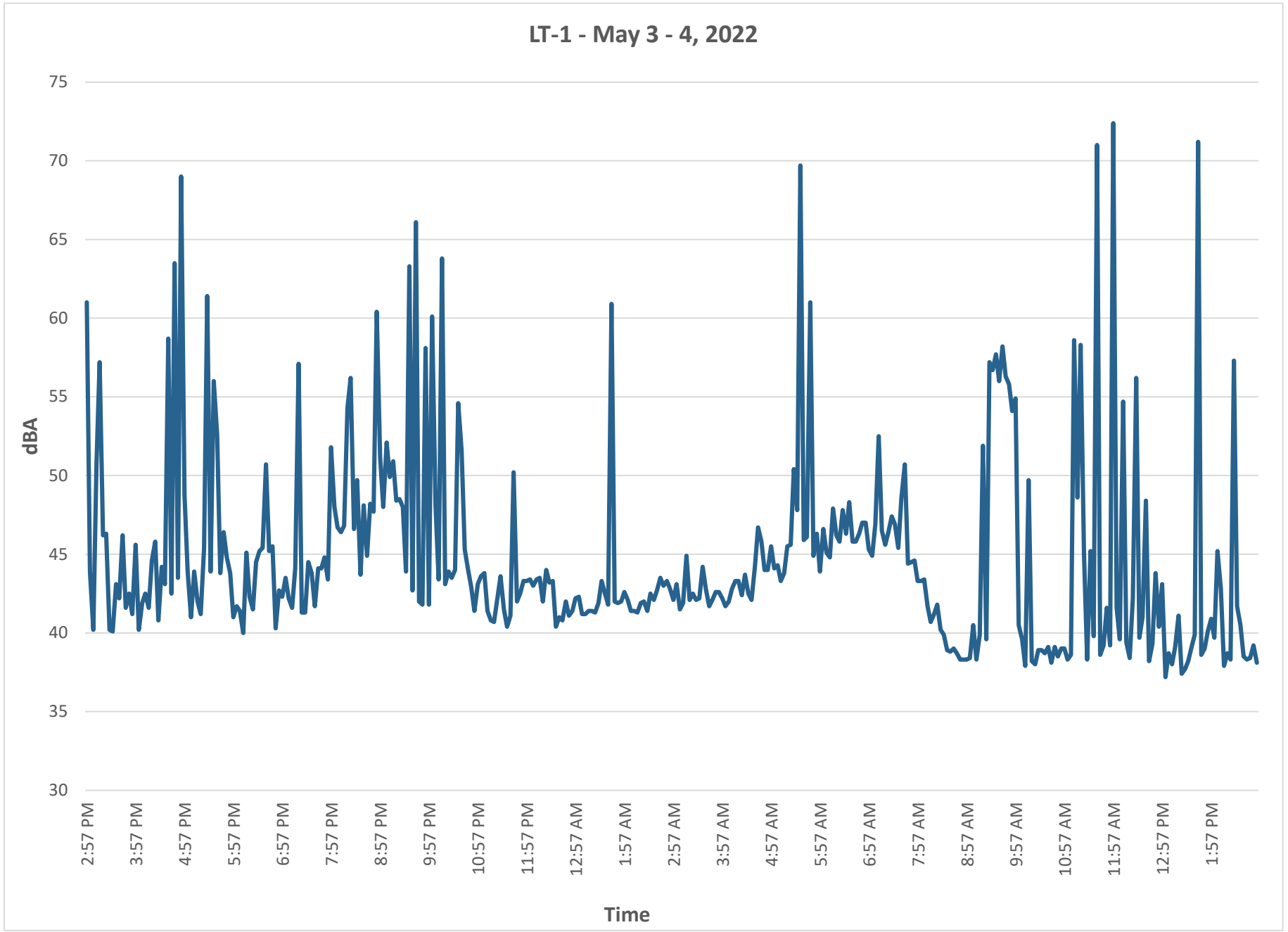
Appendix A

Noise Measurement Data


LT-1 - May 3 - 4, 2022
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Appendix B

Construction Noise Modeling Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 06/28/2022
Case Description: Border BESS

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Construction	Residential	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40	85.0		50.0	0.0
Dozer	No	40	85.0		50.0	0.0
Grader	No	40	85.0		50.0	0.0
Impact Pile Driver	Yes	20		101.3	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)	Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	85.0	81.0	N/A	N/A	N/A	N/A
Dozer	85.0	81.0	N/A	N/A	N/A	N/A
Grader	85.0	81.0	N/A	N/A	N/A	N/A
Impact Pile Driver	101.3	94.3	N/A	N/A	N/A	N/A
Total	101.3	94.9	N/A	N/A	N/A	N/A

Day		Evening		Night	
Lmax	Leq	Lmax	Leq	Lmax	Leq
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Appendix C

Project Equipment Specifications

MV SKID

UTILITY SCALE STORAGE STATION

TURN-KEY SOLUTION

HIGH RELIABILITY

EASY TO INSTALL

OUTDOOR DURABILITY

SIMPLIFY YOUR COMMISSIONING WITH THE MOST COMPETITIVE SOLUTION INTEGRATED WITH ALL THE MEDIUM VOLTAGE EQUIPMENT

The MV Skid is a compact turnkey outdoor platform made from high resistance galvanized steel with all the medium voltage equipment integrated, including an outdoor power transformer, MV switchgear, oil tank, filter and built in fast power connection to any PCSK. With between 480V - 690V in the low voltage range and 12 kV to 36 kV in the high voltage range, this compact platform achieves power outputs between 1700 kVA and 3800 kVA.

This compact solution also allows the installation of a low voltage cabinet that is fully configurable to the customer needs as well as different types of cells and even an enclosure fence among other options. The MV SKID simplifies the project design of the storage plant, reducing installation costs and the amount of resources needed. The benefits of the MV Skid and the fact that it is also easier to transport and deliver into remote sites makes it the optimal solution for EPC`s (engineering, procurement and construction).

MODEL NUMBERS AND OPERATIONAL DIAGRAM

REFERENCE	RATED POWER @50°C (kVA)
MVS1700[ ]	1700
MVS1765[ ]	1765
MVS1770[ ]	1770
MVS2125[ ]	2125
MVS2180[ ]	2180
MVS2235[ ]	2235
MVS2285[ ]	2285
MVS2340[ ]	2340
MVS2445[ ]	2445
MVS2550[ ]	2550
MVS2660[ ]	2660
MVS2820[ ]	2820
MVS3190[ ]	3190
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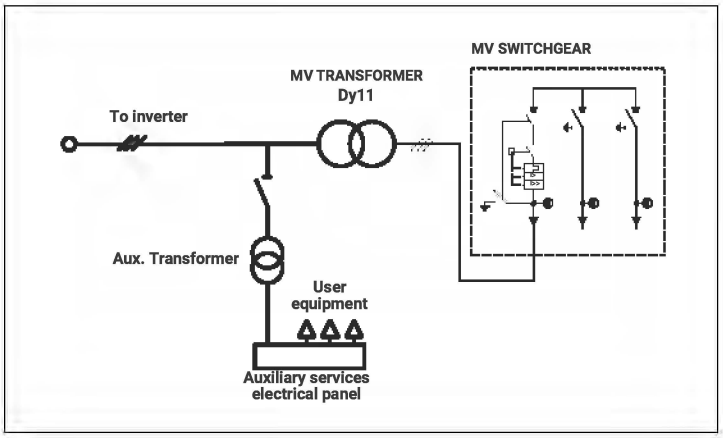

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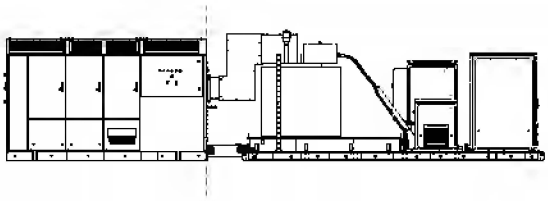

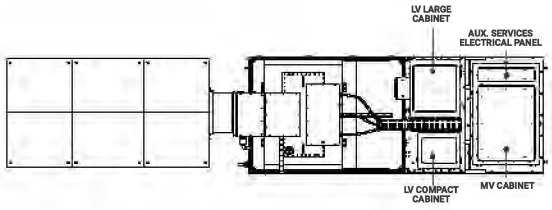

For customized solutions, contact Power Electronics.

TECHNICAL CHARACTERISTICS MV SKID

MEDIUM VOLTAGE EQUIPMENT	Rated power range @50°C	1700 kVA - 3670 kVA
	Rated power range @40°C	1760 kVA - 3800 kVA
	MV voltage range	6.6 kV / 11 kV / 13.2 kV / 15 kV / 20 kV / 22 kV / 23 kV / 25 kV / 30 kV / 33 kV / 34.5 kV
	LV voltage range	480 V / 500 V / 530 V / 600 V / 615 V / 630 V / 645 V / 660 V / 690 V
	Type of tank	Hermetically oil-sealed
	Cooling	ONAN
	Vector group	Dy11
	Transformer protection	Protection relay for pressure, temperature (two levels) and gassing. Monitoring of dielectric level decrease. PT100 optional.
	Oil retention tank	Integrated with hydrocarbon filter
	Transformer index of protection	IP54
	Switchgear configuration	Double feeder (2L)
	Switchgear protection [1]	Automatic circuit breaker (V)
CONNECTIONS	Inverter AC connection	Close coupled solution (Plug & Play)
	LV protection	Circuit breaker included in the inverter
	HV AC wiring	MV bridge between transformer and protection switchgear prewired
ENVIRONMENT	Ambient temperature [2]	-10°C...+50°C (T>50°C power derating)
	Max. altitude (above sea level)	Customizable
	Relative humidity	4% to 95% Non condensing
MECHANICAL CHARACTERISTICS	Skid dimensions (WxHxD) mm [3]	5780 x 2340 x 2240
	Skid weight with MV equipment [1]	< 11 Tn
	Oil retention tank material	Galvanized steel
	Skid material	Galvanized steel
	Cabinet type	Outdoor
	Anti-rodent protection	✔
AUXILIARY SERVICES ELECTRICAL PANEL	Auxiliary supply [1]	3 x 400 V, 50/60 Hz
	User power supply available	5 kVA / 20 kVA / 40 kVA
	Cabinet type	Outdoor
	Cooling	Air
	Auxiliary supply protection	✔
	Communication [4]	Ethernet (fiber optic or RJ45)
	UPS system [5]	1 kW (30 minutes) - 20 kW (20 minutes)
OTHER EQUIPMENT	Safety mechanism	Interlocking system
	Safety perimeter	Transformer access protection fence
	Backfeed tracker supply	Optional
	Emergency lighting	1h autonomy
	Fire extinguishing system (transformer accessory)	Optional
	LV revenue grade meter	For inverter output / for customer auxiliary supply
	I/O interface	Digital I/O, analog I/O
STANDARDS	Compliance	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1

[1] Depending on customer configuration.
[2] For lower temperatures, consult Power Electronics.
[3] 2515 mm high with the cover for the LV terminals.
[4] By demand.
[5] Optional. For additional information of available configurations, consult Power Electronics.

Appendix D

Traffic Modeling Results

Traffic Noise Calculator: FHWA 77-108 **Project Number: 22-12592**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																		
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	67.3	71.0	71.4	207	656	2073	SR 198	re Naval to Avena	14,600	65	0.0%	90.0%	4.0%	6.0%	75.0%	10.0%	15.0%	4	Hard	150	0	44

APPENDIX G

VEHICLE MILES TRAVELED (VMT) TECHNICAL MEMORANDUM

This appendix presents the Vehicle Miles Traveled (VMT) Technical Memorandum prepared for the Henrietta BESS Project.

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August 5, 2022
Rincon Project No. 22-12592

Henrietta BESS LLC
16027 25th Avenue
Kings County, California 92154

Subject: VMT Technical Memorandum for the Henrietta Battery Energy Storage System Project in Kings County, California

To whom it may concern:

Rincon Consultants, Inc. (Rincon) is pleased to provide Henrietta BESS LLC with this vehicle miles traveled (VMT) technical memorandum for the Henrietta Battery Energy Storage System Project (project) in unincorporated Kings County (County), California. The purpose of this memorandum is to analyze the potential for the project to screen out of the requirement to prepare a detailed transportation VMT analysis, as identified by the applicability of VMT screening criteria recommended by the State Office of Planning and Research in their *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018). This memorandum is not intended to support a full CEQA analysis; rather, this memorandum and its findings will serve to support an assumed California Energy Commission (CEC) post-certification amendment for the project.

Project Description

The project proposes to implement a 99.4-megawatt (MW) Battery Energy Storage System (BESS) project at the existing nominal 99.4 MW Henrietta Peaker Plant (HPP), near the unincorporated community of Lemoore in Kings County, California. The project will be constructed to support California's current need for additional renewable electrical energy supply, especially during peak load demand time periods in the summer, and would advance the State's and the California Public Utility Commission's policy requirement of 60% renewable power by 2030 and 100% by 2045 (refer to Senate Bill 100). The project site, including the BESS site, BESS switchyard, upgraded access road, and construction laydown area, encompasses an approximately 5.5-acre area within the eastern portion of the overall 20-acre HPP parcel. The project has been previously disturbed by historical agricultural uses, the development of the HPP, and annual mowing to control vegetation. Development would include approximately 3.01 acres for the enclosed BESS structures, 0.13 acre for the BESS switchyard, 0.83 acre of improvements to the existing dirt HPP perimeter road, and 1.5 acres for the construction laydown/parking area.

Regulatory Setting

Senate Bill 743 (SB 743) was signed into law by Governor Jerry Brown in 2013 and tasked the OPR with establishing new criteria and metrics for identifying and mitigating transportation impacts under CEQA.

SB 743 changed the way that public agencies evaluate transportation, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact. Under SB 743, the OPR established VMT as the preferred metric for measuring transportation impacts of most projects in place of vehicle level of service (LOS) or related measures of congestion as the primary metric. The use of VMT for determining significance of transportation impacts has become commonplace since the certification of this provision and the release of the OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018.

CEQA Guidelines Section 15064.3 implements SB 743 and establishes VMT as the most appropriate measure of transportation impacts for environmental analysis. CEQA lead agencies were required to comply with CEQA Guidelines Section 15064.3 no later than July 1, 2020. In response, many jurisdictions have adopted specific thresholds for the purposes of evaluating VMT impacts, while other jurisdictions have not formally adopted thresholds for evaluating VMT impacts. Instead, these jurisdictions rely on specific guidance provided by the OPR (OPR 2018). The OPR guidance contains recommendations regarding methodology for VMT analysis, significance thresholds for evaluating VMT impacts of land use and transportation projects, screening criteria for streamlining transportation analysis, and mitigation measures for projects that are found to have a significant VMT impact. The recommendations and guidance provided in the OPR Technical Advisory were used for VMT analysis of the Henrietta BESS project.

The licensing for the Henrietta Peaker Plant in 2002 (CEC Docket No. 01-AFC-18) did not include a VMT analysis. The CEC has requested that a VMT analysis be provided as part of the post-certification amendment for the Henrietta BESS project. The VMT screening analysis presented herein is consistent with Kings County methods for projects requiring CEQA review, although Kings County does not have lead agency jurisdiction for the project given the CEC's jurisdiction.

VMT Screening Thresholds

For land use projects, SB 743 provides opportunities to streamline transportation analysis under CEQA based on specific screening thresholds adopted by individual jurisdictions or recommended by OPR. Many agencies use such screening thresholds to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed traffic study (OPR 2018). As described above, Kings County relies on the screening criteria and significance thresholds recommended in OPR's 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* for projects within their jurisdiction. The Technical Advisory suggests that lead agencies, such as Kings County, may screen out VMT impacts using project size, maps, transit availability, and the provision of affordable housing. Specifically, the OPR recommends the following screening thresholds in the 2018 Technical Advisory:

1. **Screening Threshold for Small Projects.** Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, and absent inconsistency with a Sustainable Communities Strategy/general plan, projects that generate fewer than 110 trips per day may be assumed to cause a less-than significant transportation impact.
2. **Map-Based Screening for Residential and Office Projects.** Residential and office projects located in areas with low VMT that incorporate similar features tend to exhibit similarly low VMT. Maps created with VMT data can illustrate areas that are currently below VMT thresholds. Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

3. **Presumption of Less Than Significant Impact Near Transit Stations.** Projects proposed within a half mile of an existing major transit stop, or an existing stop along a high-quality transit corridor, can be presumed to have a less-than-significant impact on VMT. This presumption would not apply if project-specific or location-specific information indicates that the project will still generate significant levels of VMT.
4. **Presumption of Less Than Significant Impact for Affordable Residential Development.** Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. In areas where existing jobs-housing match is closer to optimal, low-income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT.

VMT Analysis

Construction of the project is expected to have a peak daily workforce of up to 50 daily construction workers. In addition, construction of the project is expected to generate an average of 15 truck trips per day for the first 10-12 weeks and five truck trips per day for an additional 3-6 months to facilitate incoming deliveries and offsite disposal of construction waste. Overall, the project is expected to generate a maximum of 65 round trips per day during the construction phase. The estimated number of construction-phase trips is based on the planned work activities, construction schedule, and applicant experience on similar projects. After construction is complete, the project would function as an unmanned facility that is controlled remotely from an off-site location. No daily operational trips would be generated by the project. However, required maintenance of the BESS project would require two maintenance workers to visit the site on one day of each week on average, resulting in two round trips per week during the operational lifespan of the project.

As a result of the vehicle trips described above, and based on the fact that there is no substantial evidence indicating that the Henrietta BESS project would generate a potentially significant level of VMT, the project can be presumed to cause a less-than-significant VMT impact without conducting a detailed traffic study based on the OPR's recommendations for small projects that generate fewer than 110 trips per day. Furthermore, the project would be consistent with the Kings County General Plan, given that it would support an increase in renewable energy.

Conclusion

As described above, the Henrietta BESS project can be presumed to cause a less-than-significant VMT impact based on the OPR's recommendations for small projects that generate fewer than 110 trips per day in the 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA.*

Sincerely,
Rincon Consultants, Inc.

Erin VonBerg
Supervising Planner

Taylor Freeman
Environmental Planner

References

State Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed June 2022).

APPENDIX H
HENRIETTA BESS-ONLY CONDITIONS OF CERTIFICATION

Based on a review of existing CEC Conditions of Certification for the Henrietta Peaker Plant ("HPP"), this appendix presents a list of assumed Henrietta BESS-Only Conditions. It is assumed that the CEC will specify Conditions of Certification specific to the Henrietta BESS Project and that BESS compliance will be tracked by the CEC against these specific Conditions.

Table H-1 presents a summary of the assumed Henrietta BESS-Only Conditions, including an itemization of HPP Conditions that are assessed to be "not applicable" to the Henrietta BESS Project subject to CEC review and concurrence. In addition, some Conditions will need to be reworded to facilitate compliance and/or to make them specific to the BESS Project versus the HPP project.

Table H-1. Summary List of Assumed Henrietta BESS-Only Conditions of Certification

Topic	Summary of Existing CEC Conditions for Henrietta Peaker Plant[1]	Applicable to BESS Project (Y/NA)[2]
Air Quality	AQ-C1: Construction Fugitive Dust Mitigation Plan	Y
	AQ-2: Diesel-fired Construction Equipment Emission Controls	Y
	AQ-C3: Emission Offsets/Emission Reduction Credits	Not Applicable (NA)
	AQ-1 through AQ-57: SJVAPCD District Determination of Compliance Conditions (per Turbine unless otherwise specified)	NA; no air permit required for BESS
Biological Resources	BIO-1: Designated Biologist Requirement	Y
	BIO-2: Designated Biologist Duties	Y
	BIO-3: Designated Biologist Authority	Y
	BIO-4: Worker Environmental Awareness Program	Y
	BIO-5: Compensatory Habitat	NA
	BIO-6: Biological Resources Mitigation Implementation and Monitoring Program (BRMIMP)	Y
	BIO-7: Specific Mitigation Measures for Incorporation into BRMIMP	Y
Cultural Resources	CUL-1: Designated Cultural Resource Specialist	Y
	CUL-2: Project Maps Showing Ground Disturbance	Y
	CUL-3: Cultural Resources Monitoring and Mitigation Plan	Y
	CUL-4: Cultural Resources Awareness Training	Y
	CUL-5: Cultural Resources Specialist Authority	Y
	CUL-6: Cultural Resources Specialist Duties	Y
Facility Design	GEN-1: Design Project in Accordance with CA Building Code and Applicable LORS	Y
	GEN-2: Schedule of Facility Design Submittals	Y
	GEN-3 through GEN-8 (see Appendix H.2)	Y
	CIVIL-1 through CIVIL-4 (see Appendix H.2)	Y
	MECH-1 through MECH-3 (see Appendix H.2)	Y
	ELEC-1 (see Appendix H.2)	Y
Hazardous Materials Management	HAZ-1: Tanker Truck Standards (Aqueous Ammonia)	NA
	HAZ-2: Gas Pipeline Standards	NA
	HAZ-3: Hazardous Material Inventory	Y
	HAZ-4: Hazardous Material Business Plan	Y

Topic	Summary of Existing CEC Conditions for Henrietta Peaker Plant[1]	Applicable to BESS Project (Y/NA)[2]
	HAZ-5: Risk Management Plan (ammonia storage)	NA
Land Use	LAND-1: Agricultural Mitigation Plan	NA
	LAND-2: Notarized and Recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies of County of Kings	Y
	LAND-3: Site Plan (Kings County Zoning Ordinance Yard Requirements/Setbacks)	Y
Noise	NOISE-1: Pre-construction Notice and Construction Noise Complaint Hotline	Y
	NOISE-2: Noise Complaint Process	Y
	NOISE-3: Operating Noise Limitation	Y
	NOISE-4: Construction Time Limitations	Y
Paleontological Resources	PAL-1: Designated Paleontological Resources Specialist	Y
	PAL-2: Paleontological Resources Monitoring & Mitigation Plan	Y
	PAL-3: Worker Paleontological Resources Awareness Program	Y
	PAL-4: Designated Paleontological Resource Specialist Duties	Y
	PAL-5: Paleontological Resource Recovery	Y
	PAL-6: Paleontological Resource Report	Y
Socioeconomics	SOCIO-1: School Facility Development Fee	Y
Traffic and Transportation	TRANS-1: Transportation Permits/Overweight & Oversize Vehicles	Y
	TRANS-2: On-Site Parking	Y
	TRANS-3: Licensed Hazardous Material Haulers	Y
	TRANS-4: Encroachment Permits	Y
	TRANS-5: Designated Routes	Y
	TRANS-6: Roadway Repairs	Y
	TRANS-7: Traffic Control Plan	Y
Transmission Line Shock Safety	TLSN-5: PG&E Line Route Metallic Object Grounding Requirement	NA
Transmission System Engineering	TSE-1 through TSE-7 (see Appendix H.2)	Y
	TSE-8: Facility/Grid Synchronization with CAISO	Y
Visual Resources	VIS-1: Construction Visual Remediation	Y
	VIS-2: Structure Color Plan	Y
	VIS-3: Shielded Lighting	Y

Topic	Summary of Existing CEC Conditions for Henrietta Peaker Plant[1]	Applicable to BESS Project (Y/NA)[2]
	VIS-4: Signage Restrictions	Y
	VIS-3: Landscape Screening	NA; no landscaping needed or proposed
Waste Management	WASTE-1: Hazardous Waste Generator ID (DTSC)	Y
	WASTE-2: Waste Management Plan	Y
	WASTE-3: Waste Management Enforcement Action	Y
	WASTE-4: Registered Professional Engineer/Geologist	Y
	WASTE-5: Contaminated Soil Excavation	Y
Water Quality	Water Quality-1: Erosion Control Plan	Y
	Water Quality-2: NPDES Permit (Construction SWPPP)	Y
	Water Quality-3: Sanitary Sewage Disposal	NA; no sanitary sewage disposal
	Water Quality-4: Wastewater Disposal	NA; no wastewater disposal
	Water Quality-5: Storm Water Runoff Monitoring	Y
	Water Quality-6: Groundwater Quality Monitoring	NA
	Water Quality-7: Storm Water Pollution Prevention Program (Operational SWPPP/NPDES Permit)	NA; no process discharges
Water Resource	Water RES-1: Water Use Metering	Y
	Water RES-2: Water Source Reporting	Y[3]
Worker Safety	WORKER SAFETY-1: Construction Safety & Health Program/Construction Injury and Illness Prevention Program	Y
	WORKER SAFETY-2: Operation Safety & Health Program/Operations and Maintenance Safety and Health Program	Y
	WORKER SAFETY-3: Worker Noise Control Program	Y
	WORKER SAFETY-4: Worker Noise Survey (operations)	NA
	WORKER SAFETY-5: Operations Fire Prevention Plan	Y

[1]Refer to Henrietta Project (01-AFC-18) Conditions of Certification as Amended (updated February 6, 2020) for full text of existing Conditions of Certification, including Verification requirements.

[2]Refer to the environmental analyses in Section 5/Appendix B for more detail on the explanations of why identified Conditions for the HPP are not applicable to the Henrietta BESS Project.

[3]Condition Water RES-2 is applicable to construction phase only.

Henrietta BESS Petition for Post-Certification Amendment
Appendix H.1

[Note: these CEC Conditions of Certification are the current Conditions for the Henrietta Peaker Project, not the Proposed Henrietta BESS Project]

HENRIETTA PEAKER PROJECT (01-AFC-18C)

CONDITIONS OF CERTIFICATION
As Amended

(Updated February 6, 2020)

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HENRIETTA PEAKER PROJECT (01-AFC-18C)
AIR QUALITY CONDITIONS OF CERTIFICATION

These Conditions of Certification were suspended, changed, and/or updated per the following Energy Commission Approval(s) or Order(s):

Type of Approval	Approval Date or Order #	Docket Transaction Number (TN)	Changed Conditions of Certification
Commission Order	03-0723-08		AQ-2, 17, 18, 19, 20, 21
Commission Order	04-0121-x	30794	AQ-53, 54

AQ-C1 Prior to breaking ground at the project site, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for construction activities at the Henrietta Peaker Project site and related facilities.

The Construction Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that shall be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of sandbags to prevent run off;
- the use of posted speed limit signs limiting speed to 10 MPH;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads;
- the use of windbreaks at appropriate locations;
- the suspension of all earth moving activities under windy conditions; and
- the use of on-site monitoring devices.

Verification: At least sixty (60) days prior to breaking ground at the project site, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

AQ-C2 The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures that may be used to mitigate construction impacts include the following:

1. catalyzed diesel particulate filters (CDPF);
2. ultra-low-sulfur diesel fuel, with a sulfur content of 15 ppm or less(ULSD); or
3. diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

1. Construction Mitigation Plan
2. Reports of Change and Mitigation Implementation
3. Reports of Emergency Termination of Mitigation, as necessary

<u>Diesel Construction Equipment Mitigation Plan</u>

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all diesel fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

Engine Size (BHP)	1996 CARB or EPA Certified Engine	Required Mitigation
< or =100	Yes or No	ULSD
>100	Yes	ULSD
>100	No	ULSD and CDPF, if suitable as determined by the CMM

3. If compliance can not be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

Report of Change and Mitigation Implementation

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented.

The following is acceptable proof of compliance; other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards
    a. A copy of the certificate from EPA or CARB.
2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).
    a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and
    b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.
3. Installation of CDPF
    a. The suitability of the use of CDPFs is to be determined by a qualified mechanic or engineer who must submit a report to the CPM for approval.
    b. Installation is to be verified by a qualified mechanic or engineer.
4. Construction equipment engine idle time
    a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

Report of Emergency Termination of Mitigation

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are

restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
2. The measure is causing or is reasonably expected to cause significant engine damage.
3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.
4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner shall submit to the CPM for approval the qualifications of the CMM at least forty five (45) days prior to the due date for the Diesel Construction Equipment Mitigation Plan.

The project owner shall submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities.

The project owner shall submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities.

The project owner shall submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure.

The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-C3 The project owner shall surrender to the District emission offsets in the following amounts, in addition to those listed in AQ-2, to fully mitigate project emissions of all non-attainment pollutants and their precursors:

	Required Offsets (lbs/quarter)			
Pollutant	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
PM_{10}	7,300	7,300	7,300	7,300
VOC	1,388	1,456	1,456	1,388
SO_2	1,320	1,320	1,320	1,320

This condition serves to augment the offset requirements listed in District Condition **AQ-2**, by adding the additional CEQA mitigation proposed by the Applicant for PM10, VOC and SO2.

Verification: At least five (5) days prior to commencing construction, the project owner shall provide to the CPM a copy of the documentation from the District proving that the required emission reduction credits have been surrendered.

DISTRICT DETERMINATION OF COMPLIANCE CONDITIONS

The following Conditions of Certification apply per turbine unit unless otherwise identified.

1. SJVAPCD Permit No. Unit C-3929-1-0 – 46.9 MW nominally rated General Electric Model LM6000 PC Sprint natural gas fired simple-cycle peak-demand combustion turbine generator with water spray premixed combustion system, served by a selective catalytic reduction (SCR) system and an oxidation catalyst.
2. SJVAPCD Permit No. Unit C-3929-2-0– 46.9 MW nominally rated General Electric Model LM6000 PC Sprint natural gas fired simple-cycle peak-demand combustion turbine generator with water spray premixed combustion system, served by a selective catalytic reduction (SCR) system and an oxidation catalyst.

AQ-1 The permittee shall not begin actual on-site construction of the equipment authorized by this Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA). [California Environmental Quality Act]

Verification: The project owner/operator shall keep proof of the project's District air permit and Energy Commission certification including copies of all permit conditions and conditions of Certification on-site starting at the commencement of construction through the final decommissioning of the project. The project owner shall make the District's permit conditions and conditions of certification available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

AQ-2 Upon implementation of C-3929-1-0 and C-3929-2-0, emission offsets shall be provided to offset emissions increases in the following amounts:

PM10 - Q1: 700 lb, Q2: 700 lb, Q3: 700 lb, and Q4: 700 lb, and

NOx (as NO2) - Q1: 29,055 lb, Q2: 30,210 lb, Q3: 30,210 lb, and Q4: 29,055 lb. Offsets shall be provided at the appropriate offset ratio specified in Rule 2201.

SOx offsets provided to offset PM10 increases shall be at a ratio of 1.4:1 and at the appropriate distance ratio. [District Rule 2201]

Verification: The project owner/operator shall submit copies of ERCs surrendered to the SJVAPCD in the amounts shown above to the CPM prior to initiation of project construction.

AQ-3 The permittee shall notify the District of the date of initiation of construction no later than thirty (30) days after such date, the date of anticipated startup not more than sixty (60) days nor less than 30 days

prior to such date, and the date of actual startup within 15 days after such date. [District Rule 4001]

Verification: The project owner/operator shall notify the CPM and the District of the date of initiation of construction no later than thirty (30) days after such date, the date of anticipated startup not more than sixty (60) days or less than 30 days prior to such date, and the date of actual startup within 15 days after such date.

AQ-4 Selective catalytic reduction (SCR) system and oxidation catalyst shall serve the gas turbine engine. Exhaust ducting shall be equipped with a fresh air inlet and blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. Permittee shall submit SCR and oxidation catalyst design details to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: The project owner/operator shall provide copies of drawings of the catalyst systems chosen and design details to the CPM and the District at least thirty (30) days prior to the construction of permanent foundations.

AQ-5 Permittee shall submit continuous emission monitor design, installation, and operational details to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: The project owner/operator shall provide copies of drawings of the continuous emission monitor and design, installation, and operations details to the CPM and the District at least thirty (30) days prior to the construction of permanent foundations.

AQ-6 The permittee shall submit to the District information correlating the NOx control system operating parameters to the associated measured NOx output. The information must be sufficient to allow the District to determine compliance with the NOx emission limits of this permit during times that the CEMS is not functioning properly. [District Rule 4703]

Verification: The project owner/operator shall provide the District with documentation correlating NOx control system operating parameters to the associated measured NOx output. Information must be sufficient to allow NOx emissions to be calculated during times when the CEMS is not functioning properly.

AQ-7 All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]

Verification: Upon request, the project owner/operator shall make all maintenance records and reports available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

AQ-8 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-9 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-10 No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-11 Combustion turbine generator (CTG) and generator lube oil vents shall be equipped with mist eliminators. Visible emissions from lube oil vents shall not exhibit opacity of 5 percent or greater, except for up to three minutes in any hour. [District Rule 2201]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

Q-12 The CTG shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-13 Operation of the turbine shall not exceed 8,000 hours per calendar year. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-14 The CTG shall be equipped with a continuous emission monitor (CEM) for NOx (before and after SCR system), CO, and O2. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60, Appendices B and F, and 40 CFR part 75, and District-approved protocol, and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirement for startups and shutdowns specified herein. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to

determine compliance with emission limits contained in this document. [District Rules 2201, 4001, and 4703]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-15 The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and O2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission.

AQ-16 The CTG shall be fired exclusively on natural gas with a sulfur content of no greater than 0.25 grain of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-17 During startup or shutdown of any gas turbine engine, combined emissions from the two gas turbine engines (C-3929-1 and C-3929-2) shall not exceed the following: NOx (as NO2) - 15.4 lb, CO - 15.4 lb, and VOC - 1.4 lb per event. [California Environmental Quality Act]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-18 A startup event is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmvd emission limits in Condition **AQ-19**. A shutdown event is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown of gas turbine engine shall not exceed a time period of one hour each per occurrence. The number of startups and shutdowns shall not exceed 4 events per hour (i.e. two startup/shutdown cycles). [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-19 Emission rates from this unit, except during startup and shutdown events, shall not exceed any of the following: NOx (as NO2) – 6.21 lb/hr and 3.6 ppmvd @ 15 percent O2; VOC (as methane) – 1.17 lb/hr and 2.0 ppmvd @ 15 percent O2; CO – 6.25 lb/hr and 6.0 ppmvd @ 15 percent O2; PM10

– 2.0 lb/hr; or SOx (as SO2) - 0.33 lb/hr. All emission concentration limits are three-hour rolling averages. [District Rules 2201, 4001, and 4703]

Verification: The project owner/operator shall provide records of compliance on a clock hour basis as part of the quarterly reports of Condition **AQ-31**.

AQ-20 Maximum daily emissions from this unit shall not exceed any of the following: NOx (as NO2) –150.5 lb/day; VOC – 28.1 lb/day; CO – 151.5 lb/day; PM10 – 48.0 lb/day; and SOx (as SO2) - 7.9 lb/day. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-21 Maximum annual emissions from this unit shall not exceed any of the following: NOx (as NO2) – 49,510 lb/year; VOC – 2,844 lb/year; CO – 21,830 lb/year; PM10 – 16,000 lb/year; and SOx (as SO2) – 2,640 lb/year. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-22 The ammonia (NH3) emissions shall not exceed 10 ppmvd @ 15 percent O2 over a 24 hour rolling average. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-23 Compliance with ammonia slip limit shall be demonstrated utilizing the following calculation procedure: ammonia slip ppmvd @ 15 percent O2 = ((a - (bxc/1,000,000)) x (1,000,000 / b) x d, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NOx concentration ppmvd @ 15 percent O2 across the catalyst and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, the permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District to monitor compliance. At least sixty (60) days prior to using a NH3 CEM, the permittee shall submit a monitoring plan for District review and approval. [District Rule 4102]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-24 Source testing to measure the NOx, CO, and VOC emission limits (lb/hr and ppmvd @ 15 percent O2) shall be conducted within sixty (60) days of initial operation of the CTG and at least once every twelve months thereafter. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted

within sixty (60) days of initial operation of each CTG and at least once every twelve months.

AQ-25 Source testing to measure the PM10 emission limit (lb/hr), the natural gas sulfur content limit, and the ammonia emission limit shall be conducted within sixty (60) days of initial operation and at least once every twelve months thereafter. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of each CTG and at least once every twelve months.

AQ-26 Source testing of startup NOx, CO, VOC, and PM10 mass emission rates shall be conducted for one of the gas turbine engines (C-3929-1 or C-3929-2) upon initial operation and at least once every seven (7) years thereafter. CEM relative accuracy shall be determined during startup source testing in accordance with 40 CFR 60, Appendix B. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of one CTG and at least once every seven (7) years.

AQ-27 Source testing to determine the percent efficiency of the turbine shall be within sixty (60) days of initial operation and at least once every twelve (12) months thereafter. [District Rule 4703]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of each CTG and at least once every twelve (12) months.

AQ-28 Compliance demonstration (source testing) shall be District witnessed, or authorized and samples shall be collected by a California Air Resources Board certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified thirty (30) days prior to any compliance source test, and a source test plan must be submitted for approval fifteen (15) days prior to testing. The results of each source test shall be submitted to the District within sixty (60) days thereafter. [District Rule 1081]

Verification: The project owner/operator shall notify the CPM and the District thirty (30) days prior to any compliance source test. The project owner/operator shall provide a source test plan to the CPM and District for the CPM and District approval fifteen (15) days prior to testing. The results and field data collected by the source tests shall be submitted to the CPM and District within 60 days of testing.

AQ-29 The following test methods shall be used PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA Method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703]

Verification: The project owner/operator shall provide records of compliance as part of Condition **AQ-28**.

AQ-30 Source testing to determine the percent efficiency of the turbine shall be conducted utilizing the procedures in District Rule 4703 (Stationary Gas Turbines). [District Rule 4703]

Verification: The project owner/operator shall provide records of compliance as part of Condition **AQ-28**.

AQ-31 The permittee shall maintain the following records for each CTG: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703]

Verification: The project owner/operator shall compile required data and submit the information to the CPM in quarterly reports submitted no later than sixty (60) days after the end of each calendar quarter.

AQ-32 The permittee shall maintain the following records: hours of operation, fuel consumption (scf/hr and set/rolling twelve month period), continuous emission monitor measurements, calculated ammonia slip, and calculated NOx mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-33 Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]

Verification: The project owner/operator shall compile the required data in the formats discussed above and submit the results to the CPM quarterly.

AQ-34 Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be

submitted along with quarterly compliance reports to the District. [District Rule 1080]

Verification: The project owner/operator shall submit the continuous emission monitor audit results with the quarterly reports required of Condition **AQ-31**.

AQ-35 The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]

Verification: The project owner/operator shall submit the continuous emission monitor results with the quarterly reports required of Condition **AQ-31**.

AQ-36 Permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one (1) hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

Verification: The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-38**.

AQ-37 The District shall be notified in writing within ten (10) days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

Verification: The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-38**.

AQ-38 The permittee shall submit a written report to the APCO for each calendar quarter, within thirty (30) days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]

Verification: The project owner/operator shall compile the required data and submit the quarterly reports to the CPM and the APCO within thirty (30) days of the end of the quarter.

AQ-39 All records required to be maintained by this permit shall be maintained for at least two years and shall be made readily available for District inspection upon request. [District Rule 2201]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-40 Permittee shall submit an application to comply with Rule 2520 - Federally Mandated Operating Permits within twelve months of commencing operation. [District Rule 2520]

Verification: The project owner/operator shall file their application with the District within twelve (12) months of commencing operation.

AQ-41 Permittee shall submit an application to comply with Rule 2540 - Acid Rain Program. [District Rule 2540]

Verification: The project owner/operator shall submit to the CPM copies of the Title IV permit and proof that necessary emission allotments have been acquired at least fifteen (15) days prior to the initial firing of the turbine(s).

AQ-42 Disturbances of soil related to any construction, demolition, excavation, extraction, or water mining activities shall comply with the requirements for fugitive dust control in SJVAPCD District Rule 8020 (4/25/96) unless specifically exempted under section 4.0 of Rule 8020. [District Rule 8020]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control fugitive dust emissions are in place.

AQ-43 Outdoor handling and storage of any bulk material which emits dust shall comply with the requirements of SJVAPCD Rule 8030 (4/25/96), unless specifically exempted under section 4.0 of Rule 8030. [District Rule 8030]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control bulk materials fugitive dust emissions are in place.

AQ-44 Any paved road over three miles in length, and any unpaved roads over 0.5 miles in length, constructed after December 10, 1993 shall use the design criteria and dust control measures of, and comply with the administrative requirements of SJVAPCD Rule 8060 (4/25/96) unless specifically exempted under section 4.0 of Rule 8060. [District Rule 8030]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if the width of paved shoulders on paved roads (three miles or greater) is sufficient and if chemical suppressants on unpaved roads (0.5 miles or greater), shoulders and medians is being used as required by Rule 8060.

AQ-45 The owner/operator shall insure that all areas of one (1) acre or greater, which are used for vehicle and/or equipment parking, fueling and service, shipping, receiving and transfer, comply with the requirements of District Rule 8070 (4/25/96), unless specifically exempted under section 3.0 of this rule. All areas used for storage of construction vehicles, equipment, and material shall comply with the provision of District Rule 8070. [District Rules 8020 and 8070]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control fugitive dust emissions from all unpaved areas one acre or greater, which are used for parking, fueling, service, shipping, receiving and transfer, are in place as required by Rule 8070.

AQ-46 The facility shall be subject to any revised Regulation VIII rule requirements if the modifications are contrary to the conditions in the FDOC (SJVAPCD 2001a). The facility shall be subject to the revised rule as of the date that each rule is adopted. [District Rule 2201]

Verification: The project owner/operator shall maintain records of modifications to Regulation VIII rules as necessary.

SJVAPCD Permit No. UNIT C-3929-4-0 – 471 HP CATAPILLER MODEL 3456 DIESEL-FIRED EMERGENCY IC ENGINE POWERING A 300 kW ELECTRICAL GENERATOR.

AQ-47 All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]

Verification: The project owner/operator shall make the site and maintenance records available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-48 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-49 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner/operator shall compile required data and submit the information to the CPM in quarterly reports submitted no later than sixty (60) days after the end of each calendar quarter.

AQ-50 No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as

dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-51 The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least ninety (90) percent control efficiency. [District NSR Rule]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-52 The exhaust stack shall not be fitted with a rain cap, or any other similar device, that impedes vertical exhaust flow. [District Rule 4102]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.

AQ-53 NOx, CO, VOC AND SO2 emissions shall not exceed 4.69 g/hp-hr, 0.12 g/hp-hr, 0.04 g/hp-hr and 0.171 g/hp-hr, respectively. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-54 PM10 emissions shall not exceed 0.29 g/hp-hr based on U.S. EPA certification using ISO 8178 test procedure. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-55 The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 200 hours per year. [District NSR Rule and District Rule 4701]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-56 The sulfur content of the diesel fuel used shall not exceed 0.05 percent by weight. [District NSR Rule]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Energy Commission upon request.

AQ-57 The permittee shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.), and the sulfur content of the diesel fuel used. Such records shall be retained on-site for a

period of two (2) years and made available for District inspection upon request. [District Rule 1070]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Energy Commission upon request. Records shall be retained for a period of two (2) years.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
BIOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST

BIO-1 Site mobilization and/or ancillary facilities preparation (described as any ground disturbing activity other than allowed geotechnical work) shall not begin until an Energy Commission Compliance Project Manager (CPM) approved Designated Biologist is available to be on-site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. a Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
3. at least one year of field experience with biological resources found in or near the project area; and
4. an ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is on-site.

Verification: At least thirty (30) days prior to the start of site mobilization activities, or an alternative timeframe agreed upon with the CPM, the project owner shall submit to the CPM for approval the name, qualifications, address, and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least ten working days prior to the termination or release of the preceding Designated Biologist.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The CPM approved Designated Biologist shall perform the following during project site mobilization construction and operation:

1. Advise the project owner's Construction Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;
2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and
3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

Verification: During project site mobilization and construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

DESIGNATED BIOLOGIST AUTHORITY

BIO-3 The project owner's Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol. The project owner's Construction Manager shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

Inform the project owner and the Construction Manager when to resume construction, and

Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

Verification: Within twenty four (24) hours of a Designated Biologist notification of non-compliance with a Biological Resources Condition of Certification or a halt of construction, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a condition. For any necessary corrective action taken by the project owner, a determination of success or failure will be made by the CPM within five (5) working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-4 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities (including the access road, laydown area, transmission lines, water and gas lines) during project mobilization construction and operation, are informed about sensitive biological resources associated with the project.

The Worker Environmental Awareness Program must:

1. be developed by the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;
2. discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. present the reasons for protecting these resources;
4. present the meaning of various temporary and permanent habitat protection measures; and
5. identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement. New workers shall receive environmental awareness training on or before their first day of work.

Verification: At least thirty (30) days prior to the start of site mobilization, or an alternative timeframe agreed upon with the CPM, the project owner shall provide two (2) copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval.

The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for six (6) months, following the termination of an individual's employment.

COMPENSATORY HABITAT

BIO-5 Prior to the start of any site mobilization activities, the project owner shall acquire 10 credits from the Kern Water Bank Habitat Conservation Plan (KWBHCP) to satisfy the requirements for Federal and State Incidental Take Permits (issued by the US Fish & Wildlife Service and California Department of Fish & Game, respectively).

Verification: At least twenty (20) days prior to the start of site mobilization activities, the project owner shall submit to the CPM documentation (letter, receipt, and a copy of the check) that it has secured 10 acres of mitigation credits through the KWBHCP. Verification of the purchase of 10 compensatory credits from the KWBHCP will satisfy the need for acquiring a Federal or California-State Incidental Take Permit. A summary of the KWBHCP's terms and conditions will be incorporated into the BRMIMP.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-6 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made in consultation with Energy Commission staff, CDFG and the USFWS.

Protocol: The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant referred to, as well as those contained in, Condition of Certification **BIO-7** (and other mitigation requirements);
2. All permits the Applicant expects to obtain;
3. The responsibilities of the parties involved;
4. The proposed lines of communication;
5. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation aKnd closure;
6. All required mitigation measures for each sensitive biological resource;
7. The required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
8. All measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
9. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

10. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
11. The duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
13. All performance standards and remedial measures to be implemented if performance standards are not met;
14. Biological resources related facility closure measures; and
15. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least thirty (30) days prior to start of any project site mobilization activities, or an alternative timeframe agreed upon by the CPM, the project owner shall provide the CPM with two (2) copies of the draft final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within forty-five (45) days of receipt. The project owner shall notify the CPM no less than five (5) working days before implementing any modifications to the BRMIMP to obtain CPM approval.

Within thirty (30) days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

SPECIFIC MITIGATION MESAURES

BIO-7 The project owner shall implement the mitigation measures identified below and incorporate them into the final BRMIMP (**BIO-6**).

Protocol: The project owner shall:

1. site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;
2. design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;
3. implement a Worker Environmental Awareness Program;
4. clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction

zones or areas that are currently not considered sensitive species habitat;

5. provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat. Specifically, the designated monitor shall be present during all activities that occur outside the fenced power plant site;
6. fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence shall be constructed of hardware cloth or similar materials that are approved by USFWS and CDFG;
7. fence the power plant site and keep all gates closed at night to avoid kit fox movement into the site;
8. inspect the natural gas line trenches each morning for entrapped animals prior to further pipeline construction. Daily construction will be allowed to begin only after trapped animals are able to escape voluntarily;
9. during the natural gas pipeline construction period, inspect all pipes, culverts, or similar structures with a diameter of 4-inches or greater for sensitive species (such as kit fox) prior to pipe burial. Pipes to be left in trenches overnight shall be capped;
10. provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the CPM;
11. make certain that all food-related trash is disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;
12. report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to the USFWS and CDFG, and the project owner shall follow instructions that are provided by USFWS and CDFG; and
13. in the event that sensitive species are observed within the active construction area, the designated biologist shall immediately cease all construction near the sighting location and inform the CPM and the appropriate resource agencies (USFWS and CDFG).

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP (**BIO-6**). Two (2) copies of the CPM approved BRMIMP must be provided to the CPM five (5) days prior to site mobilization.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
CULTURAL RESOURCES CONDITIONS OF CERTIFICATION

DESIGNATED CULTURAL RESOURCE SPECIALIST

CUL-1 Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and one alternate CRS, if an alternate is proposed, who will be responsible for implementing all cultural resources conditions of certification.

1. The resume for the CRS and alternate, if an alternate is proposed, shall include information that demonstrates that the CRS meets the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61.

   The technical specialty of the CRS shall be appropriate to the needs of this project and shall include a background in anthropology, archaeology, history, architectural history or a related field

   The background of the CRS shall include at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California;

   The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects. The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction and operation.

2. The CRS may obtain qualified cultural resource monitors to monitor as necessary on the project. Cultural resource monitors shall meet the following qualifications.

   - A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
   - An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
   - Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.

3. The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional monitors, if needed, for this project. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR). Moreover, the project owner shall ensure that all archaeological technical reports are submitted in Archaeological Resource Management Report (ARMR) format as recommended by the California Office of Historic Preservation (OHP).

Verification:

1. At least forty-five (45) days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

   At least ten (10) days prior to the termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

2. At least twenty (20) days prior to ground disturbance, the CRS shall provide a letter naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for cultural resource monitoring required by this condition. If additional monitors are obtained during the project, the CRS shall provide additional letters to the CPM, identifying the monitor and attesting to the monitor's qualifications. The letter shall be provided one week prior to the monitor beginning on-site duties.

   At least ten (10) days, prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions of certification.

PROJECT MAPS SHOWING GROUND DISTURBANCE

CUL-2 1. Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide them with copies to the CPM. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM. Maps shall identify all areas of the project where ground disturbance is anticipated.

2. If construction of this project will proceed in phases, maps and drawings may be submitted in phases. A letter identifying the proposed schedule of each project phase shall be provided to the CPM. Prior to implementation of additional phases of the project, current maps and drawings shall be submitted to the CPM.
3. At a minimum, the CRS shall consult weekly with the project superintendent or construction field manager, until ground disturbance is completed, to confirm area(s) to be worked during the next week. A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and provided to the CPM in each Monthly Compliance Report (MCR).

Verification:

1. At least forty (40) days prior to the start of ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings.
2. If this is to be a phased project, a letter identifying the proposed schedule of the ground disturbance or construction phases of the project shall also be submitted.
3. At least thirty (30) days prior to the start of ground disturbance on each phase of the project, following initial ground disturbance, copies of maps and drawings reflecting additional phases of the project, shall be provided to the CPM for review and approval.
4. If there are changes to the scheduling of the construction phases of the project, a letter shall be submitted to the CPM within five (5) days of identifying the changes.

A copy of the current schedule of anticipated project activity and a copy of current maps shall be submitted in each MCR.

CULTURAL RESOURCES MONITORING AND MITIGATION PLAN

CUL-3 Prior to the start of ground disturbance the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and approval, a Cultural Resources Monitoring and Mitigation Plan (CRMMP), identifying specific measures to minimize potential impacts to sensitive cultural resources. Approval of the CRMMP, by the CPM, shall occur prior to any ground disturbance.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures.

a. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities. Native American monitors/consultants shall be provided an opportunity to provide comments regarding the choice of the curation facility.

b. A discussion of the location(s) where monitoring of project construction activities is deemed necessary. Monitoring shall be conducted full time, during ground disturbance that exceeds the level of previous disturbance at the project site and in the vicinity of the Avanal Road Cutoff.

c. A discussion of the requirement that, if there is an unanticipated discovery, all cultural resources encountered will be recorded on a DPR form 523 and mapped (may include photos).

d. A discussion that all archaeological materials collected as a result of the archaeological investigations shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Code of Federal of Regulations, Section 79.

   If there is an unanticipated discovery and materials are collected, an addendum to the CRMMP shall be provided that discusses any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding will be met. The name and phone number of the contact person at the institution shall also be included. In addition, information shall be included indicating that the project owner will pay all curation fees and that any agreements concerning curation will be retained and available for audit for the life of the project.

e. A discussion of the proposed Cultural Resource Report (CRR) which shall be prepared according to ARMR Guidelines. The CRR shall include all cultural resource information obtained as a result of this project. All survey reports, monitoring records and additional research reports not previously submitted to the CHRIS shall be included as an appendix to the CRR. Comments provided by Native American monitors/consultants regarding newly discovered Native American artifacts shall be included in this report. This report shall be submitted to the CPM after the conclusion of ground disturbance (including landscaping). This report shall be considered final upon approval by the CPM.

Verification: At least thirty (30) days prior to the start of ground disturbance, the project owner shall provide the Cultural Resources Monitoring and Mitigation Plan, prepared by the designated cultural resource specialist, to the CPM for review and written approval.

At least thirty (30) days prior to ground disturbance the project owner shall submit a letter to the CPM indicating that they will pay any curation fees for curation of any collected archaeological artifacts.

The CRR shall be submitted to the CPM within ninety (90) days after completion of ground disturbance (including landscaping) for review and approval. Within ten (10) days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the curating institution (if archaeological materials were collected), the SHPO and the CHRIS.

CULTURAL RESOURCE AWARENESS TRAINING

CUL-4 Worker Environmental Awareness Training for all new employees shall be conducted on a weekly basis, prior to and during periods of ground disturbance. Concerns of representative of the Santa Rosa Rancheria regarding treatment of Native American artifacts and burials shall be incorporated into the training program. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. Training shall also include samples or visuals of artifacts that might be found in the project vicinity and the information that the CRS, alternate CRS or monitor has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

Verification: Copies of signed acknowledgement forms shall be provided in the MCR.

CULTURAL RESOURCE SPECIALIST AUTHORITY

CUL-5 The CRS, alternate CRS and the Cultural Resources Monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered or if known resources may be impacted in a previously unanticipated manner.

If such resources are found, the halting or redirection of construction shall remain in effect until all of the following have occurred:

- the CRS has notified the CPM and the project owner of the find and the work stoppage;
- the CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
- any necessary data recovery and mitigation has been completed.
    - ✓ If data recovery or other mitigation measures are required, the CRS and/or the alternate CRS and cultural resource monitor(s), including Native American monitor(s), shall

monitor these data recovery and mitigation measures, as needed.

- ✓ For any cultural resource encountered, the project owner shall notify the CPM within 24 hours after the find.
- ✓ All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

Verification: At least thirty (30) days prior to the start of ground disturbance, the project owner shall provide the CPM with a letter confirming that the CRS, alternate CRS and cultural resources monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find and stating that the CRS will notify the CPM and project owner within 24 hours after a find.

CULTURAL RESOURCE SPECIALIST DUTIES

CUL-6

1. The CRS, alternate CRS, or monitors shall monitor ground disturbance full time in the vicinity of the project site where project ground disturbance exceeds previously disturbed soil. Cultural resources monitoring shall also occur full time on the gas pipeline in the vicinity of the Avenal Cutoff Road. Additional monitoring shall occur at the discretion of the CRS. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter providing a detailed justification for that decision to reduce the level of monitoring shall be provided to the CPM for review and approval.
2. Monitors shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.
3. The CRS shall notify the project owner and the CPM, by telephone, of any incidents of non-compliance with any cultural resources conditions of certification within 24 hours of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.
4. A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored. Native American monitors shall also be given an opportunity to comment on any discovered Native American artifacts. These comments shall be included in the CRR required in **CUL-3**.

Verification:

1. During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.
2. During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM as needed.
3. Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.
4. One week prior to ground disturbance in areas where there is a potential to discover Native American artifacts, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
FACILITY DESIGN CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC) and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within thirty (30) days after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design.

The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy].

GEN-2 Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least sixty (60) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Table 1** below. Major structures and equipment shall

be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

TABLE 1: MAJOR STRUCTURES AND EQUIPMENT LIST

Equipment/System	Quantity (Plant)
Combustion Turbine Generator Foundation and Connections	2
SCR Unit Structure, Foundation and Connections	2
Transformer Foundation and Connections	2
CT Inlet Air Filter/Duct Structure, Foundation and Connection	2
Exhaust Stack Structure, Foundation and Connections	2
Fuel Gas Filter Foundation and Connections	2
Fuel Gas Compressor Skid 1A, 1B, 1C Foundation and Connections	1
Fuel Gas Cooler Foundation and Connections	1
Fuel Gas Waste Sump/Blower Foundation and Connections	1
Gas Turbine Enclosure Structure, Foundation and Connections	2
Ammonia Storage Tank & Pump Foundation and Connections	1
Auxiliary Skid Foundation and Connections	2
Air Compressor Skid Foundation and Connections	1
Oil/Water Separator Foundation and Connections	1
Waste Water Wash Tank Foundation and Connections	1
Fuel Gas Metering Station Structure, Foundation and Connections	1
Administration Building Structure, Foundation and Connections	1
Continuous Emission Monitoring Equipment Foundation and Connections	2
Ammonia Injection Skid Foundation and Connections	2
Raw Water Forwarding Pumps Foundation and Connection	1
Raw Water Storage Tank Foundation and Connections	1
Water Treatment Module Foundation and Connections	1
Waste Water Storage Tank Foundation and Connections	1
Waste Water Process Equipment Foundation and Connections	1
Demineralized Water Storage Tank Foundation and Connections	1
Demineralized Water Injection Forwarding Pumps Foundation and Connections	1
Water Injection Boost Pump Skid 2A, 2B Foundation and Connections	2
Sprint Performance Skid Foundation and Connections	2
High Pressure Demineralized Water Filter Skid Foundation and Connections	2
Inlet Air Fogger Foundation and Connections	2
Closed Loop Cooler Foundation and Connections	2
Anti-Icing Heat Exchanger System Foundation and Connections	2
Maintenance Building Structure, Foundation and Connections	1

Equipment/System	Quantity (Plant)
Power Control Module Structure, Foundation and Connections	1
Emergency Diesel Generator Foundation and Connections	1
Lighting Panel with Transformer Foundation and Connections	1
Auxiliary Transformer Foundation and Connections	2
Gas Compressor Transformer Foundation and Connections	2
480 V Distribution Switchboard Foundation and Connections	1
Gas Compressor 480 V MCC Foundation and Connections	1
4160 Distribution Panel Foundation and Connections	1
Medium Voltage Switch Gear Foundation and Connections	2
Transformer Fire Wall Structure, Foundation and Connections	1 Lot
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 1998 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in

Conditions of Certification in the Transmission System Engineering section of this document.

The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

Protocol: The RE shall:

1. Monitor construction progress of work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all the facilities subject to CBO design review and inspection conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;
4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project:

A. a civil engineer;

B. a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering;

C. a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports;

D. a mechanical engineer; and

E. an electrical engineer.

[California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all responsible engineers assigned to the project [1998 CBC, Section 104.2, Powers and Duties of Building Official].

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Protocol A: The civil engineer shall:

1. Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the

CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and

2. Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

Protocol B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports, and prepare final soils grading report;
2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 – Soils Engineering Report, and Section 3309.6 – Engineering Geology Report;
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;
4. Recommend field changes to the civil engineer and RE;
5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
6. Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations [1998 CBC, section 104.2.4, Stop orders].

Protocol C: The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with engineering LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications and calculations.

Protocol D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

Protocol E: The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document.

Protocol: The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action [1998 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]; and

4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least fifteen (15) days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action required [1998 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next Monthly Compliance Report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval, and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be

identified on the “as-built” drawings [1998 CBC, Section 108, Inspections]. The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location during the operating life of the project [1998 CBC, Section 106.4.2, Retention of Plans].

Verification: Within fifteen (15) days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM in the next Monthly Compliance Report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

CIVIL-1 Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils report as required by the 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report].

Verification: At least fifteen (15) days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit the documents described above to the CBO for design review and approval.

In the next Monthly Compliance Report following the CBO’s approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [1998 CBC, Section 104.2.4, Stop orders].

Verification: The project owner shall notify the CPM, within five (5) days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO’s approval to resume earthwork and

construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3 The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations for which a grading permit is required shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM [1998 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five (5) days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy].

Verification: Within thirty (30) days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes.

The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1 Prior to the start of any increment of construction of any major structure or component listed in Table 1 of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from Table 1, above):

1. Major project structures;

2. Major foundations, equipment supports and anchorage;
3. Large field fabricated tanks;
4. Turbine/generator pedestal; and
5. Switchyard structures.

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

Protocol: The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents]; and
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction of any structure or component listed in Table 1 of Condition of Certification **GEN-2** above, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the non-conforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable engineering LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: f a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM [1998 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]. The NCR shall reference the Condition(s) of Certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM.

The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1 Prior to the start of any increment of major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Table 1**, Condition of Certification **GEN 2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal Documents, Section 108.3, Inspection Requests, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

The responsible mechanical engineer shall stamp and sign all plans, drawings and calculations for the major piping and plumbing systems subject to the CBO design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [Section 106.3.4, Architect or Engineer of Record], which may include, but not be limited to:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- Specific City/County code.
- The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of major piping or plumbing construction listed in **Table 1**, Condition of Certification **GEN-2** above, the project owner shall submit to the CBO for design review and approval the final plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998 CBC, Section 108.3 – Inspection Requests].

Protocol: The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of

applicable code, shall be submitted for prefabricated vessels and tanks; and

2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3 Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

ELEC-1 Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and

drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 1998, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the Transmission System Engineering section of this document.

A. Final plant design plans to include:
    1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and
    2. system grounding drawings.

B. Final plant calculations to establish:
    1. short-circuit ratings of plant equipment;
    2. ampacity of feeder cables;
    3. voltage drop in feeder cables;
    4. system grounding requirements;
    5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
    6. system grounding requirements; and
    7. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:
    - receipt or delay of major electrical equipment;
    - testing or energization of major electrical equipment; and
    - a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting

compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
HAZARDOUS MATERIALS MANAGEMENT CONDITIONS OF CERTIFICATION

TANKER TRUCK STANDARDS

HAZ-1 All aqueous ammonia deliveries to the facility shall be in tanker trucks that meet or exceed the U.S. Department of Transportation requirements for hazardous materials as established in the Code of Federal Regulations No. 49 Parts 171-180.

Verification: The project owner shall include in its Monthly Compliance Reports, copies of all regulatory permits/licenses acquired by the project owner and/or subcontractors concerning the transport of aqueous ammonia and other hazardous materials.

GAS PIPELINE STANDARDS

HAZ-2 The natural gas pipeline shall be designed to meet California Public Utilities Commission General Order 112-D & E and 58A standards, or any successor standards. The pipeline will be designed to withstand seismic stresses. The project owner shall incorporate the following safety features into the design and operation of the pipeline:

1. butt welds shall be x-rayed;
2. the pipeline shall be pressure tested prior to the introduction of natural gas;
3. the pipeline shall be surveyed for leakage annually;
4. the pipeline route shall be marked to prevent rupture by heavy equipment excavating in the area;
5. valves shall be installed to locate leaks; and
6. appropriate corrosion measures shall be used.

Verification: Prior to the introduction of natural gas into the pipeline, the project owner shall submit the design and operational specifications of the pipeline to the CPM for review and approval.

HAZARDOUS MATERIALS INVENTORY

HAZ-3 The project owner shall obtain the advance approval of the CPM if the facility intends to store, handle or use a material in quantities that exceed those specified in Title 19 of the California Code of Regulations, section 2770.5.

Verification: The project owner shall provide to the CPM, in the Annual Compliance Report, a list of those materials designated as regulated substances as set forth in Title 19 of the California Code of Regulations. The list shall also include the maximum quantities of these substances at the facility. Copies of the list, from the Annual Report,

should also be provided to the Kings County Environmental Health Department (KCEHD) and the Kings County Fire Department (KCFD).

HAZARDOUS MATERIALS BUSINESS PLAN

HAZ-4 The project owner shall develop and provide a Hazardous Materials Business Plan.

Verification: At least forty-five (45) days prior to the initial startup of the HPP facility, the owner shall undertake a hazardous materials floor plan exercise with the KCEHD and KCFD and provide a copy of the Plan, commented on by the KCEHD, to the CPM and KCFD.

RISK MANAGEMENT PLAN

HAZ-5 The project owner shall develop and provide a CalARP Risk Management Plan (RMP). The RMP shall include discussions on the potential for double-walling all ammonia related piping, potential for underground placement of the ammonia storage tank, adequate secondary containment for the ammonia unloading area, and procedures for the safe delivery of ammonia, as a minimum. The secondary containment shall be designed to hold 110 percent of the tanker truck.

Verification: At least forty-five (45) days prior to the initial startup of the HPP facility, the project owner shall furnish a final copy of the RMP to the CPM. An initial draft shall be provided to the CPM and KCEHD for review and comments. The final RMP shall be approved by the CPM.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
LAND USE CONDITIONS OF CERTIFICATION

LAND-1 Prior to the start of construction, the project owner shall submit an agricultural mitigation plan subject to the approval of the CPM. The agricultural mitigation plan shall include details as to how the on-site preservation of agricultural land on the subject property not converted for the power generation facility is to occur.

Verification: Thirty (30) days prior to site mobilization, the project owner shall jprovide the CPM with the finalized agricultural mitigation plan.

LAND-2 Prior to the start of commercial operation, the project owner shall provide to the CPM, a copy of their signed, notarized and recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings, pursuant to Section 2 of Ordinance No, 546 (Right To Farm Ordinance) of the County of Kings.

Verification: Thirty (30) days prior to the start of commercial operation, the project owner shall provide to the CPM, a copy of their signed, notarized and recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies for the County of Kings.

LAND-3 Prior to the start of construction, the project owner shall provide to the CPM a site plan with dimensions showing the locations of the proposed buildings and structures in compliance with the minimum yard area requirements (setbacks) from the property line as stipulated in Section 406.D. Yard requirements of the Kings County Zoning Ordinance.

Verification: Thirty (30) days prior to the start of construction, the project owner shall provide to the CPM for approval, a site plan showing the HPP project in yard area compliance with Section 406.D. of the Kings County Zoning Ordinance.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
NOISE CONDITIONS OF CERTIFICATION

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1 At least fifteen (15) days prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish and disseminate a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. The telephone number shall be posted at the project site during construction in a manner visible to passersby. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established.

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

1. use the Complaint Resolution Form or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
2. attempt to contact the person(s) making the noise complaint within 24 hours;
3. conduct an investigation to determine the source of noise related to the complaint;
4. if the noise is project related, take all feasible measures to reduce the noise at its source; and
5. if the noise is project related, submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant

stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five (5) days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, and with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

OPERATING NOISE LIMITATION

NOISE-3 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed the ambient background noise level (L90) at residential receivers by more than 5 dBA, and that the noise due to plant operations will comply with the noise standards of the Kings County General Plan.

No new pure tone components may be produced by operation of the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Pressure relief valves shall be adequately treated or located to preclude noise that draws legitimate complaints.

Protocol: Within thirty (30) days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the same Site 1 used for the ambient noise survey (i.e., housing at NAS Lemoore). The survey shall also include the one-third octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that the project noise level at the residential location exceeds the standards and requirements cited above, additional mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

Verification: Within fifteen (15) days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of implementation of the mitigation measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

CONSTRUCTION TIME RESTRICTIONS

NOISE-4 Construction noise levels as measured at any affected residence shall be limited to 60 dBA Leq during daytime hours (7 a.m. to 10 p.m.) and 45 dBA Leq during nighttime hours (10 p.m. to 7 a.m.). If construction noise levels exceed an hourly average noise level of 60 dBA Leq daytime or 45 dBA Leq nighttime, the construction equipment that is the source of the excessive noise shall be shut down or the noise mitigated to a noise level below 60 dBA Leq or 45 dBA Leq, respectively.

Verification: The Project Owner shall monitor noise levels at the nearest residential noise receptor at random evening times when nighttime construction activities are in progress. The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project and monitoring data.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

DESIGNATED PALEONTOLOGICAL RESOURCES SPECIALIST

PAL-1 Prior to the start of any project-related construction activities (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management and at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

Verification: At least sixty (60) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project

owner shall submit the name, statement of qualifications, and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall approve or disapprove of the proposed paleontological resource specialist.

At least ten (10) days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

PALEONTOLOGICAL RESOURCES MONITORING & MITIGATION PLAN

PAL-2 Prior to the start of project construction, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: The project owner shall develop a Paleontological Resources Monitoring and Mitigation Plan in accordance with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1994) that shall include, but not be limited to, the following elements and measures:

- A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;
- Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;
- Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;
- An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;
- A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare,

remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

- Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and
- Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution.

Verification: At least forty-five (45) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

WORKER PALENTEOLOGICAL RESOURCES AWARENESS PROGRAM

PAL-3 Prior to ground disturbance, and throughout the project construction period, as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare and conduct CPM-approved training for all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

The paleontological training program shall discuss the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least thirty (30) days prior to site mobilization, or a lesser number of days agreed to by the CPM, the project owner shall submit to the CPM for review, comment, and written approval, the proposed employee training program and the set of

reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and necessary changes, before the beginning of construction. Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

DESIGNATED PALEONTOLOGICAL RESOURCE SPECIALIST DUTIES

PAL-4 The designated paleontological resource specialist shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas where potential fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner.

Verification: The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

PALEONTOLOGICAL RESOURCE RECOVERY

PAL-5 The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PALEONTOLOGICAL RESOURCE REPORT

PAL-6 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related

information. The project owner shall submit the paleontological report to the CPM for approval.

Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

Verification: The project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document. The report is to be prepared and submitted to the CPM by the designated paleontological resource specialist within ninety (90) days following completion of the analysis of the recovered fossil materials.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
SOCIOECONOMICS CONDITIONS OF CERTIFICATION

SOCIO-1 The project owner shall pay the one-time statutory school facility development fee as required at the time of filing for the in-lieu building permit with the Kings County.

Verification: The project owner shall provide proof of payment of the statutory development fee in the Monthly Compliance Report following the payment.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
TRAFFIC AND TRANSPORTATION CONDITIONS OF CERTIFICATION

OVERWEIGHT & OVERSIZE VEHICLES

TRANS-1 The project owner shall comply with the California Department of Transportation (Caltrans) and Kings County on limitations on vehicle sizes and weights. In addition, the project owner or their contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

ON-SITE PARKING

TRANS-2 During construction of the power plant and all related facilities, the project owner shall arrange for on-site construction-period parking.

Verification: At least sixty (60) days prior or prior to any ground disturbance activity, the project owner shall submit a parking and staging plan for all phases of project construction to Kings County for review and comment and to the CPM for review and approval.

LICENSED HAZARDOUS MATERIALS HAULERS

TRANS-3 The project owner shall ensure that all federal and state regulations for the transportation of hazardous materials are observed during both construction and operation of the facility and that all permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transportation of hazardous material.

Verification: The project owner shall include in its Monthly Compliance Reports to the CPM copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

ENCROACHMENT PERMITS

TRANS-4 The project owner or their contractor shall comply with Kings County and Caltrans limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period. In addition, the

project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

DESIGNATED ROUTES

TRANS-5 The project owner shall designate travel routes for construction workers and truck deliveries in consultation with Kings County and Caltrans.

Verification: The project owner shall provide a copy of the designated route in its contracts for truck deliveries and maintain copies onsite for inspection by the CPM.

ROADWAY REPAIRS

TRANS-6 Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

Protocol: Prior to start of construction, the project owner shall photograph sections of public roadways that will be affected by project construction traffic. The project owner shall provide the CPM and the affective jurisdiction: Kings County and /or Caltrans with copies of these photographs.

Verification: Within thirty (30) days of the completion of project construction, the project owner will meet with the CPM and Kings County and Caltrans to determine and receive approval for the action necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible.

TRAFFIC CONTROL PLAN

TRANS-7 Prior to the start of construction, the project owner shall consult with Kings County, Fresno County, Caltrans, and the City of Lemoore to prepare and submit a construction traffic control plan and implementation program which addresses the following issues to the extent practical:

- timing of heavy equipment and building material deliveries:
- signing, lighting, and traffic control device placement;
- provision of a person to direct traffic if necessary for workers leaving the site during the peak period of construction;
- on-site parking for construction workers;
- establishing construction work hours outside of peak traffic periods;
- maintain emergency access;
- temporary travel lane closures;
- maintaining access to adjacent property,
- requirements for construction worker ridesharing; and

- traffic conflicts with other ongoing or planned projects.

The project owner shall submit the traffic control plan to Kings County and Caltrans for review and comments, and to the CPM for review and approval.

Verification: At least thirty (30) days prior to start of construction the project owner shall provide to the CPM for review and approval, a copy of its traffic control and implementation program that has been reviewed and commented on by the jurisdictions.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
TRANSMISSION LINE SAFETY AND NUISANCE CONDITIONS OF CERTIFICATION

CPUC GENERAL ORDER 95

TLSN-1 The project owner shall ensure that PG&E erects the proposed transmission line according to the requirements of CPUC's GO 95, GO-52, applicable requirements of Title 8, California Code of Regulations, Section 2700 et seq. and PG&E's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

Verification: At least thirty (30) days before start of line-related ground disturbance, the Applicant shall submit to the Commission's Compliance Project Manager (CPM) a letter from PG&E stating PG&E's intention to ensure compliance with this requirement.

RADIO & TV INTERFERENCE

TLSN-2 The project owner shall verify implementation of PG&E's plan for identifying and correcting any complaints of interference with radio or television reception. PG&E shall maintain any records of such complaints and remediation for 5 years.

Verification: The Applicant shall ensure that all reports of line-related complaints are summarized by PG&E for the proposed line and provided to the Applicant for submittal to the CPM in the Annual Compliance Report.

ELECTRIC & MAGNETIC FIELDS MITIGATION

TLSN-3 The Applicant shall ensure that PG&E establishes a specific plan to engage a qualified consultant or PG&E employee to measure the strengths of the line's electric and magnetic fields before and after the line is energized. Measurements should be made at representative points along the edge of the right-of-way for which field strength estimates were provided.

Verification: The project owner shall obtain copies of the pre-and post-energization measurements and file them with the CPM within sixty (60) days after completion of the measurements.

TRANSMISSION LINE FIRE SAFETY

TLSN-4 The Applicant shall ensure that PG&E implements a specific plan to ensure that the line's proposed route is kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Title 14, California Code of Regulations, Section 1250.

Verification: During the first five (5) years of plant operation, the project owner shall ensure that PG&E summarizes all inspection results together with any fire prevention

activities carried out along the line route. Such summaries shall be obtained by the Applicant and submitted in the Annual Compliance Report.

TRANSMISSION LINE SHOCK SAFETY

TLSN-5 The Applicant shall ensure that PG&E implements a plan under which all permanent metallic objects within the line route are grounded according to industry standards.

Verification: At least thirty (30) days before the line is energized, the Applicant shall obtain a copy of this implementation plan from PG&E and submit it to the CPM.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least sixty (60) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for equipment (see a list of major equipment in Table 1: Major Equipment below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment

DESCRIPTION
Breakers
Power House 12.5 kV
Switchyards 12.5 kV
Buses
Underground cables
Disconnects
Take off facilities
Overhead lines
Switchyard control building
Step-up transformer
Others

TSE-2 The project owner shall assign an electrical engineer and at least one of each of the following to the project:

A. a civil engineer;

B. a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering;

C. a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or

D. a mechanical engineer.

[California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.]

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical or civil and design engineer assigned in conformance with Facility Design condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform to predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

1. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-3 The project owner shall keep the CBO informed regarding the status of engineering design and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall

be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM to be included in response to **TSE-3**. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

TSE-4 For the power plant switchyard, outlet line and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

a. receipt or delay of major electrical equipment;

b. testing or energizing of major electrical equipment; and

c. the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS.

The project owner shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of Compliance Project Manager (CPM) and CBO approved "equivalent" equipment and equivalent substation configurations is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

a. The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code of Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC) and related industry standards.

b. Breakers and buses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.

c. Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.

d. Termination facilities shall comply with CPUC Rule 21 and PG&E applicable interconnection standards.

e. The project conductors shall be sized to accommodate the full output from the HPP plant.

f. The project owner shall provide an Executed Generator Special Facilities Agreement.

Verification: At least sixty (60) days prior to the start of construction of transmission facilities, the project owner shall submit to the CBO for approval:

a. Design drawings, specifications and calculations conforming with CPUC General Order (GO) 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, underground cables, grounding systems and major switchyard equipment.

b. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions" and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards, and related industry standards.

c. Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements TSE-5 a) through f) above.

d. Generator Special Facilities Agreement shall be provided concurrently to the CPM and CBO. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CBO and CPM approval.

TSE-6 The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5 a)** through **f)**, and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed

equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

Verification: At least sixty (60) days prior to the construction of transmission facilities or a lesser number of days agreed to by the CPM, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within sixty (60) days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

a. "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", CPUC Rule 21, and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently.

b. An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan".

c. A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in responsible charge.

TSE-8 The Applicant shall provide the following Notice to the California Independent System Operator (Cal-ISO) prior to synchronizing the facility with the California Transmission system:

1. At least one (1) week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and

2. At least one (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage

Coordination Department, Monday through Friday, between the hours of 0700 to 1530 at (916)-351-2300.

Verification: The Applicant shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
VISUAL RESOURCES CONDITIONS OF CERTIFICATION

CONSTRUCTION VISUAL REMEDIATION

VIS-1 The project owner shall ensure that visual impacts of the project construction are adequately mitigated by implementing the following measures:

All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction. Any vegetation removed in the course of construction will be replaced on a 1-to-1, in-kind basis. Such replacement planting shall be monitored for a period of three years to ensure survival. During this period, all dead plants shall be replaced.

Protocol: The project owner shall submit a plan for restoring the surface conditions of any right-of-way disturbed during construction of the transmission line and underground pipelines. The plan shall include grading to the original grade and contouring and revegetation of the rights-of-way.

The project owner shall not implement the plan until receiving written approval of the submittal from the California Energy Commission Compliance Project Manager (CPM).

Verification: At least sixty (60) days prior to the start of site mobilization, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plans are needed before the CPM will approve the plan, within thirty (30) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven (7) days after completing the surface restoration that the areas disturbed during construction are ready for inspection.

STRUCTURE COLOR PLAN

VIS-2 Prior to the first turbine roll, the project owner shall treat project structures, including the transmission facilities, buildings and fences in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items in non-reflective, appropriately textured finishes. The project owner shall ensure that the transmission facilities use non-specular conductors, and non-reflective and non-refractive insulators. A specific treatment plan shall be developed for CPM approval to ensure that the proposed colors and treatment do not unduly contrast with the surrounding landscape. The plan shall be submitted sufficiently early to ensure that any pre-colored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures, to the extent practicable.

Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the Kings County Planning Department for review and comment.

Protocol: Following review of the treatment plan by the Kings County Planning Department and submittal of the County's comments to the CPM, the project owner shall submit the treatment plan for the project to the CPM for review and approval. The treatment plan shall include:

- specifications, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
- a list of each major project structure, building, tank, and fence specifying the color(s) proposed for each item;
- documentation that a non-reflective finish will be used on all project elements visible to the public;
- documentation that non-specular conductors, and non-reflective and non-refractive insulators will be used on the transmission facilities;
- a procedure to ensure proper treatment maintenance for the life of the project, and
- documentation that fences and walls for the project will comply with the applicable requirements in the Kings County zoning ordinance, that relates to visual resources.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

For any structures that are treated during manufacture, the project owner shall not specify the treatment of such structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

Verification: At least thirty (30) days prior to construction, the project owner shall submit its proposed plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plans are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 30 (thirty) days prior to the start of commercial operation, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

SHIELDED LIGHTING

VIS-3 Prior to first turbine roll, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized during both project construction and operation. The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the Kings County Planning Department for review and comment. Lighting shall not be installed before the plan is approved.

Protocol: Following review of the lighting plan by the Kings County Planning Department and submittal of the Department's comments to the CPM, the project owner shall submit the lighting plan for the project to the CPM for review and approval. The lighting plan shall require that:

- all new night lighting shall be of minimum necessary brightness consistent with operational safety;
- exterior lighting and parking lot lighting shall be provided in accordance with the Kings County ordinance;
- non-glare light fixtures shall be specified;
- lighting shall be designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;
- high illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance shall be provided with switches or motion detectors to light the area only when occupied; and
- a complaint resolution form shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Verification: At least sixty (60) days prior to ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within thirty (30) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven (7) days of completing exterior lighting installation that the lighting is ready for inspection.

VIS-4 Where signs are visible by the public, the project owner shall design project signs using non-reflective materials and unobtrusive colors. The project owner shall ensure that signs comply with the applicable Kings County zoning requirements that relate to visual resources. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.

Protocol: The project owner shall submit a signage plan for the project to the Kings County Planning Department for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the Department's comments.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: At least sixty (60) days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within thirty (30) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within seven (7) days after completing installation of the signage that they are ready for inspection.

LANDSCAPE SCREENING

VIS-5 Prior to the start of commercial operation, the project owner shall prepare and implement an approved perimeter landscape plan to partially screen the west and south views of the power plant to the greatest extent possible. Fast growing tree species, such as but not limited to evergreens, shall be used to ensure that maximum screening is achieved as quickly as possible. Plant species shall be selected that will blend the landscaping into the surrounding environment. Suitable irrigation shall be installed, if necessary, to ensure survival of the plantings. Landscaping shall be installed consistent with the Kings County zoning ordinance.

Protocol: Prior to the start of commercial operation, the project owner shall submit a perimeter landscape plan to the Kings County Planning Department for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the Department's comments. The plan shall include, but not be limited to:

1. a detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives. A list of potential tree species that would be viable in this location shall be prepared by a

qualified arborist familiar with local growing conditions, with the objective of providing the widest possible range of species from which to choose. The plan shall demonstrate how the screening conditions called for above shall be met, including evidence provided by a qualified professional arborist that the species selected are both viable and available;

2. maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
3. a procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

Verification: At least sixty (60) days prior to the start of commercial operation, the project owner shall submit the perimeter landscape plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 (thirty) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 (seven) days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
WASTE MANAGEMENT CONDITIONS OF CERTIFICATION

WASTE GENERATOR ID NUMBER

WASTE-1 The project owner and, if necessary, its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control (DTSC) in accordance with DTSC regulatory authority.

Verification: The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

WASTE MANAGEMENT PLAN

WASTE-2 Prior to the start of construction and operation, the project owner shall prepare and submit to the Energy Commission CPM, for review and comment, a waste management plan for all wastes generated during construction and then operation and maintenance of the facility, respectively. The plans shall contain, at minimum, the following:

- a description of all waste streams, including projections of frequency, amounts generated, and hazard classifications;
- methods of managing each waste, including but not limited to: waste testing methods to assure correct classification, specific waste segregation and storage procedures and facilities, treatment methods and companies contracted with for treatment services, methods of transportation and companies contracted with for transportation, disposal requirements and sites, employee hazmat training, employee protection, spill response and reporting, and recycling and waste minimization/reduction plans. These methods must include, but not be limited to, the eight Waste Mitigation Measures listed by the Applicant in section 8.13.7 of the AFC; and
- methods to be put into place to audit and ensure continuing compliance with the Workplan and all applicable LORS.

Verification: No less than thirty (30) days prior to the start of construction the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE MANAGEMENT ENFORCEMENT ACTION

WASTE-3 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within ten (10) days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

REGISTERED PROFESSIONAL ENGINEER/GEOLOGIST

WASTE-4 The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit the name, affiliation, qualifications and experience of the Registered Professional Engineer or Geologist contracted for consultation to the CPM for approval.

CONTAMINATED SOIL EXCAVATION

WASTE-5 The unidentified crystalline substance found in soil at the site as reported in the Phase I ESA along with any other potentially contaminated soil unearthed during excavation at either the proposed site or in linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, shall be the subject of a review and evaluation by a Registered Professional Engineer or Geologist. This review and evaluation shall include at a minimum:

- an inspection of the site,
- a determination of the need for sampling to confirm the nature and extent of contamination,
- actions to ensure that verbal notification has been made to the project owner and the CPM, and
- the filing of a written report to the project owner and the CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Central Valley Regional Water Quality Control Board, the Kings County Division of Environmental Health

Services (CUPA), and the Northern California Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the Registered Professional Engineer or Geologist to the CPM within five (5) days of their receipt.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
WATER QUALITY CONDITIONS OF CERTIFICATION

EROSION CONTROL PLAN

WATER QUALITY-1 Prior to beginning any site mobilization activities, the project owner shall obtain CPM approval for an Erosion Control Plan that addresses all project elements. The plan submitted for CPM approval shall also contain provisions as needed, for containing and treating any contaminated soil or groundwater, and include any changes made to address the final design of the project. The plan shall apply to both construction and operation. It shall include final construction drainage design and all applicable Best Management Practices (BMP) for on and off-site project facilities, including final site drainage plans and locations of BMP's.

Verification: The Erosion Control Plan shall be submitted to the Compliance Project Manager (CPM) at least sixty (60) days prior to start of any site mobilization activities. Approval of the final plan by the CPM must be received prior to the initiation of any site mobilization activities.

NPDES PERMIT

WATER QUALITY-2 The project owner shall obtain a General NPDES permit for discharge of storm water associated with construction activity from the CVRWQCB, and obtain CPM approval of the related Stormwater Pollution Prevention Plan (SWPPP) for construction activity. The SWPPP shall include final construction drainage design, and specify BMP's for all on and off-site project facilities and shall comply with and incorporate Kings County Public Works Agency regulations, including those regulations and guidelines pertinent to areas with shallow groundwater. This includes final site drainage plans and locations of BMPs. The project owner shall submit site drainage plans detailing collection of storm water from roadways, parking areas and all other areas subject to vehicular use.

Verification: At least sixty (60) days prior to the start of any site mobilization activities, the SWPPP for Construction Activity shall be submitted to the CPM for approval. Prior to the start of site mobilization, the project owner shall receive and provide proof to the CPM of having received an NPDES permit for construction activities. The SWPPP must comply with and incorporate Kings County Public Works Agency Grading Permit requirements. A letter from the Kings County Building Department addressing compliance with their grading permit requirements must be submitted with the SWPPP. A narrative and construction drawings detailing collection and process stream for storm water from contact areas of the site which are subject to vehicular use shall be submitted to the CPM. Approval of the final SWPPP by the CPM must be received prior to initiation of any site mobilization activities.

SANITARY SEWAGE DISPOSAL

WATER QUALITY-3 Due to the shallow groundwater underlying the site, the project owner shall submit construction drawings demonstrating compliance with county regulations for the on-site sewage disposal system, including a vertical cross-section showing proximity to groundwater as delineated in the geotechnical report performed by Kleinfelder, Inc., and dated November 1, 2001. A letter from the Kings County Building Department addressing compliance, with county requirements must be submitted with the drawings.

Verification: Thirty (30) days prior to site mobilization, the project owner shall provide evidence of compliance with Kings County Sewage Disposal Regulations to the CPM for approval.

WASTEWATER DISPOSAL

WATER QUALITY-4 The project owner shall not discharge any waste water off-site, except as delivered to licensed waste disposal contractors as described in Section 2.2.9.1 of the Application for Certification. The project owner shall supply the CPM with copies of the contract between the project owner and the waste disposal contractor, as well as copies of the contractor's permits and certifications relative to the hauling and disposal of the process wastes and contact storm water wastes. To the extent practicable, notification of any changes in waste disposal contractor or subcontractors shall be made to the CPM within 30 days of the change.

Verification: The project owner shall maintain records of wastewater hauled off-site, including hauler's Chain of Custody or other signed and dated receipts. Copies of these records shall be submitted to the CPM as part of the project owner's annual compliance report. Before operation of the power plant, the CPM will be supplied with copies of the waste disposal contract and the contractor's certifications and permits. The CPM shall be notified of any change in the contract, contractors or sub-contractors within 30 days of the change.

STORM WATER RUNOFF MONITORING

WATER QUALITY-5 The project owner shall implement a biannual storm water monitoring program to assess the quality of storm water discharges to the evaporation/percolation basin during two storm events as required by the Central Valley Regional Water Quality Control Board. The monitoring program shall include sampling methodology and analytes. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. The CPM may require additional analytes if additional concerns arise. If the CPM, in consultation with the RWQCB, determines that the ground or surface water quality is being impacted by use of parking areas and roadways, the CPM, in consultation with the RWQCB, shall require the project owner to prepare a mitigation plan which shall

include collection and treatment of petroleum byproducts and suspended solids.

Verification: The project owner shall submit a storm water monitoring program to the CPM for approval sixty (60) days prior to initiation of site mobilization activities. The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM as part of the annual compliance report.

GROUNDWATER QUALITY MONITORING

WATER QUALITY-6 To provide background perched groundwater quality information, GWF shall submit a plan for approval that identifies how the project owner will install and sample perched water from a groundwater monitoring well.

Verification: The project owner shall submit ground water data including depth to groundwater information prior to the submission of the SWPPP to the CPM approval. The monitoring program shall include sampling methodology and analytes.

The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM. The groundwater monitoring well shall be screened at a depth of 6-9 feet located on the project parcel (in the NW corner of the property if the current ground conditions allow access). The well annulus shall be sealed with a mixture of bentonite clay and cement. The well shall be equipped with a locking cover and protected with a concrete-filled pipe bollard set in concrete. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. Additional wells and monitoring may be required based on the initial well test results, if the results indicate the perched water is of high quality and has beneficial uses. If the CPM determines additional monitoring and/or wells are required based upon the initial results, the project owner shall submit for CPM approval a groundwater monitoring plan. If a groundwater monitoring plan is required, approval of the final plan by the CPM must be received prior to initiation of any site mobilization activities.

STORM WATER POLLUTION PREVENTION PROGRAM

WATER QUALITY-7 The Project Owner shall prepare a SWPPP for operation of the proposed project. The submittal shall include a copy of the operational NPDES permit or a letter stating that an NPDES permit is not required.

Verification: At least sixty (60) days prior to the start of operation, the SWPPP for operation shall be submitted to the CPM for review and approval. The project owner shall provide a copy of the operational NPDES permit, or letter from the CVRWQCB stating that an NPDES permit is not required. Approval of the operational SWPPP by the CPM must occur prior to the initiation of operations.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
WATER RESOURCES CONDITIONS OF CERTIFICATION

WATER USE METERING

WATER RES-1 The project owner shall install metering devices and record on a monthly basis the amount of water used by the project. The annual summary shall include the monthly range and monthly average of daily usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. The annual summary shall also include the yearly range and yearly average water use by the project. This information shall be supplied to the CPM.

Verification: The project owner shall submit, as part of its annual compliance report, a water use summary to the CPM on an annual basis for the life of the project.

WATER SOURCE REPORTING

WATER RES-2 Water used for the HPP shall be CVP water allocated to the 7 acres of the HPP parcel converted to Manufacturing and Industrial Use and SWP entitlement water as described in the county of Kings will-serve letter dated August 23, 2001 and the memorandum from Michael Nordstrom dated September 20, 2001. The project owner shall submit a water use summary annually. The water use summary shall state the source and quantity of the water used at HPP on a monthly basis, whether the water used was obtained from the current year allocation or the banked surplus allocations from previous years. The water use summary shall include the percentage of the entitlements delivered for the current year from the SWP and CVP, as well as, the amount of the current years water banked for future use and cumulative total banked water available for future use.

Verification: The project owner shall submit as part of its annual compliance report a Water Use Summary to the CPM on an annual basis for the life of the project.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
WORKER SAFETY AND FIRE PROTECTION CONDITIONS OF CERTIFICATION

CONSTRUCTION SAFETY & HEALTH PROGRAM

WORKER SAFETY-1 The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Program, containing the following:

- A Construction Safety Program;
- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The Construction Fire Protection and Prevention Plan Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

OPERATION SAFETY & HEALTH PROGRAM

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- an Operation Injury and Illness Prevention Plan;
- an Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program; and;
- Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also

be submitted to the Kings County Fire Department for review and comment.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. The Kings County Fire Department shall be provided a copy of the plan for review and comment. The program shall incorporate comments from Cal/OSHA, Consultation Service and the KCFD based on their reviews of the respective program components.

WORKER NOISE CONTROL PROGRAM

WORKER SAFETY-3 Prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM for review and approval, a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least thirty (30) days prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

WORKER NOISE SURVEY

WORKER SAFETY-4 The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within thirty (30) days after the facility is in full operation, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within thirty (30) days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

WORKER SAFETY-5 The project owner shall prepare and submit to the CPM an Operations Fire Prevention Plan describing the onsite fire protection systems that will be provided in this project. Specifically, information must be included on employee alarm/communication system, portable fire extinguisher placement and operation, fixed fire fighting equipment placement and operation, fire control methods and techniques, hazardous materials and flammable and combustible liquid storage methods, methods for servicing and refueling vehicles and fire prevention training programs and requirements. Additionally, information shall be provided

regarding the source of on-site firewater, including storage if applicable and fire department hook-ups.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Operations Fire Prevention Plan for review and approval. The KCFD shall also be provided a copy of the Plan for review and comment.

HENRIETTA PEAKER PROJECT (01-AFC-18C)
GENERAL COMPLIANCE CONDITIONS OF CERTIFICATION

DEFINITIONS

The following terms and definitions are used to establish when Conditions of Certification are implemented.

Pre-Construction Site Mobilization

Site mobilization is limited preconstruction activities at the site to allow for the installation of fencing, construction trailers, construction trailer utilities, and construction trailer parking at the site. Limited ground disturbance, grading, and trenching associated with the above mentioned pre-construction activities is considered part of site mobilization. Walking, driving or parking a passenger vehicle, pickup truck and light vehicles is allowable during site mobilization.

Construction

Onsite work to install permanent equipment or structures for any facility.

Ground Disturbance

Construction-related ground disturbance refers to activities that result in the removal of top soil or vegetation at the site beyond site mobilization needs, and for access roads and linear facilities.

Grading, Boring, and Trenching

Construction-related grading, boring, and trenching refers to activities that result in subsurface soil work at the site and for access roads and linear facilities, e.g., alteration of the topographical features such as leveling, removal of hills or high spots, moving of soil from one area to another, and removal of soil.

Notwithstanding the definitions of ground disturbance, grading, boring and trenching above, construction does not include the following:

1. the installation of environmental monitoring equipment;
2. a soil or geological investigation;
3. a topographical survey;
4. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
5. any work to provide access to the site for any of the purposes specified in “Construction” 1, 2, 3, or 4 above.

Start of Commercial Operation

For compliance monitoring purposes, “commercial operation” begins after the completion of start-up and commissioning, when the power plant has reached reliable

steady-state production of electricity at the rated capacity. At the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

A. COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

The Compliance Project Manager (CPM) shall oversee the compliance monitoring and is responsible for:

1. Ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision
2. Resolving complaints
3. Processing post-certification changes to the conditions of certification, project description (petition to amend), and ownership or operational control (petition for change of ownership) (See instructions for filing petitions)
4. Documenting and tracking compliance filings
5. Ensuring that compliance files are maintained and accessible

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies, Energy Commission, and staff when handling disputes, complaints, and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate Energy Commission staff and management. All submittals must include searchable electronic versions (pdf or word files).

Pre-Construction and Pre-Operation Compliance Meeting

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings is to assemble both the Energy Commission's and project owner's technical staff to review the status of all pre-construction or pre-operation requirements, contained in the Energy Commission's conditions of certification. This is to confirm that all applicable conditions of certification have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Record

The Energy Commission shall maintain the following documents and information as a public record, in either the Compliance file or Dockets file, for the life of the project (or other period as required):

- All documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
- All monthly and annual compliance reports filed by the project owner;
- All complaints of noncompliance filed with the Energy Commission; and
- All petitions for project or condition of certification changes and the resulting staff or Energy Commission action.

B. PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the compliance conditions of certification and all other conditions of certification that appear in the Commission Decision are satisfied. The compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, conditions of certification, or ownership. Failure to comply with any of the conditions of certification or the compliance conditions may result in reopening of the case and revocation of Energy Commission certification; an administrative fine; or other action as appropriate. A summary of the Compliance Conditions of Certification is included as Compliance Table 1 at the conclusion of this section.

COMPLIANCE CONDITIONS OF CERTIFICATION

UNRESTRICTED ACCESS (COMPLIANCE-1)

The CPM, responsible Energy Commission staff, and delegated agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on-site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally **schedule** site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

COMPLIANCE RECORD (COMPLIANCE-2)

The project owner shall maintain project files on-site or at an alternative site approved by the CPM for the life of the project, unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all “as-built” drawings, documents submitted as verification for conditions, and other project-related documents.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this condition.

COMPLIANCE VERIFICATION SUBMITTALS (COMPLIANCE-3)

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified as necessary by the CPM.

Verification of compliance with the conditions of certification can be accomplished by the following:

1. Monthly and/or annual compliance reports, filed by the project owner or authorized agent, reporting on work done and providing pertinent documentation, as required by the specific conditions of certification;
2. Appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of work, or other evidence that the requirements are satisfied.

Verification lead times associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the project by AFC number, the appropriate condition(s) of certification by condition number(s), and a brief description of the subject of the submittal. The project owner shall also identify those submittals not required by a condition of certification with a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal and CEC submittal number.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All hardcopy submittals shall be addressed as follows:

Compliance Project Manager
(0X-AFC-XC)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

Those submittals shall be accompanied by a searchable electronic copy, on a CD or by e-mail, as agreed upon by the CPM.

If the project owner desires Energy Commission staff action by a specific date, that request shall be made in the submittal cover letter and shall include a detailed explanation of the effects on the project if that date is not met.

PRE-CONSTRUCTION MATRIX AND TASKS PRIOR TO START OF CONSTRUCTION (COMPLIANCE-4)

Prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner's first compliance submittal or prior to the first pre-construction meeting, whichever comes first. It will be submitted in the same format as the compliance matrix described below.

Construction shall not commence until the pre-construction matrix is submitted, all preconstruction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project development.

If the project owner anticipates commencing project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. Compliance submittals should be completed in advance where the necessary lead time for a required compliance event extends beyond the date anticipated for start of construction. The project owner must understand that the submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change, based upon the Commission Decision.

Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Energy Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

COMPLIANCE MATRIX (COMPLIANCE-5)

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all conditions of certification in a spreadsheet format. The compliance matrix must identify:

1. the technical area;
2. the condition number;
3. a brief description of the verification action or submittal required by the condition;

4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);
5. the expected or actual submittal date;
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; and
7. the compliance status of each condition, e.g., “not started,” “in progress” or “completed” (include the date).
8. if the condition was amended, the date of the amendment.

Satisfied conditions shall be placed at the end of the matrix.

MONTHLY COMPLIANCE REPORT (COMPLIANCE-6)

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include the AFC number and an initial list of dates for each of the events identified on the Key Events List. The Key Events List Form is found at the end of this section.

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and an electronic searchable version of the Monthly Compliance Report within 10 working days after the end of each reporting month.

Monthly Compliance Reports shall be clearly identified for the month being reported.

The reports shall contain, at a minimum:

1. A summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. Documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, as well as the conditions they satisfy and submitted as attachments to the Monthly Compliance Report;
3. An initial, and thereafter updated, compliance matrix showing the status of all conditions of certification;
4. A list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;
5. A list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. A cumulative listing of any approved changes to conditions of certification;
7. A listing of any filings submitted to, or permits issued by, other governmental agencies during the month;
8. A projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are

made to the project construction schedule that would affect compliance with conditions of certification;

9. A listing of the month's additions to the on-site compliance file; and
10. A listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions.

All sections, exhibits, or addendums shall be separated by tabbed dividers or as acceptable by the CPM.

ANNUAL COMPLIANCE REPORT (COMPLIANCE-7)

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall include the AFC number, identify the reporting period and shall contain the following:

1. An updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
2. A summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. Documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, with the condition it satisfies, and submitted as attachments to the Annual Compliance Report;
4. A cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. An explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. A listing of filings submitted to, or permits issued by, other governmental agencies during the year;
7. A projection of project compliance activities scheduled during the next year;
8. A listing of the year's additions to the on-site compliance file;
9. An evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see Compliance Conditions for Facility Closure addressed later in this section]; and
10. A listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.

CONFIDENTIAL INFORMATION (COMPLIANCE-8)

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

ANNUAL ENERGY FACILITY COMPLIANCE FEE (COMPLIANCE-9)

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual compliance fee, which is adjusted annually.

Current Compliance fee information is available on the Energy Commission's website http://www.energy.ca.gov/siting/filing_fees.html. You may also contact the CPM for the current fee information. The initial payment is due on the date the Energy Commission adopts the final decision. All subsequent payments are due by July 1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

REPORTING OF COMPLAINTS, NOTICES, AND CITATIONS (COMPLIANCE-10)

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with date and time stamp recording. All recorded complaints shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM, who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of all complaint forms, including noise and lighting complaints, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the NOISE conditions of certification. All other complaints shall be recorded on the complaint form (Attachment A).

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or

unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. Laws, Ordinances, Regulations and Standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place: planned closure, unplanned temporary closure and unplanned permanent closure.

CLOSURE DEFINITIONS

PLANNED CLOSURE

A planned closure occurs when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

UNPLANNED TEMPORARY CLOSURE

An unplanned temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency.

UNPLANNED PERMANENT CLOSURE

An unplanned permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unplanned closure where the owner implements the on-site contingency plan. It can also include unplanned closure where the project owner fails to implement the contingency plan, and the project is essentially abandoned.

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE PLANNED CLOSURE (COMPLIANCE-11)

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least 12 months (or other period of time agreed to by the CPM) prior to commencement of closure activities. The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;

3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.

As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities until the Energy Commission approves the facility closure plan.

UNPLANNED TEMPORARY CLOSURE/ON-SITE CONTINGENCY PLAN (COMPLIANCE-12)

In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety impacts and environmental impacts are taken in a timely manner.
The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less than 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over

the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. (Also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management.)

In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

UNPLANNED PERMANENT CLOSURE/ON-SITE CONTINGENCY PLAN (COMPLIANCE-13)

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.
In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the event of abandonment.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, OWNERSHIP CHANGES, STAFF APPROVED PROJECT MODIFICATIONS AND VERIFICATION CHANGES (COMPLIANCE-14)

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769. Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

A petition is required for amendments and for staff approved project modifications as specified below. Both shall be filed as a "Petition to Amend." For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of approval and the process that applies are explained below. They reflect the provisions of Section 1769 at the time this condition was drafted. If the Commission's rules regarding amendments are amended, the rules in effect at the time an amendment is requested shall apply.

Amendment

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769(a), when proposing modifications to the project (including linear facilities) design, operation, or performance requirements. If a proposed modification results in deletion or change of a condition of certification, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis, and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(a). Upon request, the CPM will provide you with a sample petition to use as a template.

Change of Ownership

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process requires public notice and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(b). Upon request, the CPM will provide you with a sample petition to use as a template.

Staff Approved Project Modification

Modifications that do not result in deletions or changes to conditions of certification, that are compliant with laws, ordinances, regulations and standards and will not have significant environmental impacts may be authorized by the CPM as a staff approved project modification pursuant to section 1769(a) (2). Once staff files an intention to approve the proposed project modifications, any person may file an objection to staff's determination within 14 days of service on the grounds that the modification does not meet the criteria of section 1769 (a)(2). If a person objects to staff's determination, the petition must be processed as a formal amendment to the decision and must be approved by the full commission at a noticed business meeting or hearing.

Verification Change

A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification.

CBO DELEGATION AND AGENCY COOPERATION

In performing construction and operation monitoring of the project, Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Energy Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Energy Commission staff retains CBO authority when selecting a delegate CBO, including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

Energy Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental protection when conducting project monitoring.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors the Energy Commission may consider.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1237, but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by future law or regulations.

Informal Dispute Resolution Process

The following procedure is designed to informally resolve disputes concerning the interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate an informal dispute resolution process. Disputes may pertain to actions or decisions made by any party, including the Energy Commission's delegate agents. This process may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237, but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The process encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be brought before the full Energy Commission for consideration via the complaint and investigation procedure.

Request for Informal Investigation

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter. Within seven working days of the CPM's request, provide a written report to the CPM of the results of the investigation, including corrective measures proposed or undertaken. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to also provide an initial verbal report, within 48 hours.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures proposed or undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner;
4. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum that fairly and accurately identifies the positions of all parties and any understandings reached.

If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations

Any person may file a complaint with the Energy Commission's Dockets Unit alleging noncompliance with a Commission decision adopted pursuant to Public Resources Code section 25500. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1237.