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Nightshade Battery Energy Storage System

Application for Expedited Emergency License

December 14, 2021

Mariposa Energy LLC

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1. Project Description

The Applicant, Mariposa Energy LLC, proposes to construct a battery energy storage system (BESS) within the fence line of their existing Mariposa Energy Project (MEP) site. The Project is called the Nightshade BESS and will be located at 4887 Bruns Road, Byron, California.

1.1 Project Owner/Operator (Name, Address, Phone)

Mariposa Energy LLC
633 W. 5th Street, 27th Floor
Los Angeles, CA 90071
(213) 473-0080

Project Contact:
Paul Shepard
Chief Operating Officer
Diamond Generating LLC
(213) 830-2220

1.2 General Description

The Nightshade BESS Facility is currently in California Independent System Operator (CAISO) Generator Interconnection Queue Cluster 14. The proposed project is a 100-megawatt-hour (MWh) (25-MW / 4h discharge) BESS. To meet the accelerated project timeline laid out in Order No: 21-0908-2 Diamond Generating LLC has partnered with Mitsubishi Power Americas, Inc. (Mitsubishi Power) to guarantee BESS supply. Mitsubishi Power will supply full design and turnkey Engineering, Procurement, and Construction (EPC) of the BESS, including a battery management system and an energy dispatch management system for a fully functional project up to the utility point of connection. The project has site control and can be fully constructed and ready to be online by October 31, 2022. Ability to meet this date is contingent on implementation of an expedited interconnection process as well as the CEC issuing a license pursuant to Order No: 21-0908-2.

1.2.1 BESS Engineering Design – Turnkey

Mitsubishi Power's typical BESS includes the required Turnkey BESS scope including battery storage enclosures and Power Conversion System (PCS) through medium voltage step up transformers, high voltage step-up transformers, integration into the existing substation(s), Energy Management System (EMS) with SCADA and Master Fire Panel, construction, installation and commissioning.

The proposed BESS includes battery enclosures produced by a global leader in the design and manufacture of Lithium Ion Energy Storage Systems. The battery energy storage enclosures will be provided in standard sized twenty-foot long International Organization for Standardization (ISO) containers and may be shipped fully populated to the project site, resulting in reduced shipping costs and labor required for installation.

The Inverter and Medium-Voltage (MV) Transformer may be provided together within a mechanically and electrically integrated skid. By providing a pre-integrated package, the number of discrete components delivered, installed, and commissioned is reduced, providing additional advantage during construction and system installation, resulting in lower EPC cost and better overall value.

Site Engineering, Construction and Installation can be performed in accordance Mitsubishi Power's quality assurance program. Mitsubishi Power would be responsible to procurement of all high-power equipment beyond the medium voltage step up transformer where their strength in power electronics may reduce risk and help assure system compatibility when integrated with the grid.

1.2.2 BESS Technology Change

The CAISO interconnection process requires specification of the equipment that is planned to be used for the generation / storage facility. The CAISO requires that manufacture specifications and technical data sheets be provided with the Interconnection Request so that technical parameters included in power flow modes can be validated. The primary and most influential components of a storage project related to the interconnection study include the main step-up transformer and the inverters. The actual DC storage elements (i.e. batteries) are of lesser concern as most lithium-ion batteries have very similar characteristics and their interaction with the utility AC electric system is isolated via the inverters. Consequently, it is a minor modification to replace the batteries with a different manufacture (i.e. change from Tesla to Mitsubishi, or to something else). Again, this is because the net impact change to the CAISO study will not change. The CAISO should be informed of the change so it can be memorialized in the Interconnection Agreement but should not cause the need for any re-study or significant material modification assessment.

In the case of the main GSU or the inverters, the change may be considered a material change because the characteristics of the equipment may result in the CAISO study to be come obsolete. For example, if the main GSU impedance is changed from 9% to 12%, the power flow will be different due to the impedance change. If the inverters are changed, the main concern is the contribution of short circuit current. While most inverters supply short circuit current on the order of 1.0 to 1.25% of the rated output, some may be as high as 1.5 or 2.0% of rated output. A change such as this will be considered a material modification that the CAISO will require it be assessed. From a practical perspective, small changes should not be an issue so long as the initial and changed parameters remain relatively similar.

1.2.3 Design Overview

The Mitsubishi Power solution has many advantages:

- The system design is typically based on a compact Energy Storage Enclosure designed for multi-hour discharge and charge cycling. Depending on specific needs, the enclosures can be delivered completely assembled and fully factory tested, with no battery module installation work required on site.
- The battery design consists of a base unit housing the DC connection panel and battery racks, and expansion units which each provide additional parallel battery racks. The BESS design utilized to meet requirements will include a building block consisting of one base unit along with expansion units connected to each inverter input.
- All battery enclosures include an integrated fire protection system including visible and audible alarms, ventilation, temperature sensors, smoke sensors, gas detectors, and dry standpipe for external fire department connection.
- The battery solution utilizes Lithium Iron Phosphate (LFP) cells which are cost effective, have a long cycle life, and have very low risk of thermal runaway, releasing one-sixth the heat compared to typical Nickel Manganese Cobalt (NMC) cells.

The inverter and MV transformer can be provided together within a mechanically integrated and pre-connected skid, providing additional construction and system integration benefits. The inverters are electrically connected as two separate units.

1.3 Compliance with criteria in Paragraph 11 of Governor's July 30, 2021 Proclamation of State of Emergency

Per Paragraph 11 of the Proclamation of State of Emergency, this proposed BESS Project will exceed both the 20 MW and two-hour discharge requirements (delivering 25 MW over a 4-hour discharge period).

Diamond Generating has obtained Mitsubishi Heavy Industry OEM commitments, project site control, and EPC commitments that will enable the project to be placed in service and able to deliver net peak energy by October 31, 2022.

Ability to meet this deadline contingent on implementation of an expedited interconnection process as well as the CEC issuing a license pursuant to Order No: 21-0908-2.

1.4 Structure dimensions (size and height), plan and profile

The size of the facility is compact and consists of modular components. The facility components are less than 10-feet in height and will be installed on the existing site. All new components will be shorter in height than the existing four, 80-foot stacks. A Site Plan layout drawing is included in Attachment 1.

1.5 Rendering of proposed facility

A rendering of the proposed facility is provided in Attachment 2.

1.6 Maximum foundation depth, cut and fill quantities

Foundations will be designed to support the weight of the equipment, plus operating loads, in additional to the imposed loads due to wind or seismic.

The proposed project site area will be graded to near flat. The site elevation will be determined based on the existing topography, and a balanced cut and fill program.

1.7 Conformance with California Building Code

The Nightshade BESS will be designed and constructed in accordance with all applicable local, state and federal design standards commonly used in the BESS facilities. These standards will include specific criteria as it applies to the State of California and the County of Alameda and will encompass seismic design standards as they pertain to the site.

1.8 Proposed operation (hours per year)

The Nightshade BESS will operate up to 365 days per year with a 4 hour charging and 4 hour discharge cycle each day.

1.9 Expected on-line date

Nightshade BESS is expected to be on-line and be ready for commercial operation by October 31, 2022. It is anticipated that construction will require approximately 8 months, provided that the project can be provided expedited consideration in the electric interconnection process. In the event of a delay in electric interconnection of the facilities, it is considered that the construction period could be delayed up to 26 months while waiting on the CAISO Cluster 14 Supercluster Interconnection Procedures.

1.10 Proposed duration of operation (years)

It is anticipated that will an appropriate Long Term Service Agreement, battery recycling, and facility augmentation that the facilities project life is 45-years.

1.11 Identify transmission interconnection facilities

The physical electrical interconnection for the facility will be to the existing 13.8kV switchgear bus utilizing open breaker positions.

1.12 Transmission interconnection application/ proof of interconnection authorization by October 31, 2022

Nightshade BESS is currently part of the Cluster 14 Supercluster. The application is provided in Attachment 3.

1.13 Off-site transmission facilities to be used, if known

The proposed BESS would be tie into the existing facility GSUs in the MEP switchyard and would be interconnected to the existing Kelso substation 230 kV bus.

1.14 Water Supply

The MEP site uses fresh raw water supplied by Byron-Bethany Irrigation District (BBID). The BESS equipment will not require water and will not add to MEP site water use. BESS operations and maintenance staff (up to one full-time position) will not significantly change MEP domestic water use.

2. Site Description

2.1 Site address (street, city, county)

4887 Bruns Rd, Byron, Alameda County

2.2 Assessor's parcel number

Assessor’s Parcel No. 99B-7050-1-10.

2.3 Adjacent Property

Names and addresses of all property owners within 1,000 feet of the project site and 500 feet of related facilities have been provided in electronic mail merge format in Attachment 4.

2.4 Existing site use

Site is currently used for power generation.

2.5 Existing site characteristics (paved, graded, depth and extent of previous disturbance, etc.)

The site is currently used for power generation, this portion of the site is open area with gravel. Based on MEP construction grading and drainage plan drawings, non-native fill placement between the GSU transformers ranges from approximately one to eight feet, with fill depth increasing to the north.

2.6 Layout of site (include plot plan)

The BESS will be constructed within the fence line in the areas between the existing 13.8kV – 230kV 70 MVA GSU transformers for Units 600, 700, 800 and 900. A site plan is provided in Attachment 1.

2.7 Zoning and general plan designations of site and linear facilities

The site is currently used for Power Generation Power generation is a permitted use within this zone.

2.8 Ownership of site (name, address, phone)

Owner:
Kelso Landworks LLC

Lessee:
Mariposa Energy LLC
633 W. 5th Street, 27th Floor
Los Angeles, CA 90071
(213) 473-0080

2.9 Status of site control

The Nightshade BESS site is on a portion of land already leased by Mariposa Energy LLC.

2.10 Equipment laydown area, and the size and location of temporary buildings, storage, and temporary and permanent parking

The project will utilize staging areas in between the turbine generator sets for battery enclosures. The area to the north of the warehouse will be used for general construction laydown and staging area. The project will utilize off-site administrative and warehousing facilities as needed. This need has not yet been determined.

3. Construction Description

3.1 Construction schedule

Construction will require approximately 8 months, provided that there are no delays in the electric interconnection process. In the event of a delay in the electric interconnection of the facilities, it is considered that the construction period could be delayed up to 26 months. Nightshade is expected to be on-line and ready for commercial operation by October 31, 2022.

3.2 Workforce requirements (peak, average)

At the beginning of the project, the construction team will consist of approximately 5 workers. The team will grow to be 15 over the first four weeks of the construction schedule. During the following 6 months, the construction team will remain approximately 25. During the last four weeks of construction, the team will be reduced to 10. It is anticipated that most of the construction workers will not be expected to relocate. Construction activities will not contribute to a significant increase in the population of the project area.

4. Power Purchase Contract (DWR, ISO, other)

4.1 Status of negotiations and expected signing date

Diamond Generating is in ongoing discussions with the investor-owned utilities Southern California Edison, San Diego Gas and Electric and Pacific Gas & Electric regarding energy, ancillary services and Resource Adequacy. In addition, DGC maintains in contact with the Community Choice Aggregators for these same services and is confident they would have in place contracts in place for an October 31, 2022 COD.

5. Environmental and Regulatory Setting

Provide a detailed description of the existing physical conditions and character for each topical section below, including natural and man-made features.

See Sections 6.0 through 18.0, as applicable.

Provide a detailed description of all local, state and federal laws, ordinances, regulations and standards (LORS) and agency jurisdiction that would otherwise be applicable to the project (except for the CEC's jurisdiction) and an analysis of the project's compliance with each.

A list of applicable LORS for each discipline is provided in Attachment 5.

6. Air Emissions

This section discusses the potential air quality and climate change impacts associated with construction and operation of the Nightshade BESS. As described in Section 1.0, the Nightshade BESS will be constructed in space available between the existing equipment on the Mariposa Energy Project site with a combined disturbance footprint of approximately 0.6 acre. The project is located in Byron, California, under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The air pollutants of concern for this project are criteria pollutants, for which ambient air quality standards exist, and greenhouse gases (GHG). The criteria pollutants evaluated include the following: reactive organic gases (ROG), as a precursor to ozone; carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}); and particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$).

6.1 A description of the air quality impacts resulting from construction of the project.

Potential impacts to air quality and climate change were evaluated based on the proposed project's construction criteria pollutant and GHG emissions, respectively. A project that generates emissions exceeding the applicable thresholds of significance would be considered to have a significant impact on air quality and climate change and would require mitigation.

Criteria pollutant and GHG emissions from activities associated with construction of the Nightshade BESS, including onsite fugitive dust, onsite construction equipment exhaust, and on- and offsite vehicle exhaust, were estimated using the California Emissions Estimator Model (CalEEMod; version 2020.4.0[1]), as recommended by the BAAQMD.[2] CalEEMod incorporates the California Air Resources Board's (CARB) emission factor models for off-road construction equipment (OFFROAD) and on-road vehicles (EMFAC), as well as portions of the U.S. Environmental Protection Agency's (EPA) *AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors*.

To the extent possible, site-specific data were used as input to CalEEMod. Where site-specific data were not available, defaults provided within CalEEMod for the project location and size were assumed representative. The following assumptions were made to accommodate entry of site-specific data into CalEEMod:

- The BAAQMD jurisdiction was used as the project location, which defines the wind speed, precipitation frequency, and material movement parameters within CalEEMod.

[1] CalEEMod is a statewide computer model developed by BREEZE Software, a division of Trinity Consultants, in collaboration with the South Coast Air Quality Management District to quantify emissions associated with the construction and operation from a variety of land use projects, considering variations in regional climate and policy (BREEZE Software, 2021; SCAQMD et al., 2011).

[2] Refer to https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools.

- The climate zone was selected to be 4, which is the climate zone value for Byron, California, as listed in Appendix F of the *CalEEMod User's* Guide (BREEZE Software, 2021).
- Urbanization in the project vicinity can be characterized as rural.
- The General Heavy Industry land use category was assumed to best represent the project site, which is collocated with the existing Mariposa Energy Project. The project area assigned to this land use category was set equal to the entire BESS site (0.6 acres).
- Construction activities are expected to last up to 10 months, with specific construction equipment, vehicle, and worker counts provided for each month of activity. Accordingly, each month was listed as its own phase within CalEEMod, assuming 20 days of construction activity per month.
- The Phase Type for each construction month was described as Grading to allow for potential ground disturbance metrics.
- Water trucks and onsite dump trucks were assumed to be best represented by the Off-Highway Truck category.
- All construction equipment was assumed to operate an average of 8 hours per day.
- The CalEEMod default horsepower and load factors were assumed appropriate for selected construction equipment.
- It was assumed that the entire project footprint (0.6 acres) is fully disturbed during months in which Graders are used.
- The project does not include any excavation and offsite transport of hazardous materials, nor is there any need for soil imports or exports, as any soil excavated will be redistributed onsite. Accordingly, no material imports or exports and no material haul truck trips were included.
- The CalEEMod default trip lengths for workers and vendor deliveries were assumed appropriate, assuming workers and vendors are local.

Table 6-1 presents the criteria pollutant thresholds that were used for evaluating the project's significance relative to air quality, as well as the estimated project construction emissions without mitigation. The air quality significance thresholds were taken from the Table 2-1 of the BAAQMD's *California Environmental Quality Act (CEQA) Air Quality Guidelines* (BAAQMD, 2017).

Table 6-1. Unmitigated Criteria Pollutant Emissions from Project Construction Compared to the BAAQMD Significance Thresholds

	ROG	NO_X	CO	SO_2	PM_{10}[a]	$PM_{2.5}$[a]
Maximum Daily Emissions (lb/day)[b]	2.38	21.6	18.0	0.05	1.08	0.83
Maximum Annual Emissions (tons/year)	0.10	0.90	0.82	0.002	0.05	0.04
BAAQMD Average Daily Thresholds (lb/day)	54	54	N/A	N/A	82	54
Exceeds Threshold (Y/N)?	No	No	N/A	N/A	No	No

[a] These estimates conservatively include fugitive dust emissions, even though the BAAQMD's thresholds are specific to exhaust emissions only.

[b] The maximum daily emissions were conservatively used for comparison to the BAAQMD's thresholds, even though the BAAQMD's thresholds are for average daily emissions.

N/A – Not applicable (i.e., a threshold does not exist for this pollutant)

As demonstrated in Table 6-1, the maximum daily ROG, CO, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ emissions from construction activities are below the BAAQMD's CEQA thresholds of significance. As a result, the

proposed construction activities at the Nightshade BESS site are not expected to have a significant impact on air quality and will not require mitigation.

The BAAQMD's *CEQA Air Quality Guidelines* do not provide a construction-related significance threshold for evaluating GHGs. For completeness, the project's construction GHG emissions were conservatively compared to the most stringent operational-related significance threshold of 1,100 metric tons of carbon dioxide equivalent (CO_2e) per year, which is intended for projects other than stationary sources (BAAQMD, 2017). As estimated using CalEEMod, the project is expected to emit 204 metric tons of CO_2e per year during construction, without mitigation. This result is well below the BAAQMD's CEQA significance threshold of 1,100 metric tons of CO_2e per year; therefore, the proposed construction activities at the Nightshade BESS site are not expected to have a significant impact on climate change and will not require mitigation.

During construction, the toxic air contaminant of predominant concern is diesel particulate matter (DPM), which is emitted in the exhaust of diesel-fueled construction equipment and vehicles and most often represented as PM_{10} emissions. Because the project's construction-related PM_{10} emissions are well below the BAAQMD's CEQA threshold of significance, without mitigation, it was assumed that public health impacts associated with DPM would be less than significant.

6.2 A description of any sources that have the potential for air quality impacts during operation.

Once construction is complete, ongoing operation and maintenance of the Nightshade BESS is expected to require no more than one full time-equivalent staff and limited deliveries. These requirements are considered to present an insignificant change relative to the current requirements for the Mariposa Energy Project. Additionally, the Nightshade BESS will not include any new stationary sources (e.g., emergency generators and fire pumps). As such, operational emissions were not estimated and are not expected to have a significant impact on air quality or climate change.

6.3 Project design measures proposed to mitigate potential impacts.

Although not required, based on the results presented in Table 6-1 above, the project is expected to implement the following fugitive dust mitigation measures, consistent with the Best Management Practices (BMPs) presented in Table 8-2 of BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2017), as project design measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved surfaces will be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling [California Code of Regulations, Title 13, Section 2485]). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- A publicly visible sign will be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. BAAQMD's phone number will also be visible to provide compliance with applicable regulations.

The above project design measures were incorporated into CalEEMod by assuming exposed areas were watered at least twice per day. Table 6-2 presents the estimated project construction emissions with mitigation, compared to the criteria pollutant thresholds of significance. As shown, incorporation of mitigation further reduces the PM_{10}, and $PM_{2.5}$ emissions from construction activities. Mitigated GHG emissions were not assessed as incorporation of daily watering is not expected to reduce the project's GHG emissions.

Table 6-2. Mitigated Criteria Pollutant Emissions from Project Construction Compared to the BAAQMD Significance Thresholds

	ROG	NO_X	CO	SO_2	PM_{10}[a]	$PM_{2.5}$[a]
Maximum Daily Emissions (lb/day)[b]	2.38	21.6	18.0	0.05	1.06	0.83
Maximum Annual Emissions (tons/year)	0.10	0.90	0.82	0.002	0.05	0.04
BAAQMD Average Daily Thresholds (lb/day)	54	54	N/A	N/A	82	54
Exceeds Threshold (Y/N)?	No	No	N/A	N/A	No	No

[a] These estimates conservatively include fugitive dust emissions, even though the BAAQMD's thresholds are specific to exhaust emissions only.

[b] The maximum daily emissions were conservatively used for comparison to the BAAQMD's thresholds, even though the BAAQMD's thresholds are for average daily emissions.

N/A – Not applicable (i.e., a threshold does not exist for this pollutant)

6.4 A statement of whether any phases of the project (construction, operation, etc.) or onsite equipment would require local air district permits or evaluation.

As stated above, the Nightshade BESS will not include any new stationary sources (e.g., emergency generators and fire pumps) and will, therefore, not require permitting under BAAQMD Regulation 2, Rule 2. Furthermore, construction is itself exempt from permitting and evaluation under BAAQMD Rule 2-1-113.2.18.

6.5 References.

Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Guidelines*. May.

BREEZE Software, a division of Trinity Consultants (BREEZE Software). 2021. *CalEEMod User's Guide*. June.

South Coast Air Quality Management District, Bay Area Air Quality Management District, Sacramento Metropolitan Air Quality Management District, San Joaquin Valley Air Pollution Control District, Santa Barbara County Air Pollution Control District, and San Luis Obispo County Air Pollution Control District (SCAQMD et al.). 2011. *Technical Paper: Methodology Reasoning and Policy Development of the California Emission Estimator Model*. July.

7. Biological Resources

This section discusses the potential biological resources impacts associated with construction and operation of the Nightshade BESS project. As described in Sections 1.0 and 2.0 (Project Description and Site Description, respectively), the project will be constructed on a combined approximately 0.6-acre footprint within the existing MEP site, located near Byron, California. Impacts associated with the construction and operations and maintenance of the MEP site were previously analyzed during the permitting stages of that project. This included the purchase of mitigation credits to offset the permanent impacts associated with construction of the project, and installation of a permanent barrier around the facility to exclude wildlife. The following subsections describe potential protected species and habitats in proximity to the Project and potential impacts to those species, designated critical habitat, modification to existing landscaping, and proposed avoidance and minimization measures for the work.

7.1 Protected species and their habitat (e.g., migratory birds, sensitive, candidate, rare, threatened, or endangered) on site, adjacent to site (up to a minimum of 1,000 feet) and along right of way for linear facilities.

Based on reviews of prior permitting documents, the California Natural Diversity Database, and United States Fish and Wildlife Services Information Planning and Consultation tool there are several state- and federally listed species that may occur in the vicinity of the Project (CDFW 2021; CH2M 2009, 2013, and 2015; USFWS 2011, 2022). These include the San Joaquin kit fox (*Vulpes macrotis mutica*), California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), Swainson's hawk (*Buteo swansonii*), western burrowing owl (*Athene cunicularia*), and listed vernal pool branchiopods. However, because all construction activities associated with the Project would occur within the existing MEP site, no temporary or permanent impacts to these species habitats are anticipated. In addition, mitigation for permanent impacts to habitat for California red-legged, California tiger salamander, San Joaquin kit fox, burrowing owl, and Swainson's hawk was previously purchased for the MEP site.

Based on prior site surveys suitable nesting trees occur within the California Department of Fish and Wildlife recommended 0.5-mile buffer for protection of Swainson's hawk. In addition, burrowing owl nesting habitat occurs within the immediate project vicinity. Suitable upland habitat for San Joaquin kit fox, California red-legged frog, and California tiger salamander occurs within the adjacent lands to the Project. There is an abundance of small mammal burrows that provide refugia for California red-legged frog and estivation habitat for California tiger salamander. However, following construction of MEP, a permanent fine mesh fence was installed around the perimeter to exclude wildlife with a focus on California red-legged frog and California tiger salamander. Due to this, these species will not be present within the project footprint. This exclusion fencing was installed to comply with Measure 25 in the MEP Biological Opinion and Condition of Certification 10 of the California Energy Commission Certification.

MEP has been in continuous operation from 2012 onward with a regular human presence, active operations and maintenance, and replacement of existing equipment within the fenced boundary, so wildlife in proximity to the Project is anticipated to be habituated to human presence and noise associated with facility. Due to this, potential impacts associated with construction of the BESS would be anticipated to have minimal impacts to wildlife located outside of the fence line, and no impacts to wildlife with the exception of potential ground nesting birds would be anticipated within the fence line. Applicant Proposed Measures BIO-1 through BIO-3 would further decrease the already less than significant impacts to protected species and their habitat.

7.2 Designated critical habitat or other sensitive or protected habitat on site, adjacent to site, and along right of way for linear facilities (e.g., wetlands, vernal pools, riparian habitat, open space, conservation easements, or preserves).

The proposed BESS site is located entirely within the graveled and fenced boundary of the MEP site, so there are no sensitive or protected habitats on site. Vegetation surrounding MEP is non-native annual grasslands, and the nearest sensitive or protected habitat is a series of wetlands and vernal pools located approximately 1,000 feet northeast of the BESS site. Direct and indirect impacts to these habitats are not anticipated. The MEP site is located within critical habitat unit CCS-2B for California red-legged frog, however there is no suitable habitat at the proposed BESS location, and they are excluded from occurring by the permanent fine mesh fencing that surrounds the MEP site.

7.3 Proposed new landscaping or modification to existing landscaping. Landscape plan should include use of plants compatible with local landscape ordinances and avoid use of invasive plants as identified in the current California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory.

The proposed BESS site is located entirely within the fenced and paved or graveled MEP site, and there will be no impacts to vegetation or landscaped areas. Following completion of the project, additional gravel or other surfacing will be laid down as necessary around the BESS enclosures. No landscaping will be impacted, and no new landscaping is proposed.

7.4 Proposed mitigation as applicable.

As the BESS construction activity will be entirely within the fenced and graveled footprint of the MEP site, it will not create new impacts to biological resources. In addition, as the MEP site is actively operating and has regular human presence and disturbance associated with operations and maintenance, the incremental increase in activity associated with the installation and operations and maintenance of the BESS will not appreciably increase background disturbance levels to adjacent areas. As such, biological avoidance and minimization measures focus on worker environmental awareness training, and pre-construction nesting bird surveys for the area immediately surrounding the project work areas. These measures are included below:

BIO-1 **Worker Environmental Awareness Program.** Prior to construction activities associated with the Nightshade BESS project, a Worker Environmental Awareness Program (WEAP) will be conducted for on-site construction personnel prior to the start of construction activities. The WEAP will explain the mitigation measures and any other measures developed to prevent impacts on protected species, including nesting birds. The module will also include a description of protected species and their habitat needs, as well as an explanation of the status of these species and their protection under the federal and California Endangered Species Acts, and other statutes. A brochure will be provided with color photos of sensitive species, as well as a discussion of any permit measures. The WEAP will include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines, and it will be administered by a competent individual(s).

BIO-2 **Pre-Construction Nesting Bird Surveys.** Pre-construction nesting bird surveys shall be conducted by a qualified biologist if construction activities will occur from February 1 through August 31. The surveys will cover all potential nesting habitat in the project site and within 100 feet of the Project footprint for passerines, 500 feet for non-special-status raptors and burrowing owl, and ½ mile for Swainson's hawk. The surveys must be conducted within the 14-day period preceding initiation of construction activity. Additional follow-up surveys may be

required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

If active nests are detected during the survey, a no-disturbance buffer zone (to be determined by a qualified biologist) and monitoring plan shall be developed. The monitoring plan shall include avoidance measures and remedial actions if the avoidance measures are not successful. Pre-existing conditions will be taken into account when determining the final setback distance of these no-disturbance zones, these may include topography, visual obstructions (such as buildings), existing noise levels, and existing human activity. Measures to minimize impacts to active nests may include but aren't limited to visual screening or placement of materials to block line of site to the nest, and biological monitoring. Work may be allowed to proceed within the no-disturbance zones if a biological monitor is present and the nesting birds are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or abandoning the nest for non-foraging behaviors. Over time it may be determined that biological monitoring may no longer be necessary due to the nesting birds acclimation to construction related activities.

If active burrowing owl nests are detected, no disturbance will occur within approximately 160 feet of occupied burrows during the non-breeding season of September 1 through January 31 or within 250 feet during the breeding season without agency approval. The California Department of Fish and Wildlife will be coordinated with if disturbances are required within these buffers of an active burrowing owl nest.

If birds begin nesting in proximity to active construction areas, or if burrowing owl move into burrows in proximity to the project during active construction, they will be assumed to be habituated to construction activities and no-disturbance zones and biological monitoring will not be required.

BIO-3 **General Construction Measures.** The following general construction measures will be implemented for the project.

- Vehicles will be confined to established roadways and pre-approved access roads. Access routes and number and size of staging areas and work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly marked prior to initiating project construction.
- Trash dumping, firearms, open fires (such as barbecues), hunting, and pets will be prohibited in the project area.
- To avoid attracting predators of the target species of concern, the project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s).

7.5 References

California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database. Biogeographic Data Branch, Sacramento, California. https://wildlife.ca.gov/Data/CNDDB. Data downloaded October 2021.

CH2M. 2015. Preconstruction Survey Results for Western Burrowing Owl, San Joaquin Kit Fox, and American Badger for the Mariposa Energy Project's (09-AFC-03) Temporary Water Tanks.

CH2M. 2013. Mariposa Energy Project Biological Resources Post-Construction Compliance Monitoring Report (BIO-6).

CH2M. 2009. Mariposa Energy Project Application for Certification.

USFWS. 2011. Formal Consultation for the Mariposa Energy Project (MEP), Alameda County, CA.

U.S. Fish and Wildlife Service (USFWS). 2021. Environmental Conservation Online System: Information for Planning and Conservation (IPaC). https://ecos.fws.gov/ipac/. Data downloaded October 2021.

8. Cultural Resources

8.1 Advance contact with and notification of Native American agencies

On October 19, 2021, Jacobs Engineering Group, Inc. (Jacobs) requested from the California Native American Heritage Commission (NAHC) a sacred land file search request and a list of Native American individuals and groups for the Nightshade project footprint and a one-mile radius surrounding it. The NAHC recently responded on December 7, 2021 that no Native American cultural resources were located in the project footprint or immediate area and provided a list of eighteen Native American individuals and groups that may have knowledge of cultural resources in the project area. The NAHC response is included as Attachment 6.

On January 7, 2009, a sacred land file search request and a list of Native American individuals and groups were requested from the NAHC as part of the MEP, which overlaps with the Nightshade project footprint. The NAHC responded on February 5, 2009 that no Native American cultural resources were located in the MEP footprint or immediate area and provided a list of eight Native American individuals and groups that may have knowledge of cultural resources in the project area. Letters were sent to these representatives on April 2, 2009 and no responses were received.

8.2 Identification of known cultural resources

A cultural resources records search and a field survey were completed for the MEP footprint and up to a 0.5-mile radius study area in 2009, which also included the Nightshade project footprint.

The records search included a review of all known cultural resources within 0.5-mile radius study area surrounding the MEP footprint. Sources reviewed included the California Historical Resources Information System (CHRIS); National Register for Historic Places (NHRP); California Register of Historical Resources (CRHR); California Historic Landmarks; California Points of Historic Interest; East Contra Costa Historical Society and Museum; Tracy Historical Museum; Alameda County Historical Society; and Amador Livermore Valley Historical Society. As a result of the records search, no cultural resources were identified within the MEP study area and the Nightshade project footprint.

A geoarchaeological assessment completed for the MEP concluded that there is a low likelihood that buried archaeological deposits would be encountered within the MEP area during project construction.

The archaeological and architectural survey did not identify any cultural resources within the MEP footprint, which also includes the Nightshade project footprint. Within a 0.5-mile radius study area, four built environment resources were identified, consisting of three historic-era ranch properties (P-01-10436, P-01-10437, and one un-numbered property) and one irrigation canal (P-01-010445). The California Energy commission determined these resources would not be directly or indirectly affected by the construction and operation of the MEP; therefore, they would also would not be directly or indirectly affected by the Nightshade project.

Topographic maps from 1914 to 2018 were reviewed as well as historic Aerial photographs from 1949 to 2018. No significant development was seen on the topographic maps or historic aerial photographs.

Archaeological construction monitoring was conducted from July 2011 until August 2012 for ground disturbing activities within the MEP. No cultural resources were encountered during monitoring.

Based on this information, no known cultural resources are located in the Nightshade project footprint.

8.3 Proposed mitigation as applicable

Prior to construction, all construction personnel will be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and the protection of archaeological resources during construction. The training material may be pre-recorded, available via PowerPoint presentation, or delivered in-person. Signatures will be collected for all personnel that complete the training.

If potential cultural resources are identified during construction activities, all work within 100 feet of the find will be stopped and a qualified archaeologist will be notified. The archaeologist will assess the find and work with the construction team to avoid the resource. In the event that avoidance is not feasible, then impacts may be mitigated through data recovery or other means, based on coordination and direction from the California Energy Commission.

If human remains are discovered during construction activities, the County Coroner must be notified within 48 hours, and there should be no further disturbance to the site where the remains were found until the process as described in Public Resources Code 5097.98 has been completed.

9. Geology/Soils/Paleontology

Are any excavations, such as foundation improvements (piles, soil stabilization, spread footings, slabs, etc.) or buried utilities expected to penetrate below engineered fill or previously disturbed soil? If yes, provide estimate of the location, depth, and spatial extent of the excavation.

The Nightshade BESS will be constructed within the existing MEP fence line in the areas between the existing 13.8kV – 230kV 70 MVA GSU transformers for Units 600, 700, 800 and 900. Project related excavations are expected to take place within a combined 0.60-acre footprint area that has been previously disturbed and graded during MEP construction. The foundations and conduit excavation depths are not expected to exceed five feet. Based on MEP construction grading and drainage plan drawings, non-native fill placement between the GSU transformers ranges from approximately one to eight feet, with fill depth increasing to the north. Therefore, the southernmost BESS foundation excavations may penetrate non-native fill depending on required foundation depth.

Are there any known paleontologic sites at or in the vicinity of the project footprint?

There are no known paleontological sites at or in the vicinity of the Night Shade BESS project footprint. No paleontological resources were discovered within the proposed project boundaries during field reconnaissance conducted for the AFC. Additionally, the Project is located within areas of previously disturbed soils from MEP construction.

If any excavations are planned that penetrate previously undisturbed soil, please submit Paleontology Mitigation Protection Plan (PMPP), which includes identification of Principal Paleontologist.

If excavation depths are anticipated to penetrate undisturbed soil based on foundation design, Mariposa Energy will update the MEP PMPP and identify a Principal Paleontologist to address Nightshade construction.

Is the project located on a geologic unit or soil that is unstable, or that would become unstable because of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? If yes, provide details of the geologic and/or seismic hazards affecting the project.

The project effects on geology and soils will be effectively mitigated through the final engineering design process. The Nightshade BESS project would not result in landslides, lateral spreading, subsidence, liquefaction or collapse.

Proposed mitigation as applicable.

Prior to construction, all construction personnel will be trained by a qualified paleontologist regarding the recognition of possible paleontological resources and the protection of paleontological resources during construction. The training material may be pre-recorded, available via PowerPoint presentation, or delivered in-person. Signatures will be collected for all personnel that complete the training.

If potential paleontological resources are identified during construction activities, all work within 100 feet of the find will be stopped and a qualified paleontologist will be notified. The paleontologist will assess the find and work with the construction team to avoid the resource. In the event that avoidance is not feasible, then impacts may be mitigated through data recovery or other means, based on coordination and direction from CEC Staff.

10. Hazardous Materials

10.1 Type and volume of hazardous materials on-site.

Lithium Iron Phosphate Batteries, classified as Class 9 – Lithium Batteries. The Nightshade BESS will have 20 LFP cells per module and will be augmented over the life of the project to counter degradation. At end of life there will be 170,100 LFP cells installed.

10.2 BSS battery chemistry and Safety Data Sheet(s).

The proposed battery system relies on LFP chemistry. The battery Safety Data Sheet is provided in Attachment 7.

10.3 A description of the fire protection/fire alarm systems to be used for the BSS.

The enclosure is outfitted with a Stat-X Fire Suppression System, meeting the requirements of NFPA 855. This is an NFPA 2010 compliant aerosol type fire suppression system with capability for fire suppression for Class A (surface), B, and C hazards.

10.4 A description of the thermal management system used to prevent thermal runaway.

The chemistry selected for use at the Nightshade BESS facility is LFP. This chemistry has a very low risk of thermal runaway, releasing one-sixth the heat compared to typical NMC cell chemistry. The Battery Management System (BMS) is the main risk mitigator against a thermal runaway event. The BMS is designed to monitor and control operation of the BESS, including monitoring temperature of the cells. Close monitoring will allow the BMS to shut down, or trip, the BESS in the event that temperature anomalies are detected before an event advances to the thermal runaway stage. In the event of a thermal run-away event the enclosures are outfitted with a dry-pipe interface. This connection allows for an enclosure, once isolated, to be pumped full of water, without opening the enclosure, if required.

10.5 Discussion of UL 9540 compliance.

The LFP Racks are UL9540A Listed and the proposed BESS units will be installed with separation distances of 6 feet between units and between units and any walls which is double the required 3 foot

minimum spacing. The test report is supplied by the vendor when the BESS enclosure ships, to minimize laydown areas the project will be utilizing a just in time delivery approach to site. The UL 9540A Test Report for the chosen technology on the module level will be available 3/15/2022 and rack level 4/30/2022.

10.6 Discussion of NFPA 855 compliance.

10.6.1 GSU Transformer Fire Protection

The new BESS blocks are located within the existing plant boundary in the areas between the existing 13.8kV – 230kV 70 MVA GSU transformers for Units 600, 700, 800 and 900. These transformers are outdoor oil-Insulated, each assumed to have greater than 5000 gallons of oil and are currently separated from each other and/or other plant buildings/structures by a minimum (line-of-sight) distance of 50 feet as required by NFPA 850. When this minimum distance cannot be met, a 2-hour fire barrier would be required per NFPA 850 6.1.4.1, *'Outdoor oil-insulated transformers should be separated from adjacent structures and from each other by firewalls, spatial separation, or other approved means for the purpose of limiting the damage and potential spread of fire from a transformer failure.'*

Since the new BESS will be provided in outdoor enclosures that will be serviced and maintained from the outside and not the walk-in style, these are typically considered a piece of equipment and not a building/structure. With respect to fire protection of the BESS equipment from a potential GSU transformer fire, firewalls are not required based on NFPA 850.

Although not required as an additional risk mitigation consideration due to the expense and long lead times associated with the new BESS and the existing GSU transformers a firewall will be included between these systems and the BESS to provide an extra measure of fire protection.

10.6.2 BESS Fire Protection

The outdoor stationary BESS containers are separated from other existing and new equipment and themselves by a minimum 10 feet per NFPA 855 4.4.3.3 and do not require firewalls.

The BESS equipment located within the MEP plant boundary, are considered to be in a 'Locations Near Exposures.' In accordance with NFPA 855 Table 4.4.3 the following fire suppression/protection requirements apply in addition to the spacing requirements and have been included in the design:

- Smoke and Fire Detection interior to each battery enclosure
- Fire control and suppression system
- Water Supply

10.7 A description of the BSS enclosure and dimensions, and the maintenance requirements.

The enclosures are 20-foot-long intermodal containers, they have a one hour fire rating and are about 5.5-feet wide and less than 10 feet tall across all sections and attachments.

Maintenance of the containerized BESS system includes: system software and running state inspection, machine cabinet and environment inspection, air conditioning maintenance and inspection, overall inspection of fire protection system, power circuit and circuit main switch inspection, signal circuit inspection, system cleaning, safety function inspection, grounding reliability inspection, paint maintenance of box appearance, label inspection.

10.8 A description of the explosion control that the BSS would employ.

The gas detector protects battery charging rooms and other locations where motive and stationary batteries are present by monitoring hydrogen gas levels. When the LFP battery fails, hydrogen may be produced. Concentrations of 4% to 75% mixed with air can be explosive. Sparks or hot surfaces can ignite them. The hydrogen gas detector will provide a warning and facilitate dissipation of the hydrogen, by operating alarms and exhaust fans before it reaches the lower explosive limit of 4%.

10.9 A narrative detailing outreach and training with the local fire department to develop standard operating procedures for first responders to implement when confronting a BSS fire.

As part of the commissioning plan, a standard operating procedure and training will be presented to the local fire department.

10.10 A site plan locating fire apparatus access roads, fire water supply, and hydrant locations.

The MEP Emergency site map is provided in Attachment 8. After the installation of the proposed Nightshade BESS Evacuation Assembly Area 2 will be relocated away from the BESS equipment that will be installed in that area in case of the potential hazard.

11. Hydrology and Water Quality

11.1 Wastewater volume, quality, treatment.

The BESS will not generate wastewater.

11.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES).

Wastewater discharge permitting will not be required because no wastewater will be generated or discharged.

Because the construction soil disturbance area is expected to be less than 1.0 acre, Mariposa Energy Generating and their EPC contractor will not be subject to California State Water Resources Control Board Construction General Permit Order 2009-0009-DWQ permit requirements.

11.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy.

Temporary erosion and sediment control measures will be implemented as needed during grading and construction to control sediment discharge. The construction contractor will apply current best management practices (BMPs) as feasible and appropriate for the limited construction disturbance areas.

- Standard perimeter control BMPs will be installed at strategic locations as needed to avoid offsite discharge (e.g., silt fencing and straw wattles).
- All exposed surfaces (e.g., soil piles, graded areas) will be watered two times per day, as needed, to control windblown dust while avoiding runoff.

11.4 Spill Prevention/Water Quality Protection Plans.

The existing MEP spill prevention plan and procedures will be modified to include BESS facility equipment, as applicable.

12. Land Use

12.1 Local land use restrictions (height, use, etc.) applicable to the project.

The local ordinances and policies applicable to the Nightshade BESS Project include the following:

- Williamson Act
- East County Area Plan (ECAP)
- Alameda County Ordinance Code, Title 17: Zoning

Since the Nightshade BESS Project will not have any impacts on the water supply system in Contra Costa County, none of the Contra Costa regulations are referenced for the proposed project.

The proposed facility components will be less than 10-feet in height and significantly shorter that the existing 80-foot exhaust stacks and are in compliance with height requirements of the applicable LORS. The proposed Nightshade BESS Project would be located fully within the existing Mariposa Energy Project 10-acre site and would enhance the capabilities of the existing electrical facilities to support the California Independent System Operator controlled electric grid.

12.2 A discussion of the allowable land uses within the zoning designation of the site.

The electrical facilities located on the site are currently a compatible use under the Williamson Act, which defines “compatible uses” as “…erection, construction, alteration, or maintenance of gas, electric ... facilities … within an agricultural preserve.” The proposed BESS is an additional electrical facility that qualifies under the Williamson Act definition of compatible use. The proposed Nightshade BESS Project would be located within the existing 10-acre Mariposa location, so no additional grazing land would be impacted by the addition of the project.

East County Area Plan (ECAP) of the Alameda County General Plan and Measure D imposed new policies restricting development in eastern Alameda County. Policy 13, within Measure D, allows for construction of public facilities and infrastructure required for permitted development and which have no excessive growth-inducing effect on the East County area. The proposed Nightshade BESS Project would provide additional instantaneous generation to assist in the integration of renewable resources, including wind turbine generators that are already an allowed development in the East County. The Nightshade BESS Project would not have any growth-inducing effects since it will generate electricity into the transmission grid and not the local distribution level.

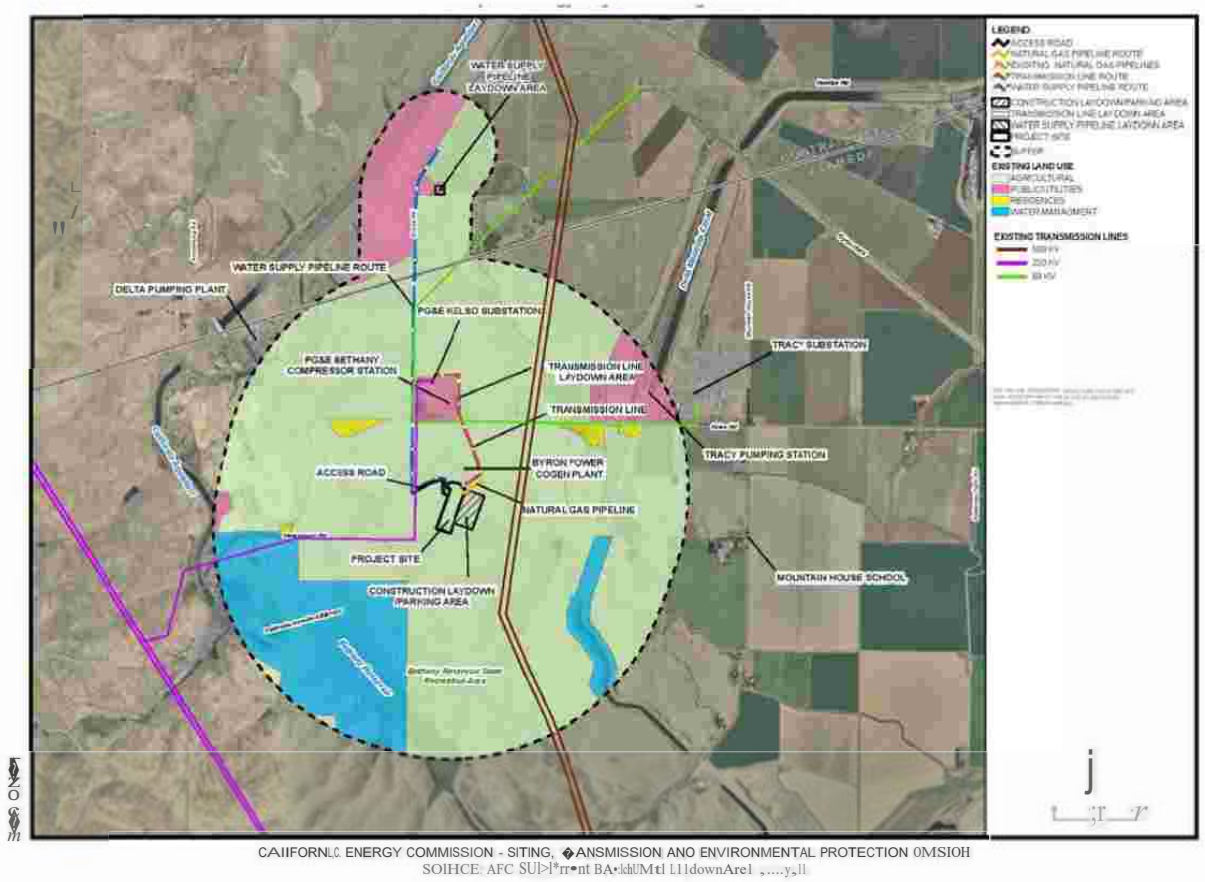


Figure 12-2. Use of adjacent parcels.

There are numerous public utility type uses in the project area which included the Byron Power cogeneration Plant (on the property, 0.1 mile northeast of the power plant, which has been decommissioned), the PG&E Bethany Compressor Station (0.4 mile north of the power plant), the PG&E Kelso Substation (0.5 mile north of the power plant), the Tracy Pumping Station (1 mile northeast of the power plant), the Tracy Substation (1 mile northeast of the power plant), the Delta Pumping Plant and Substation (1 mile northwest of the power plant), the two (2) 500 kV power lines that go from the Tracy to the Tesla Substations (0.25 mile east of the power plant), and the 230 kV power line that goes from Kelso Substation to the Contra Costa Substation (0.25 miles west of the power plant).

In addition to the electrical and gas utility facilities mentioned above, significant water utility infrastructure includes, the California Aqueduct (1.3 miles to the northwest), the Delta – Mendota Canal (0.8 miles to the east), and the Bethany Reservoir (0.8 miles to the south).

12.3 Ownership of adjacent parcels – site and linear facilities.

Adjacent parcel ownership information is provided in Attachment 4.

12.4 Demographics of census tract where project is located (most current available).

2020 Census tract data were reviewed for Census Tract 4511.04 in eastern Alameda County (https://mtgis-portal.geo.census.gov); demographics data are provided in Table 12-1. The total population of Census Tract 4511.04 was reported as 7,028 in 2020.

American Community Survey (ACS) poverty status data were not available for Census Tract 4511.04.

Table 12-1. Census Tract Demographics Data

Category	Percent
Race:	
White	53.4
Black or African American	2.7
Asian	23.3
American Indian and Alaska Native	0.8
Native Hawaiian and other Pacific Islander	0.3
Some other race	6.8
Two or more races	12.7
Hispanic or Latino ethnicity	18.2
Low Income (below poverty level)	NA

Source: 2020 Census data (https://mtgis-portal.geo.census.gov)

13. Noise

This project will not install any noise emitting equipment that will increase noise levels in this area above the equipment already in operation at Mariposa Energy Project, which attenuates to less than 60 dBA at a distance of 1/4 mile from the site.

14. Public Services

14.1 Ability to serve letter from local Fire Authority/ District and responsible law enforcement agency.

See Attachment 9.

14.2 Nearest fire station.

The project will rely on both on-site fire protection systems and local fire protection services. The on-site fire protection system provides the first line of defense for small fires. In the event of a major fire, fire support services to the site would be under the jurisdiction of the Alameda County Fire Department (ACFD). Station #8 in Livermore would provide first response to the facility. The facility may also be serviced by the Tracy Fire Department through a mutual aid agreement.

15. Transmission System Engineering

15.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code.

The project will conform with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Codes.

16. Transportation

This section discusses the potential transportation system impacts associated with construction and operation of the Nightshade BESS project. As described in Section 1, the Nightshade BESS will be within the fence line of their existing Mariposa Energy Project site at 4887 Bruns Road, Byron, California. The project is located outside of the Byron city limits, within unincorporated Alameda County.

Construction activities during the first few months will require crews and equipment for trenching, grading, laying conduit, and pouring foundations. Major BESS equipment deliveries and setting will require a crane (approximately 450 tons) for containers with pre-packaged batteries due to the weight. Once BESS equipment delivery begins, the majority of work will be rolling sets of crews setting of the equipment and installing loose items shipped separately, crews pulling/terminating cables, crews completing testing and cold commissioning.

At the beginning of the project, the construction team will consist of approximately five workers. The team will grow to be 15 over the first four weeks of the construction schedule. During the following eight months, the construction team will remain approximately 25. During the last four weeks of construction, the team will be reduced to 10. It is anticipated that most of the construction workers will not be expected to relocate. Construction activities will not contribute to a significant increase in the population of the project area. There will be up to six on-site vehicles, three off-site vehicles, and 25 construction worker (personal) vehicles accessing the site each day during construction. Depending on specific activities, the maximum number of one-way trips could be a maximum of 60 to 100 vehicle trips/day on the highest-volume day.

Trips during the operations phase will be negligible. There should be no more than one full-time equivalent (FTE) staff during this phase. There will be limited deliveries, and no substantive change relative to current MEP truck deliveries.

16.1 Evaluation of vehicle miles traveled attributable to the project and consistency with local thresholds.

Senate Bill 743, which was codified in Public Resources Code Section 21099, required the California Office of Planning and Research (OPR) to establish new CEQA Guidelines “for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” The new criteria were required to move away from vehicle delay and level-of-service (LOS) and move toward more multimodal concepts “that may include, but are not limited to, vehicle miles traveled (VMT), vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.”

In 2018, Section 15064.3 was added to the CEQA Guidelines to reflect the provisions of Senate Bill 743. The section addresses both land use and transportation projects, and broadly describes the methodology, including the potential for qualitative analysis, used to assess VMT. Agencies are given “broad discretion” to select the methodology for analysis, or even apply a qualitative approach. The OPR prepared a Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018). The guidance addresses

a variety of projects, with the recognition that the approach for evaluating impacts is necessarily project-specific.

The OPR publication Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) is used as reference for best assessing VMT. Alameda County provides a toolkit for assessing VMT impacts, but it is largely focused on development projects (employment and residential). The OPR guidance provides screening thresholds for land use projects guidelines which state that "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact." Therefore, there is no impact associated with VMT because this project would not only generate or attract a small number of new trips (less than ten per day).

There is no specific guidance on assessing temporary VMT impacts during the construction of a project. An average of five truck trips per day would be generated during construction. Even though OPR's VMT threshold criteria guidance is not applicable for assessing VMT changes during construction, there would be fewer than 110 trip per day related to construction activity. There will be no impact related to VMT. Senate Bill (SB) 743 (2013) addresses the limitations of measuring impacts using level of service (LOS) analysis and provides an alternative to using LOS in the environmental review process.

16.2 Transportation Control Plan for roads, transit, and non-motorized travel during construction.

A transportation control plan (TCP), consistent with the size and scope of the Nightshade BESS construction activity, will be developed by updating the MEP TCP and implemented for the BESS project. The transportation control plan will be designed to minimize negative effects associated with project construction on the local and regional transportation systems. The TCP will include measures to:

Use proper signs and traffic control measures in accordance with applicable Caltrans and County requirements.

- Install crossing structures to avoid obstructing roads.
- Coordinate construction activities with appropriate County departments if closures of major roads are necessary.
- Coordinate crossing of State highways with Caltrans in accordance with Caltrans regulations and permit requirements.
- Schedule traffic lane or road closures during off-peak hours whenever possible.
- Limit vehicular traffic to approved access roads, construction yards, and construction sites.
- Construct offsite linear facilities in accordance with applicable State and local encroachment permit requirements.

16.3 Transportation impact of linear facility construction.

The physical electrical interconnection for the facility will be to the existing 13.8kV switchgear bus utilizing open breaker positions. No linear facility construction will be required.

16.4 Equipment transport route.

Most equipment deliveries will occur via the I-580 freeway and the Mountain House Parkway interchange, located approximately five miles to the southeast. Based on the MEP TCP, equipment deliveries would have to use Mountain House Parkway, travel north to Byron Highway, turn left on Byron Highway, and then turn left onto Bruns Road to access the site. These roads are one lane in each direction.

16.5 Parking requirements – workforce and equipment.

The project will require parking for construction workers during the construction period. Adequate parking would be provided on-site. Since the proposed project site is on the MEP site, it should have room for temporary parking. Operations parking requirements will be negligible; required parking spaces will be provided on site. No impacts are anticipated to off-site parking.

16.6 Proposed mitigation as applicable.

The TCP, described in Section 16.2, will address potential effects of construction activities. No additional required mitigation measures have been identified.

17. Visual Resources

17.1 Plan for landscaping and screening to meet local requirements

The project site is in the areas between the existing 13.8kV – 230kV 70 MVA GSU transformers for Units 600, 700, 800 and 900. The area is currently gravel. The gravel will be replaced around the new BESS and firewalls once installed.

17.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if necessary.

See Attachment 2.

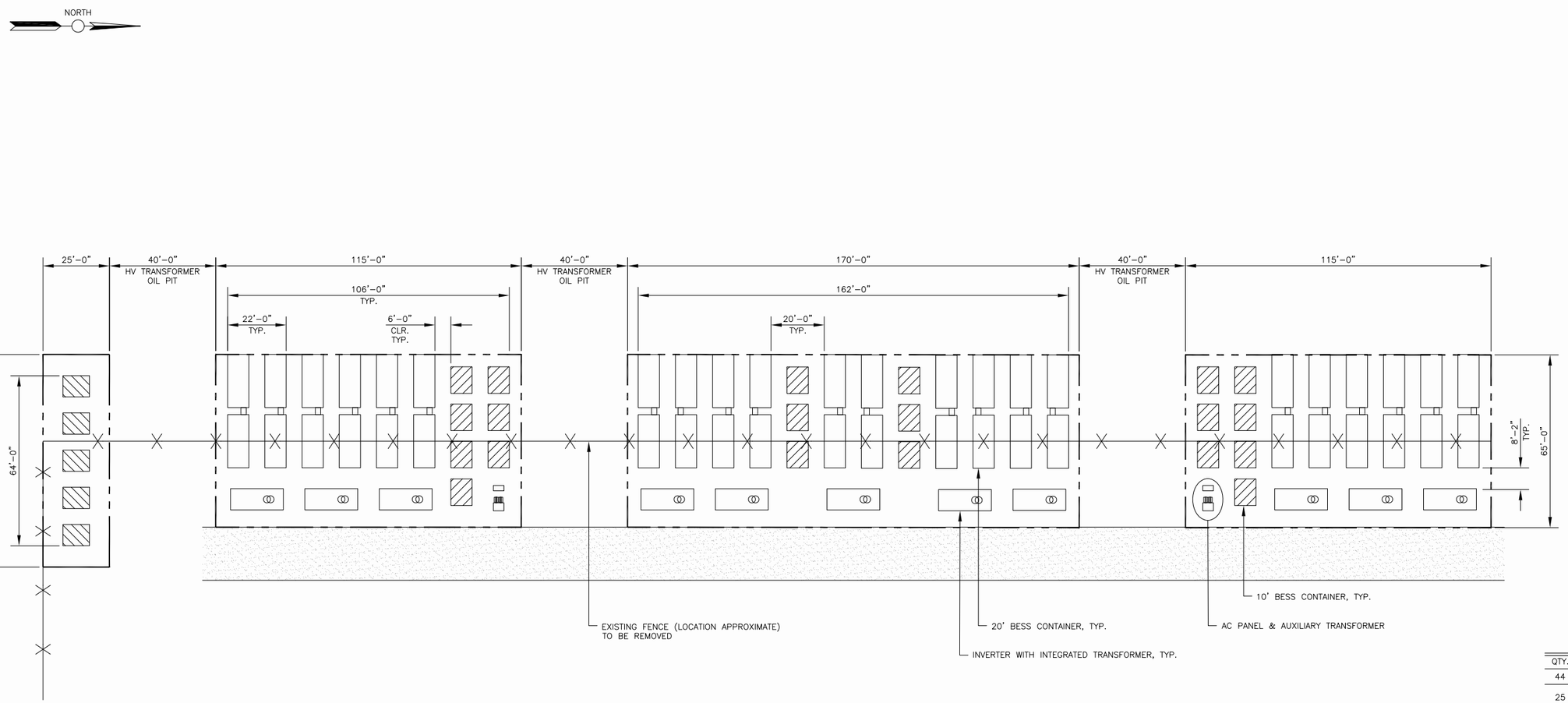
18. Wildfire

The project is not located in or near state responsibility areas or lands within a classified fire hazard zone. The project will not require mitigation.

Attachment 1
Site Plan Drawing

NOTES

1. ALL DIMENSIONS ON THIS DRAWING ARE NOMINAL. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE PRIOR TO COMMENCING WORK. DIMENSIONS NOT SHOWN ARE TO BE DETERMINED IN FIELD.
2. APPROXIMATE AREA OF WORK: 0.6 ACRES (28,000 SF)



LEGEND

- FENCE, EXISTING
- PROJECT LIMITS
- PLANT ROAD, EXISTING
- EQUIPMENT AUGMENTATION

EQUIPMENT SCHEDULE

QTY.	DESCRIPTION	RATING
44	20' BESS CONTAINER	1,438 kWh
25	10' BESS CONTAINER	719 kWh
11	INVERTER WITH INTEGRATED TRANSFORMER	2,835 kVA @ 45°C
2	AC PANEL	---
2	AUXILIARY TRANSFORMER	800 kVA

REV	DATE	DESCRIPTION	DWN	CHK'D	APP'D
B	29OCT'21	INCREASED POWER/ENERGY REQUIREMENTS	BAM	CVA	ML
A	06OCT'21	INITIAL ISSUE	BAM	CVA	ML

NOT FOR CONSTRUCTION

PROJECT
25MW/100MWh AC
CALIFORNIA

MITSUBISHI POWER

TITLE
GENERAL ARRANGEMENT

SIZE	SCALE
ANSI D	NONE

DRAWING NUMBER	REVISION
XDG-ES211854-001s1	B

Attachment 2
Site Photo and Facility Rendering


Blue shaded areas have been selected for BESS equipment location. The west end of the areas and a portion of the north and south end of the project boundary will be surrounded by a firewall.
Google Earth

Attachment 3
Transmission Interconnection Application

California ISO

CLUSTER
MINIMUM REQUIREMENTS FOR AN INTERCONNECTION REQUEST (IR) APPLICATION:

All elements listed below must be submitted by the close of a cluster window for a project to qualify to be validated. **IRs that do not meet this criteria by the close of the cluster window will be deemed incomplete with no opportunity to cure and will not be included in the cluster study**.

☒ 1. $150,000 Interconnection Study Deposit

☒ 2. Completed Appendix 1 (Interconnection Request - attached)

☒ 3. Completed Attachment A to Appendix 1 (Generator Technical Data – Excel):

- ☒ **Technical Data Tab:** Must contain no errors and all warnings must be explained
- ☒ **IR Validation and Comments Tab:** Column A must be filled in the "Yes" or "N/A" on all items

☒ 4. Evidence of Site Exclusivity or Deposit in Lieu of Site Exclusivity

☒ 5. Load Flow Model (.epc)

☒ 6. Dynamic Model (.dyd)

☒ 7. Reactive Power capability document

☒ 8. Site Drawing

☒ 9. Single Line Diagram

☒ 10. Plot showing flat run and bump test (fault at bus and clear after 4-6 cycles) from PSLF (screenshot okay)

☒ 11. Plot showing requested MW at POI from PSLF (screenshot okay)

California ISO

Appendix 1 Interconnection Request
INTERCONNECTION REQUEST

NO HARD COPY REQUIRED FOR INTERCONNECTION REQUESTS SUBMITTED ELECTRONICALLY VIA RIMS

Provide **one hard copy** of this completed form pursuant to Section 7 of this Appendix 1 below for non-electronic submissions.

1. The undersigned Interconnection Customer submits this request to interconnect its Generating Facility with the CAISO Controlled Grid pursuant to the CAISO Tariff (**check only one**):
   - ☒ Queue Cluster Process.
   - ☐ Deliverability from Non-Participating TOs pursuant to GIDAP Section 9.4.

2. This Interconnection Request is for (**check only one**):
   - ☐ A proposed new Generating Facility.
   - ☒ An increase in the generating capacity, repowering, or a Material Modification to an existing Generating Facility.

3. Requested Deliverability Statuses are:

   On-Peak (for purposes of Net Qualifying Capacity) (**check one**):
   - ☒ Full Capacity
   - ☐ Partial Deliverability for ☐ % of electrical output
   - ☐ Energy Only

   Off-Peak Deliverability Status for Solar and Wind Projects (**check one**):
   - ☒ Off-Peak Deliverability
   - ☐ Economic Only

   Comments: ☐

4. The Interconnection Customer provides the following information:

   a. Address or location, including the county, of the proposed new Generating Facility site or, in the case of an existing Generating Facility, the name and specific location, including the county, of the existing Generating Facility;

   Project Name: **Nightshade**

   Project Location:

   Street Address: **4887 Bruns Road**

   City: **Byron**

   County: **Contra Costa**

   State: **Ca**

   Zip Code: **94514**

GPS Coordinates (**decimal format**):

Latitude: **37.789251** Longitude: **-121.601802**

b. Provide the following project megawatt values.
- **If project is an increase to an existing project, provide values based on the MW increase only**.

Total Generating Facility Gross Capacity: **337.6 MVA**
This value equals the total installed MW capacity at unity power factor

Total Generating Facility Gross Output: **36.4MW**
Gross output achieving desired net MW at POI described below

Generating Facility Auxiliary Load: **1.55MW**

Maximum Net Megawatt Electrical Output: ☐ **MW***
*This is for a **proposed new Generating Facility**, Total Generating Facility Gross Output less Generating Facility Auxiliary Load*

OR

Net Megawatt increase: **34.1** **MW****
*This is for an **increase or Material Modification to an existing Generating Facility**, Total Generating Facility Gross Output less Generating Facility Auxiliary Load*

Anticipated losses between the Generating Facility and POI: **0.0MW**
Include all transformer and line losses between the generating units and the POI

Requested Interconnection Service Capacity (Desired Net MW at POI) **34.1MW**
Maximum Net Megawatt Electrical Output less Anticipated Losses
This MW value is the basis for delineation between large (>20 MW) and small projects (≤20 MW), and the pro rata basis for cost allocations of Reliability Network Upgrades (RNUs) except short circuit related RNUs in the Cluster Phase I and Phase II interconnection studies. This is the value that will appear in the ISO Generation Interconnection Queue Report. Your TP Deliverability Allocations will not be able to exceed this value.

Provide a description of any automatic control scheme which will be installed to ensure that the Requested Interconnection Service Capacity does not exceed the above desired value.
Plant controller will limit output of total facility at the POI to 230 MW.

c. Type of project (i.e., gas turbine, hydro, wind, etc.) and general description of the equipment configuration (if more than one type is chosen include **gross** installed **MW for each**).
- **If project is an increase to an existing project, provide values based on the MW increase only**.

☐ Cogeneration	Select Fuel Type	☐ (MW)
☐ Combined Cycle	Select Fuel Type	☐ (MW)
☐ Fuel Cell	Select Fuel Type	☐ (MW)
☒ Gas Turbine		**9.4** (MW)
☐ Hydro		☐ (MW)
☐ Photovoltaic		☐ (MW)

☐ Reciprocating Engine	Select Fuel Type	☐ (MW)
☐ Solar Thermal		☐ (MW)
☐ Steam Turbine	Select Fuel Type *If more than one:* Select Fuel Type	☐ (MW) ☐ (MW)
☐ Wind Turbine		☐ (MW)
☒ Storage	Battery **27** (MW)	
☐ Other (please describe):		☐ (MW)

Generator Type: ☐ Fuel Type: ☐

Comments: ☐

General description of the equipment configuration (e.g. number, size, type, etc):
The following request is an Increase of the existing Mariposa Energy Center Gas Units output from 200.0 MW to 209.4 MW total (195.9 MW to 205 MW delivered to POI), and install a new 27 MW Battery Energy Storage system. The project will deliver 230 MW at the KELSO Substation 230 kV with the existing gentie. The increase of the gas units output will be done through increasing the efficiency of the existing units only without any addition of new units. The battery storage system will consist of 15 units of Sunny Central which will deliver 25 MW at POI after losses and aux load. The total output of the Mariposa Energy Center plus "Nightshade" BESS will be limited to 230 MW at POI.

d. Proposed In-Service Date (first date transmission is needed to the facility), Trial Operation Commencement date and Commercial Operation Date in MM/DD/YYYY format and term of service (**dates must be sequential, proposed Commercial Operation Date may not be more than seven (7) years from date of application**):

	(MM/DD/YYYY)
Proposed In-Service Date:	**01/01/2027**
Proposed Trial Operation Commencement Date:	**02/15/2027**
Proposed Commercial Operation Date:	**03/31/2027**
Proposed Term of Service (years):	**40**

e. Name, address, telephone number, and e-mail address of the Interconnection Customer's contact person (primary person who will be contacted);

First Name:	**Sarah**
Last Name:	**Fafard**
Title:	**Senior Manager of Engineering and Construction**

Company Name:	**Diamond Generating Corporation**
Street Address:	**633 W. 5th Street, 27th Floor**
City:	**Los Angeles**
State:	**CA**
Zip Code:	**90071**
Phone Number:	**213-598-0162**
Fax Number:	**213-620-1170**
Email Address:	**s.fafard@dgc-us.com**

f. Approximate location of the proposed Point of Interconnection (i.e., specify transmission facility interconnection point name, voltage level, and the location of interconnection);

Substation or Transmission Line Name: **KELSO SUBSTATION** Voltage Level: **230 kV**

g. Interconnection Customer data (set forth in Attachment A)

The Interconnection Customer shall provide to the CAISO the technical data called for in GIDAP Appendix 1, Attachment A (link: http://www.caiso.com/PublishedDocuments/GeneratingFacilityData-AttachmentAtoAppendix1.xlsm)

5. Applicable deposit amount made payable to California ISO. Send check or wire funds to CAISO (see section 7 for details) along with the:
   a. Interconnection Request for processing.
   b. Attachment A (Interconnection Request Generating Facility Data).

6. Evidence of Site Exclusivity as specified in the GIDAP and name(s), address(es) and contact information of site owner(s) (check one):

☒ Is attached to this Interconnection Request

If attaching evidence of Site Exclusivity, please answer the following:

a. Type of Site Exclusivity Provided:
   (Note that letters of intent or similar agreements are not acceptable as proof of Site Exclusivity)
   - ☐ Proof of Ownership (Deed)
   - ☒ Lease Agreement
   - ☐ Option to Purchase
   - ☐ Option to Lease
   - ☐ Other? Please Explain

b. Is Site Exclusivity granted to the Interconnection Customer (i.e. to the same entity with the same name) identified in Section 9 of this Interconnection Request?
   - ☒ Yes
   - ☐ No
   - ☐ If No, please explain relationship between entities:

c. Term of Agreement? Including agreement effective upon and execution of option (If applicable)? Years **40 years less one day from June 9, 2011**

d. Term of Option, including renewals? (If applicable) Years

e. Acreage acquired or reserved for project site? **0.6 of an acre of existing plant footprint available to be utilized for this project**

☐ Deposit in lieu of Site Exclusivity via check or Fed Wire, Site Exclusivity will be provided at a later date in accordance with this GIDAP

7. This Interconnection Request shall be submitted to the CAISO via https://rimspub.caiso.com/rims5/logon.do.

California ISO
Attn: Grid Assets
P.O. Box 639014
Folsom, CA 95763-9014

OR

Overnight address:
California ISO
Attn: Grid Assets
250 Outcropping Way
Folsom, CA 95630

Deposit can be made via Fed Wire transfer, ACH or check. Please be sure and reference the project name in the notes area of wire transfer or check for easy matching. Wiring information:

Wells Fargo Bank (LGIP)
ABA 121000248
Acct 4122041825
Federal Tax ID # 94-3274043

CAISO is a Corporation.
Funds must be received no later than close of cluster window for cluster projects.

8. Representative of the Interconnection Customer to contact:

[To be completed by the Interconnection Customer]

First Name:	**Samer**
Last Name:	**Abou El Joud**
Title:	**Power Engineer**
Company Name:	**ZGlobal, Inc.**
Street Address:	**604 Sutter Street, Suite 250**
City:	**Folsom**
State:	**CA**
Zip Code:	**95630**
Phone Number:	**(916) 985-9461**
Fax Number:	
Email Address:	**samer@zglobal.biz**

9. This Interconnection Request is submitted by:

Legal name of the Interconnection Customer: **Mariposa Energy LLC**
(Punctuation and spelling of Legal name must match Secretary of State document exactly)

State of Origin for Secretary of State Document: **Delaware**

Name of Parent Company (if applicable): **Diamond Generating Corporation**

☒ ***By executing this Interconnection Request, Interconnection Customer hereby consents to CAISO's disclosure of its confidential information during the evaluation of this request to those Affected Systems who have entered into an***

appropriate non-disclosure agreement with CAISO and pursuant to Appendix DD of the CAISO Tariff, including Sections 3.7 and 15.1.2.

☒ *Your electronic signature below indicates your agreement with the following statement: By typing my name in the following line and clicking on the submission box below, the Interconnection Customer identified above certifies that the information contained in this Interconnection Request and Generator Interconnection Study Process Agreement for Queue Clusters is true and correct to the best of its knowledge. The Generator Interconnection Study Process Agreement for Queue Clusters becomes effective upon submittal of this form to the CAISO.*

First Name:	**Rany**
Last Name:	**Oleiwan**
Title:	**Power engineer**
Date (MM/DD/YYYY):	**08/02/2021**

Upload the following items using the document type of "Other":

- ***The Generating Facility Data (Attachment A to Appendix 1) is a separate Excel file (.xlsm) and is a required element of a project's Interconnection Request submission. Link: http://www.caiso.com/PublishedDocuments/GeneratingFacilityData-AttachmentAtoAppendix1.xlsm***
- ***Secretary of State Certification for the Interconnection Customer***
- ***Proof that signatory is an authorized representative of the Interconnection Customer***

GENERATOR INTERCONNECTION STUDY PROCESS AGREEMENT FOR QUEUE CLUSTERS

THIS AGREEMENT is made and entered into this **15** day of **April**, 20**20** by and between **Mariposa Energy LLC**, a **limited liability company** organized and existing under the laws of the State of **Delaware**, ("Interconnection Customer") and the California Independent System Operator Corporation, a California nonprofit public benefit corporation existing under the laws of the State of California, ("CAISO"). The Interconnection Customer and the CAISO each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated **15 April 2021**; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the CAISO Controlled Grid pursuant to Appendix DD to the CAISO Tariff; and

WHEREAS, the Interconnection Customer has requested the CAISO to conduct or cause to be performed Interconnection Studies to assess the system impact of interconnecting the Generating Facility to the CAISO Controlled Grid and to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Participating TO's electric system in accordance with Good Utility Practice to physically and electrically connect the Generating Facility to the CAISO Controlled Grid;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the CAISO's FERC-approved Generation Interconnection and Deliverability Allocation Procedures in CAISO Tariff Appendix DD "GIDAP" or the Master Definitions Supplement, Appendix A to the CAISO Tariff, as applicable.

2.0 The Interconnection Customer elects and the CAISO shall conduct or cause to be performed Interconnection Studies, including any accelerated Interconnection Study, in accordance with the CAISO Tariff.

3.0 The scope of the Interconnection Studies shall be subject to the assumptions set forth in Appendices A and B to this Agreement.

4.0 The Interconnection Studies will be based upon the technical information provided by the Interconnection Customer in the Interconnection Request, as may be modified under the CAISO Tariff. The CAISO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Studies.

5.0 [NOT USED]

6.0 Consistent with the GIDAP and CAISO Tariff, the Interconnection Customer will provide deposits and pay its share of actual costs of applicable studies, including in excess of provided deposits. The CAISO and Participating TO will provide invoices and refunds on a timely basis required by the GIDAP and the CAISO Tariff.

Following the issuance of an Interconnection Study report, the CAISO shall charge and the Interconnection Customer shall pay its share of the actual costs of the Interconnection Study pursuant to Section 3.5.1 of the GIDAP.

Any difference between the deposits made toward the Interconnection Study process and associated administrative costs, including any accelerated studies, and the actual cost of the Interconnection Studies and associated administrative costs shall be paid by or refunded to the Interconnection Customer, in the appropriate allocation, in accordance with Section 3.5.1 of the GIDAP.

7.0 Pursuant to Section 3.7 of the GIDAP, the CAISO will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems. The CAISO may provide a copy of the Interconnection Studies or other assessments to an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection.

8.0 Substantial portions of technical data and assumptions used to perform the Phase I Interconnection Study, such as system conditions, existing and planned generation, and unit modeling, may change after the CAISO provides the Interconnection Study results to the Interconnection Customer. Interconnection Study results will reflect available data at the time the CAISO provides the Phase I Interconnection Study report to the Interconnection Customer. The CAISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by the Interconnection Customer as a result of changes in such data and assumptions.

9.0 [NOT USED]

10.0 The CAISO and Participating TO(s) shall maintain records and accounts of all costs incurred in performing the Interconnection Study in sufficient detail to allow verification of all costs incurred, including associated overheads. The Interconnection Customer shall have the right, upon reasonable notice, within a reasonable time at the CAISO's offices and at its own expense, to audit the CAISO's records as necessary and as appropriate in order to verify costs incurred by the CAISO. Any audit requested by the Interconnection Customer shall be completed, and written notice of any audit dispute provided to the CAISO representative, within one hundred eighty (180) calendar days following receipt by the Interconnection Customer of the CAISO's notification of the final costs of the Interconnection Study.

11.0 In accordance with Section 3.8 of the GIDAP, the Interconnection Customer may withdraw its Interconnection Request at any time by written notice to the CAISO. Upon receipt of such notice, this Agreement shall terminate, subject to the requirements of Section 3.5.1 and 11.4 of the GIDAP.

12.0 This Agreement shall become effective upon submission to the CAISO. If the CAISO does not receive the executed Agreement and deposit or other Interconnection Financial Security pursuant to Section 3.5.1 of the GIDAP from the Interconnection Customer, then the Interconnection Request will be deemed withdrawn upon the Interconnection Customer's receipt of written notice by the CAISO pursuant to Section 3.8 of the GIDAP.

13.0 Miscellaneous.

13.1 Dispute Resolution. Any dispute, or assertion of a claim, arising out of or in connection with this Agreement, shall be resolved in accordance with Section 15.5 of the GIDAP.

13.2 Confidentiality. Confidential Information shall be treated in accordance with Section 15.1 of the GIDAP.

13.3 Binding Effect. This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

13.4 Conflicts. In the event of a conflict between the body of this Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed the final intent of the Parties.

13.5 Rules of Interpretation. This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article or Section of this Agreement or such Appendix to this Agreement, or such Section of the GIDAP or such Appendix to the GIDAP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Article, Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

13.6 Entire Agreement. This Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

13.7 No Third Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

13.8 Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the

Participating TO or CAISO. Any waiver of this Agreement shall, if requested, be provided in writing.

Any waivers at any time by any Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

13.9 Headings. The descriptive headings of the various Articles and Sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.

13.10 [NOT USED]

13.11 Amendment. The Parties may by mutual agreement amend this Agreement by a written instrument duly executed by both of the Parties.

13.12 Modification by the Parties. The Parties may by mutual agreement amend the Appendices to this Agreement by a written instrument duly executed by both of the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all applicable laws and regulations.

13.13 Reservation of Rights. The CAISO shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

13.14 No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.

13.15 Assignment. This Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that the Interconnection Customer shall have the right to assign this Agreement, without the consent of the other Party, for collateral security purposes to aid in providing financing for the Generating Facility, provided that the Interconnection Customer will require any secured party, trustee or mortgagee to notify the other Party of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Section will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's

assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the other Party of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Section is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

[Signature moved to Interconnection Request section for online submissions]

IN WITNESS THEREOF, the Party has caused this Agreement to be duly executed by its duly authorized officers or agents on the day and year first above written.

Interconnection Customer:_____

By:_____

Printed Name:_____

Title:

Date:_____

Appendix A

[NOT USED]

Appendix B

DATA FORM TO BE PROVIDED BY THE INTERCONNECTION CUSTOMER PRIOR TO COMMENCEMENT OF THE PHASE II INTERCONNECTION STUDY

Provide one copy of this completed form and other required plans and diagrams in accordance with Section 7 of the GIDAP.

Generating Facility name: _____ ISO Queue Position: _____

Project Megawatt Values:

Total Generating Facility Gross Output: _____ **MW**

Generating Facility Auxiliary Load: _____ **MW**

Maximum Net Megawatt Electrical Output: _____ **MW*** OR Net Megawatt increase: _____ **MW****

Total Generating Facility Output less Generating Facility Auxiliary Load
**This is for an increase or Material Modification to an existing Generating Facility*
**This is for a proposed new Generating Facility*

Anticipated losses between the Generating Facility and POI: _____ **MW**

Requested Interconnection Service Capacity (Desired Net MW at POI) _____ **MW**

Maximum Net Megawatt Electrical Output less Anticipated Losses
This MW value is the basis for delineation between large (>20 MW) and small projects (≤20 MW), and the pro rata basis for cost allocations of Reliability Network Upgrades (RNUs) except short circuit related RNUs in the Cluster Phase I and Phase II interconnection studies. This is the value that will appear in the ISO Generation Interconnection Queue Report. Your TP Deliverability Allocations will not be able to exceed this value.

Provide location plan and one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new bus or existing CAISO Controlled Grid station.
Number of generation connections: _____

On the one line indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line indicate the location of auxiliary power. (Minimum load on CT/PT)

Will an alternate source of auxiliary power be available during CT/PT maintenance?
_____ Yes _____ No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation? _____ Yes _____ No
(Please indicate on one line).

What type of control system or PLC will be located at the Interconnection Customer's Generating Facility?

_____

What protocol does the control system or PLC use? _____

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station: _____

Bus length from generation to interconnection station: _____

Line length from interconnection station to the Participating TO's transmission line: _____

Tower number observed in the field. (Painted on tower leg)*: _____

Number of third party easements required for transmission lines*: _____
* To be completed in coordination with the Participating TO or CAISO.

Is the Large Generating Facility in the Participating TO's service area?
_____ Yes _____ No

Local service provider for auxiliary and other power: **Ra**

Please provide **achievable** schedule dates (format MM/DD/YYYY):

Environmental survey start: _____

Environmental impact report submittal: _____

Procurement of project equipment: _____

Begin Construction Date: _____

In-Service Date (ISD): _____

Trial Operation Date: _____

Commercial Operation Date (COD): _____

Note: ISD and COD must be achievable dates for the project. Tendering of the GIA is based on the following methodology:
The sum of (i) 180 calendar days and (ii) the estimated time to construct the Interconnection Facilities and Network Upgrades indicated in the applicable study report needed by this or any dependent project, prior to the In-Service Date.

Calculation:
ISD *(future date)*
- 120 CD *(GIA negotiation)*
- 60 CD *(for GIA execution and notice to proceed)*
- longest lead time facility or upgrade
= tender date for GIA *(must be no sooner than 1 month after the Phase II results meeting)*

On-Peak Deliverability Status: Choose one of the following:

_____ Energy Only

_____ Full Capacity

_____ Partial Deliverability for _____ % of electrical output

Off-Peak Deliverability Status: Choose one of the following:

_____ Off-Peak Deliverability

_____ Economic Only

Comments: _____

TP Deliverability (not applicable for Energy Only Deliverability Status): Choose one of the following:

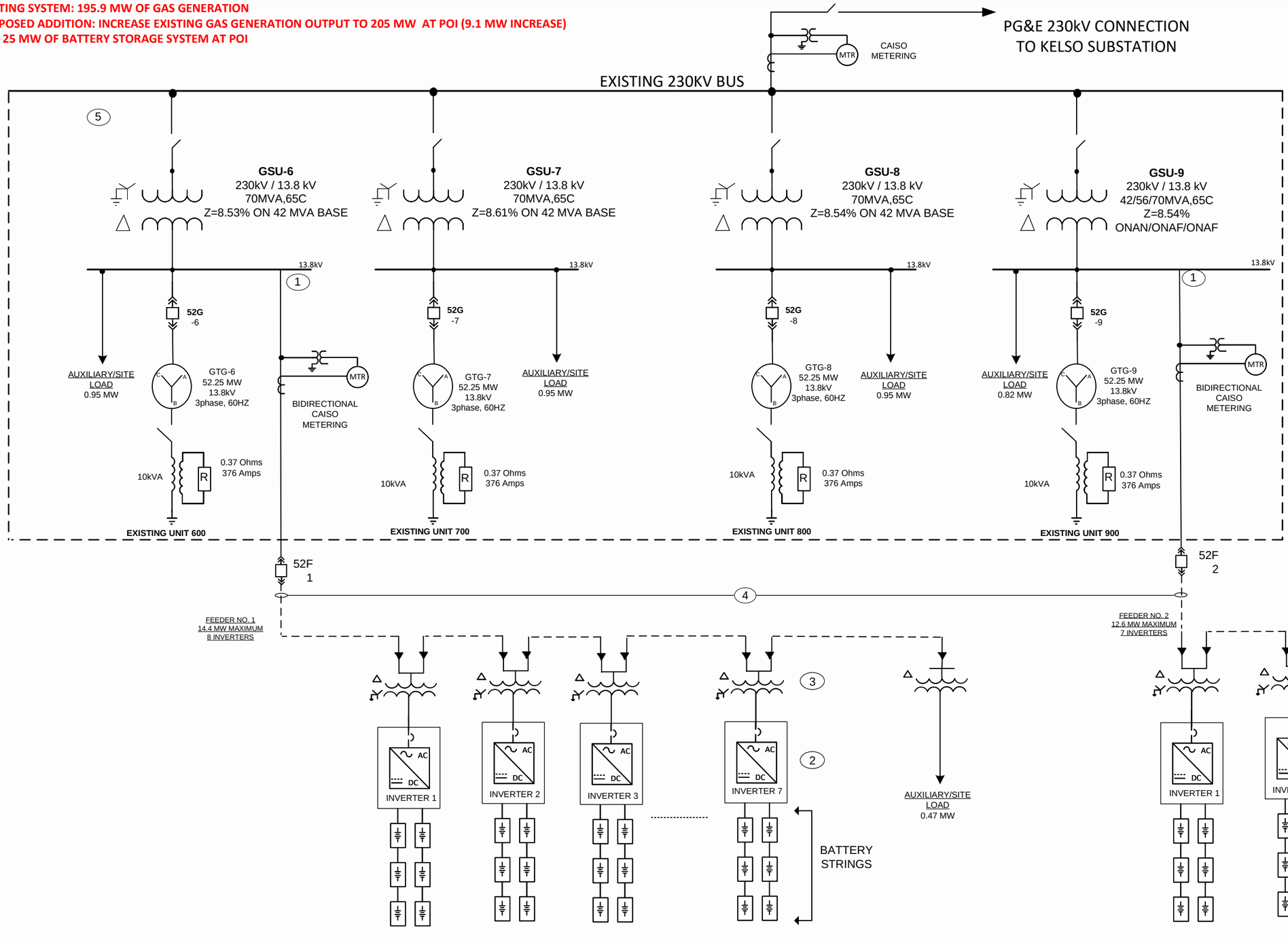
_____ Option (A), which means that the Generating Facility requires TP Deliverability to be able to continue to commercial operation.

_____ Option (B), which means that the Interconnection Customer will continue to commercial operation without an allocation of TP Deliverability.

Comments:

_____

EXISTING SYSTEM: 195.9 MW OF GAS GENERATION
PROPOSED ADDITION: INCREASE EXISTING GAS GENERATION OUTPUT TO 205 MW AT POI (9.1 MW INCREASE)
ADD 25 MW OF BATTERY STORAGE SYSTEM AT POI



ONE-LINE DIAGRAM NOTES:

1. POINT OF INTERCONNECTION. EXISTING KELSO SUBSTATION 230KV BUS.
2. SUNNY CENTRAL BATTERY INVERTER, RATED AT 1800 KW @ 0.9 PF AND 50°C , 385 VAC, 3ϕ.
3. TYPICAL. PADMOUNT TRANSFORMER RATED AT 0.385/13.8 KV, 1000 KVA, Z=5.75% ON 2000 KVA BASE.
4. 13.8KV UNDERGROUND DIRECTLY BURRIED CABLE.
   - FEEDER NO.1: (8) INVERTERS
   - FEEDER NO.2: (7) INVERTERS

   THE FEEDERS WILL HAVE A TOTAL GENERATING CAPACITY OF 25.0MW/100MWhr.
5. EXISTING MARIPOSA ENERGY PROJECT.

ZGLOBAL
Power Engineering & Energy Solutions

REV	DATE	DESCRIPTION	DRAWN	CHECK	APPROVED
A	4/01/2021	ISSUED FOR CAISO INTERCONNECTION REQUEST	SA	OI	BR
B	8/02/2021	ISSUED FOR CAISO INTERCONNECTION REQUEST	RO	RO	RO
C	8/24/2021	ISSUED FOR CAISO INTERCONNECTION REQUEST	RO	RO	RO

NIGHTSHADE

Interconnection Single Line Diagram

GAS- 205 MW TOTAL (9.1 MW INCREASE)
Energy Storage – 25 MW / 100 MWhr

Attachment 4
Adjacent Property Owners

Table A4-1. Adjacent Parcel Owners

Parcel Number	Owner/Contact	Property Address	Mailing Address
99B-7020-1-8	FLETCHER CONSERVATION LANDS	14511 CHRISTENSEN RD MOUNTAIN HOUSE 95391	1141 CATALINA DR 279 LIVERMORE CA 94550
99B-7050-1-9	HENRY MULLER	KELSO RD, MOUNTAIN HOUSE 95391	3900 ROBERTS RD STOCKTON CA 95206
99B-7050-1-10	KELSO LANDWORKS LLC, STEVE SHIN-DER LEE	4901 BRUNS RD MOUNTAIN HOUSE 95391	3643 FERRY LANE, FREMONT, CA 94555
99B-7020-1-10	CALIFORNIA WILDLIFE CONSERVATION BOARD	CHRISTENSEN RD MOUNTAIN HOUSE 95391	1807 13TH ST 103 SACRAMENTO CA 95811
99B-7020-1-11	FLETCHER CONSERVATION LANDS	CHRISTENSEN RD MOUNTAIN HOUSE 95391	1141 CATALINA DR 279 LIVERMORE CA 94550

Attachment 5
LORS Tables

Table A5-1. Applicable Laws, Ordinances, Regulations, and Standards for Protection of Air Quality

LORS	Purpose	Regulating Agency	Conformance
Federal			
Title 40 CFR Part 50	Establishes AAQS for criteria pollutants.	EPA Region IX	See Section 6.0. Construction emissions modeling analysis demonstrates the project will not exceed the state or federal significance thresholds.
Title 40 CFR Parts 51, NSR (BAAQMD Reg 2 Rule 2)	Requires pre-construction review and permitting of new or modified stationary sources of air pollution to allow industrial growth without interfering with the attainment and maintenance of AAQS.	EPA Region IX	Nightshade BESS will not include any new stationary sources.
Title 40 CFR Parts 52, PSD	The PSD program allows new sources of air pollution to be constructed, or existing sources to be modified in areas classified as attainment, while preserving the existing ambient air quality levels, protecting public health and welfare, and protecting Class I Areas (e.g., national parks and wilderness areas).	EPA Region IX	Nightshade BESS will not include any new stationary sources.
Title 40 CFR, Part 60	Establishes national standards of performance for new or modified facilities in specific source categories.	BAAQMD with EPA Region IX oversight	Nightshade BESS will not include any new stationary sources.
Title 40 CFR, Part 63	Establishes national emission standards to limit emissions of hazardous air pollutants (HAPs, or air pollutants identified by EPA as causing or contributing to the adverse health effects of air pollution but for which NAAQS have not been established) from facilities in specific categories.	BAAQMD with EPA Region IX oversight	Construction emissions modeling analysis demonstrates the project will not exceed the state or federal significance thresholds. Nightshade BESS will not include any new stationary sources.
Title 40 CRF part 70 (BAAQMD Reg 2, Rule 6)	CAA Title V Operating Permit Program	BAAQMD with EPA Region IX oversight	Nightshade BESS will not include any new stationary sources.
Title 40 CFR part 72 (BAAQMD Reg 2, Rule 7)	CAA Acid Rain Program	BAAQMD with EPA Region IX oversight	Nightshade BESS will not include any new stationary sources.
State			
California Code of Regulations, Section 41700	Prohibits emissions in quantities that adversely affect public health, other businesses, or property.	BAAQMD with ARB oversight	Construction emissions modeling analysis demonstrates the project will not exceed the state or federal significance thresholds.

Table A5-1. Applicable Laws, Ordinances, Regulations, and Standards for Protection of Air Quality

LORS	Purpose	Regulating Agency	Conformance
California Senate Bill 32 - Global Warming Solutions Act of 2006 (SB32)	The purpose is to reduce carbon emissions within the state by approximately 40% below the 1990 levels by the year 2030.	BAAQMD with ARB oversight	Construction emissions modeling analysis demonstrates the project will not exceed state or federal significance thresholds for GHGs.
Local			
BAAQMD Reg 1, Section 301 (Public Nuisance)	Prohibits the emissions of air contaminants or other material which create a public nuisance.	BAAQMD	Construction emissions modeling analysis demonstrates the project will not exceed the state or federal significance thresholds.
BAAQMD Regulation 2, Rule 2 (Permits – NSR)	Purpose of this Rule is to provide for the review of new and modified sources and provide mechanisms, including the use of BACT, Best Available Control Technology for Toxics (TBACT), and emission offsets, by which authorities to construct such sources may be granted.	BAAQMD	Nightshade BESS will not include any new stationary sources.
BAAQMD Regulation 2, Rule 5 (Permits – Toxics NSR)	The purpose of this rule is to provide for the review of new and modified sources of TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced.	BAAQMD	Nightshade BESS will not include any new stationary sources.
BAAQMD Regulation 2, Rule 6 (Permits – Title V)	The purpose of this rule is to implement the operating permit requirements of Title V of the CAA as amended in 1990.	BAAQMD with EPA Oversight	Nightshade BESS will not include any new stationary sources.
BAAQMD Regulation 2, Rule 7 (Permits – Acid Rain)	The purpose of this rule is to incorporate by reference the provisions of 40 CFR Part 72 for purposes of implementing an acid rain program that meets the requirements of Title IV of the CAA.	BAAQMD with EPA Oversight	Nightshade BESS will not include any new stationary sources.

Table A5-2. Applicable Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Federal		
Federal Endangered Species Act (Federal ESA, 16 USC 153)	Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	See section 7.0. The Nightshade project will be entirely contained within the MEP operational site avoid significant impacts on federally listed species and their habitat.
Migratory Bird Treaty Act (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	See section 7.0.
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	See section 7.0.
State		
California Endangered Species Act (Fish and Game Code Section 2050 et seq.).	Species listed under this act cannot be taken or harmed, except under specific permit.	See section 7.0. The Nightshade project will be entirely contained within the MEP operational site avoid significant impacts on state listed species and their habitat.
Fish and Game Code Section 3511	Describes bird species, primarily raptors, that are fully protected. Fully protected birds may not be taken or possessed, except under specific permit requirements.	See section 7.0.
Fish and Game Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	See section 7.0.
Fish and Game Code Section 3503.5	Protects all birds of prey and their eggs and nests.	See section 7.0.
Fish and Game Code Section 3513	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	See section 7.0.
Fish and Game Code Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	See section 7.0.
Fish and Game Code Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.	See section 7.0.

Table A5-2. Applicable Laws, Ordinances, Regulations, and Standards for Biological Resources

Element	Goal/Policy	Conformance
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	See section 7.0.
California Fish and Game Code (Sections 1601 through 1607)	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG.	See section 7.0. The Nightshade project will be entirely contained within the MEP operational site and will avoid all federal and state-jurisdictional waters.
California Fish and Game Code (Sections 2000-2019)	Prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided in this code or regulations made pursuant thereto.	See section 7.0.
Local and Other Jurisdictions		
East County Area Plan (Alameda County)	Long-term purposed to guide growth, development, and conservation of resources.	See section 7.0. The Nightshade project will be entirely contained within the MEP operational site.
Alameda County Conservation Strategy	Provides guidance on the permitting process to promote an assurance that impacts are offset in a biologically effective manner. Does not provide, or otherwise authorize, permits or other agency approvals for take of listed species.	See section 7.0. The Nightshade project will be entirely contained within the MEP operational site.

Table A5-3. Laws, Ordinances, Regulations, and Standards for Cultural Resources

Law, Ordinance, Regulation, or Standard	Applicability	Conformance
CEQA Guidelines	Project construction may encounter archaeological and/or historical resources	Yes, See Section 8.0. CEQA review is suspended per the Governor's July 30, 2021 Proclamation of State of Emergency.
Health and Safety Code Section 7050.5	Construction may encounter Native American graves; coroner calls the NAHC	Yes, See Section 8.0.
Public Resources Code Section 5097.98	Construction may encounter Native American graves; NAHC assigns Most Likely Descendant	Yes, See Section 8.0.
Public Resources Code Section 5097.5/5097.9	Would apply only if some project land were acquired by the state (currently no state land)	NA
East Alameda County General Plan	Sets goals to protect cultural resources from development	Yes, See Section 8.0.

Table A5-4. Laws, Ordinances, Regulations, and Standards for Geologic Hazards and Paleontological Resources

LORS	Requirements/Applicability	Administering Agency	Conformance
Federal			
Antiquities Act of 1906	Not applicable – No federal land involved, or federal entitlement required	NA	NA
National Environmental Policy Act of 1969	Not applicable – No federal land involved, or federal entitlement required	NA	NA
State			
CBC 2019, as amended by the County of Alameda	Acceptable design criteria for structures with respect to seismic design and load-bearing capacity	California Building Standards Commission, State of California, and County of Alameda	See Sections 1.7 and 9.0.
Alquist-Priolo Earthquake Fault Zoning Act (Title 14, Division 2, Chapter 8, Subchapter 1, Article 3, California Code of Regulations)	Identifies areas subject to surface rupture from active faults	California Building Standards Commission, State of California, and County of Alameda	See Sections 1.7 and 9.0.
The Seismic Hazards Mapping Act (Title 14, Division 2, Chapter 8, Subchapter 1, Article 10, California Code of Regulations.)	Identifies non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides	California Building Standards Commission, State of California, and County of Alameda	See Sections 1.7 and 9.0.
CEQA, Appendix G	Fossil remains may be encountered by earth-moving activities		See Section 9.0. CEQA review is suspended per the Governor's July 30, 2021 Proclamation of State of Emergency.
Local			
General Ordinance Code	Standards for grading, erosion and sediment control	Alameda County Public Works Agency	Sections 1.7 and 9.0.
County of Alameda General Plan (East County Area Plan) (Alameda County, 2000)	Compliance with 2019 CBC, County of Alameda General Plan	County of Alameda	Sections 1.7, 11.3, and 9.0.
Alameda County East Planning Area General Plan	Not applicable – Paleontological resources are not addressed per se	County of Alameda	NA

Table A5-5. Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	Conformance
Federal			
Section 302, EPCRA (Pub. L. 99–499, 42 USC 11022) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires one-time notification if extremely hazardous substances are stored in excess of TPQs.	Alameda County Environmental Health Department	NA – BESS will not require extremely hazardous substances.
Section 304, EPCRA (Pub. L. 99–499, 42 USC 11002) Emergency Planning and Notification (40 CFR 355)	Requires notification when there is a release of hazardous material in excess of its RQ.	Alameda County Environmental Health Department	The MEP HMBP will be updated to include the BESS facility, and will describe notification and reporting procedures.
Section 311, EPCRA (Pub. L. 99–499, 42 USC 11021) Hazardous Chemical Reporting: Community Right-To-Know (40 CFR 370)	Requires that MSDSs for all hazardous materials or a list of all hazardous materials be submitted to the SERC, LEPC, and Alameda County Environmental Health Department.	Alameda County Environmental Health Department	The MEP HMBP will be updated to include the BESS facility, for submission to ACDEH.
Section 313, EPCRA (Pub. L. 99–499, 42 USC 11023) Toxic Chemical Release Reporting: Community Right-To-Know (40 CFR 372)	Requires annual reporting of releases of hazardous materials.	Alameda County Environmental Health Department	The BESS facility will be included in MEP annual reporting as applicable.
Section 112, CAA Amendments (Pub. L. 101–549, 42 USC 7412) Chemical Accident Prevention Provisions (40 CFR 68)	Requires facilities that store a listed hazardous material at a quantity greater than the TQ to develop an RMP.	Alameda County Environmental Health Department	NA - the BESS facility will not store listed hazardous requiring an RMP.
Section 311, CWA (Pub. L. 92–500, 33 USC 1251 et seq.) Oil Pollution Prevention (40 CFR 112)	Requires preparation of an SPCC plan if oil is stored in a single AST with a capacity greater than 660 gallons or if the total petroleum storage (including ASTs, oil-filled equipment, and drums) is greater than 1,320 gallons. The facility will have petroleum in excess of the aggregate volume of 1,320 gallons.	SWRCB	The MEP SPCC will be updated as applicable to address oil storage associated with the BESS as applicable.

Table A5-5. Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	Conformance
Pipeline Safety Laws (49 USC 60101 et seq.) Hazardous Materials Transportation Laws (49 USC 5101 et seq.) Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards (49 CFR 192)	Specifies natural gas pipeline construction, safety, and transportation requirements.	U.S. Department of Transportation	NA
State			
Health and Safety Code, Section 25500, et seq. (HMBP)	Requires preparation of an HMBP if hazardous materials are handled or stored in excess of threshold quantities.	Cal-OSHA	The MEP HMBP will be updated to include the BESS facility, for submission to ACDEH.
Health and Safety Code, Section 25531 through 25543.4 (CalARP)	Requires registration with local CUPA or lead agency and preparation of an RMP if regulated substances are handled or stored in excess of TPQs.	Alameda County Environmental Health Department	NA
Health and Safety Code, Section 25270 through 25270.13 (Aboveground Petroleum Storage Act)	Requires preparation of an SPCC plan if oil is stored in a single AST with a capacity greater than 660 gallons or if the total petroleum storage (including ASTs, oil-filled equipment, and drums) is greater than 1,320 gallons. The facility will have petroleum in excess of the aggregate volume of 1,320 gallons.	SWRCB	The MEP SPCC will be updated as applicable to address oil storage associated with the BESS as applicable.
Health and Safety Code, Section 25249.5 through 25249.13 (Safe Drinking Water and Toxics Enforcement Act) (Proposition 65)	Requires warning to persons exposed to a list of carcinogenic and reproductive toxins and protection of drinking water from same toxins.	OEHHA	The site will be appropriately labeled for chemicals on the Proposition 65 list.
CPUC General Order Nos. 112-E and 58-A	Specify standards for gas service and construction of gas gathering, transmission, and distribution piping systems.	CPUC	NA

Table A5-5. Laws, Ordinances, Regulations, and Standards for Hazardous Materials Handling

LORS	Requirements/Applicability	Administering Agency	Conformance
Local			
East County Area Plan	Provides guidance for siting and management of facilities that store, collect, treat, dispose, or transfer hazardous waste and hazardous materials.	Alameda County Environmental Health Department and Alameda County Fire Department	Nightshade will comply with the county's Hazardous Materials stipulations as put forth in the East County Area Plan (Section 5.5.5.3)

AST	Aboveground Storage Tank
CAA	Clean Air Act
CalARP	California Accidental Release Program
Cal-OSHA	California Division of Occupational Safety and Health
CPUC	California Public Utilities Commission
CWA	Clean Water Act
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
LEPC	local emergency planning committee
MSDS	Material Safety Data Sheet
NA	Not applicable
OEHHA	Office of Environmental Health Hazard Assessment
Pub. L.	Public Law
RMP	Risk Management Plan
RQ	Reportable Quantities
SERC	state emergency response commission
SPCC	Spill Prevention Control and Counter Measures
SWRCB	State Water Resources Control Board
TPQs	Threshold Planning Quantities
USC	United States Code

Table A5-6. Laws, Ordinances, Regulations, and Standards for Water Resources

LORS	Applicability	Agency	Conformance
Federal			
Clean Water Act/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); NPDES (CWA, Section 402)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all point-source discharges, including stormwater runoff from construction.	U.S. Army Corps of Engineers, Sacramento District (CWA 404) State Water Resources Control Board Division of Water Quality (CWA 401/401)	No impacts to CWA regulated features. Compliance with existing statewide NPDES permit for construction activities (described below).
State			
Federal Clean Water Act (implemented by State of California)	Implements and enforces the federal NPDES permit program.	State Water Resources Control Board Division of Water Quality	Project construction disturbances will not exceed 1.0 acre and are therefore not subject to Construction General Permit Order 2009-0009-DWQ permit requirements
Porter-Cologne Water Quality Control Act	Regulates discharges to state-regulated waters (WDRs).	RWQCB	NA – the BESS project will not involve discharges to state-regulated waters.
Local			
Alameda County Grading Ordinance (Alameda County Code [ACC] Section 15.36)	No grading (as defined in ACC Section 15.36) shall occur without a permit.	Alameda County Public Works	The applicant will submit preliminary grading plans, as applicable.
Zone 7 Water Agency Resolution No. 09-3245.	Requires payment of Drainage Fee based on area of impervious surfaces.	Zone 7 Water Agency Attn. Jeff Tang 100 North Canyons Parkway Livermore, CA 94551 (925) 454-5075	The applicant will submit the Drainage Fee calculation worksheet along with its application to Alameda County for a Grading Permit, as applicable.

Table A5-7. Laws, Ordinances, Regulations, and Standards for Land Use

LORS	Requirements/Applicability	Administering Agency	Conformance
Federal			
Federal Aviation Regulations, Part 77, Sections 77.13 ff (2)(i), 77.17, 77.21, 77.23, 77.25.	The Federal Aviation Regulations require notice of any construction or alteration that is (a) more than 200 feet in height above ground level or (b) greater than certain planes extending outward and upward at specified radius and slopes from the nearest runway of certain airports.	Federal Aviation Administration	NA – BESS equipment heights will exceed other existing project elements at the BESS location.
State			
CEQA California Public Resources Code, Sections 21000-21178.1, including Guidelines for implementation of CEQA are codified in the CCR Sections 15000-15387.	Establishes policies and procedures for review of proposed power plants in California	California Energy Commission	NA – CEQA review is suspended per the Governor's July 30, 2021 Proclamation of State of Emergency.
Warren-Alquist Act (Public Resources Code Section 25000 et seq.)	Legislation that created and gives statutory authority to the California Energy Commission.	California Energy Commission	See Section 1.3.
Local			
Alameda County East County Area Plan	Comprehensive, long-range plan to serve as the guide for the physical development of the eastern portion of Alameda County.	Alameda County Community Development Agency	See Section 12.
Alameda County Municipal Code – Title 17: Zoning Ordinance	Establishes zoning districts governing land use and the placement of buildings and district improvements.	Alameda County Community Development Agency	See Section 12.

Table A5-8. Applicable Laws, Ordinances, Regulations, and Standards for Noise

LORS	Purpose	Administering Agency	Conformance
Federal Offsite			
EPA	Guidelines for state and local governments.	EPA	NA
Federal Onsite			
Occupational Health and Safety Administration (OSHA)	Exposure of workers over 8-hour shift limited to 90 dBA.	OSHA	Contractor will implement construction Health and Safety Plan, including hearing protection. BESS operation hearing protection will be addressed by existing MEP hearing conservation program.
State Onsite			
Cal-OSHA, 8 CCR Article 105 Sections 095 et seq.	Exposure of workers over 8-hour shift limited to 90 dBA.	Cal-OSHA	Contractor will implement construction Health and Safety Plan, including hearing protection. BESS operation hearing protection will be addressed by existing MEP hearing conservation program.
State Offsite			
California Vehicle Code Sections 23130 and 23130.5	Regulates vehicle noise limits on California highways.		Project-related transporters will comply with CVC requirements.
Local			
California Government Code Section 65302	Requires local government to prepare plans that contain noise provisions.		NA
Alameda County General Plan	The General Plan provides quantitative compatibility goals and policy.		See Section 13.0.
Alameda County Municipal Code	The Municipal Code includes quantitative limits on allowable noise for various receptor land uses.		See Section 13.0.

Table A5-9. Design and Construction LORS for the Transmission System Engineering

LORS	Applicability	Administering Agency	Conformance
Title 8 CCR, Section 2700 et seq. "High Voltage Electrical Safety Orders"	Establishes essential requirements and minimum standards for installation, operation, and maintenance of electrical installation and equipment to provide practical safety and freedom from danger.	Cal-OSHA	The project will conform to these sections in the CCR.
IEEE 693, "IEEE Recommended Practices for Seismic Design of Substations"	Recommends design and construction practices.	IEEE	Project will conform to IEEE 693.
NESC, ANSI C2, Section 9, Article 92, Paragraph E; Article 93, Paragraph C	Covers grounding methods for electrical supply and communications facilities.	NESC/ANSI	The project will conform to these paragraphs in the NESC.
47 CFR 15.25, "Operating Requirements, Incidental Radiation"	Prohibits operations of any device emitting incidental radiation that causes interference to communications; the regulation also requires mitigation for any device that causes interference.	FCC	The project will conform to 47 CFR 15.25
IEEE 80, "IEEE Guide for Safety in AC Substation Grounding"	Presents guidelines for assuring safety through proper grounding of AC outdoor substations.	ANSI/IEEE	Project will conform to IEEE 80.

Table A5-10. Applicable Laws, Ordinances, Regulations, and Standards for Traffic and Transportation

Authority	Administering Agency	Requirements	Conformance
49 CFR, Section 171-177 and 350-399	U.S. Department of Transportation and Caltrans	Requires proper handling and storage of hazardous materials during transportation.	Project and transportation will comply with all standards for the transportation of hazardous materials.
14 CFR, Section 77.13(2)(i), 77.17, 77.21, 77.23, and 77.25	U.S. Department of Transportation and Federal Aviation Administration	Requires an applicant to notify the FAA of the construction or alterations of structures within certain distance from an airport to avoid air navigation conflicts.	BESS project elements will not exceed existing equipment elevations.
CVC §§13369, 15275, and 15278	Caltrans	Addresses the licensing of drivers and classifications of licenses required for the operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are required.	The project will conform to these sections in the CVC.
CVC §§25160 et seq.	Caltrans	Addresses the safe transport of hazardous materials.	The project will conform to these sections in the CVC.
CVC §§2500-2505	Caltrans	Authorizes the issuance of licenses by the Commissioner of the CHP for the transportation of hazardous materials including explosives.	The project will conform to these sections in the CVC.
CVC §31300 et seq.	Caltrans	Requires transporters to meet proper storage and handling standards for transporting hazardous materials on public roads.	Transporters will comply with standards for transportation of hazardous materials on state highways during construction and operations. The project will conform to CVC §31303 by requiring that shippers of hazardous materials use the shortest route possible to and from the site, in conformance with the TCP.
CVC §§31600 – 31620	Caltrans	Regulates the transportation of explosive materials.	The project will conform to CVC 31600 – 31620.
CVC §§32000 – 32053	Caltrans	Regulates the licensing of carriers of hazardous materials and includes noticing requirements.	The project will conform to CVC 32000 – 32053.

Table A5-10. Applicable Laws, Ordinances, Regulations, and Standards for Traffic and Transportation

Authority	Administering Agency	Requirements	Conformance
CVC §§32100 – 32109 and 32105	Caltrans	Establishes special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. Requires that shippers of inhalation or explosive materials contact the CHP and apply for a Hazardous Material Transportation License.	The project will conform by requiring shippers of any inhalation or explosive materials to contact the CHP and obtain a Hazardous Materials Transportation License.
CVC §§34000 – 34121	Caltrans	Establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways.	The project will conform to CVC §§34000 – 34121.
CVC §§34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5 and 34510-11	Caltrans	Regulates the safe operation of vehicles, including those used to transport hazardous materials.	The project will conform to these sections in the CVC.
S&HC §§660, 670, 1450, 1460 et seq., 1470, and 1480	Caltrans	Regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.	The project will conform to these sections in the S&HC.
S&HC §§117, 660-711	Caltrans	Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery.	Encroachment permits will be obtained by transporters, as required.
CVC §35780; S&HC §660-711	Caltrans	Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.	Transportation permits will be obtained by transporters for all overloads, as required.
CVC §§35550-35559	Caltrans	Regulates weight and load limitations.	The project will conform to these sections in the CVC.
California State Planning Law, Government Code Section 65302	Caltrans	Project must conform to the General Plan.	The project will comply with the general plans of affected agencies.

CVC California Vehicle Code

CFR Code of Federal Regulations

S&HC California Streets and Highways Code

Table A5-11. Laws, Ordinances, Regulations, and Standards for Visual Resources

LORS	Purpose	Agency	Conformance
Alameda County ECAP	Describes policies defining and for preserving sensitive viewsheds in eastern Alameda County.	Alameda County Planning Department	See Section 17.0
Alameda County Zoning Ordinance	Establishes classes of zoning districts governing the use of land and placement of buildings and improvements. Includes design review guidelines.	Same as above	See Section 17.0

Attachment 6
NAHC Response

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 7, 2021

Sun Min Choi
Jacobs Engineering Group

Submitted via Electronic Mail
Via Email to: sunmin.choi@jacobs.com

Re: Nightshade BESS Byron, Alameda County

Dear Mr./Ms. Choi:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: katy.sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Environmental Planner

Attachment

Native American Heritage Commission
Native American Contacts List
December 07, 2021

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Indian Canyon Mutsun Band of Costanoan
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Native American Heritage Commission
Native American Contacts List
December 07, 2021

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cvltribe@gmail.com
(510) 575-8408

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3388 Ohlone
Fremont ,CA 94539 Bay Miwok
chochenyo@AOL.com Plains Miwok
(510) 882-0527 Cell Patwin
(510) 687-9393 Fax

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589 Yokuts
Porterville ,CA 93258
neil.peyron@tulerivertribe-nsn.gov
(559) 781-4271
(559) 781-4610 Fax

Wilton Rancheria
Jesus G. Tarango Jr., Chairperson
9728 Kent Street Miwok
Elk Grove ,CA 95624
jtarango@wiltonrancheria-nsn.gov
(916)683-6000 Office
(916) 683-6015 Fax

Wilton Rancheria
Dahlton Brown, Director of Administration
9728 Kent Street Miwok
Elk Grove ,CA 95624
dbrown@wiltonrancheria-nsn.gov
(916) 683-6000 Office
(916) 683-6015 Fax

Wilton Rancheria
Steven Hutchason, THPO
9728 Kent Street Miwok
Elk Grove ,CA 95624
shutchason@wiltonrancheria-nsn.gov
(916) 683-6000 Ext. 2006
(916) 683-6015 Fax

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. Foothill Yokuts
Salinas ,CA 93906 Mono
kwood8934@aol.com Wuksache
(831) 443-9702

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Attachment 7
Safety Data Sheets

Safety Data Sheets (SDSs)

Product Name: Rechargeable Prismatic Lithium-ion Cell

Commissioner: Ruipu Energy Co., Ltd.

Vkan Certification &Testing Co., Ltd.

Safety Data Sheets (SDSs)

Name of Product	Rechargeable Prismatic Lithium-ion Cell
Type/Mode	CB71173204EB 3.2V 280Ah 896Wh
Commissioned by	Ruipu Energy Co., Ltd.
Commissioner address	No.205, Binhai 6th Road, Konggang New District, Longwan District, Wenzhou, Zhejiang, China.
Supplier	Ruipu Energy Co., Ltd.
Supplieraddress	No.205, Binhai 6th Road, Konggang New District, Longwan District, Wenzhou, Zhejiang, China.
Inspection according to	Globally Harmonized System of Classification and Labelling of Chemicals（GHS, Rev.8）
Emergency telephone number	+86-18301870986/+86-021-38618067
Remarks	
Seal of CVC Date of issue：2021.3.9	

Approved by: Huang Kun Reviewed by: Zhang Siyao Tested by: Liu Zhen

SECTION 1:PRODUCTANDCOMPANY IDENTIFICATION

Product Identifier

Product name: Rechargeable Prismatic Lithium-ion Cell

Model: CB71173204EB 3.2V 280Ah 896Wh

Other means of identification

Synonyms: none

Relevant identifieduse of Product and uses advised against

Recommended Use:-

Uses advised against:

Details of theSupplier of the safety data sheet:

Name: Ruipu Energy Co., Ltd.

Address: No.205, Binhai 6th Road, Konggang New District, Longwan District, Wenzhou, Zhejiang, China.

Telephone: +86-18301870986/+86-021-38618067

Fax: -

Postcode: -

E-mail address: gaos@chinarept.com

Emergency telephone number

Company Emergency Phone Number: +86-18301870986/+86-021-38618067

SECTION 2:HAZARDS IDENTIFICATION

Classification

The watt-hour rate of the product is 896 Wh, it is belong to class 9 dangerous goods.

The product is tested according to Section 38.3 of the Recommendations on the Transport of Dangerous Goods, the test report number: RZUN2021-0923

Other information

Caution! Avoid short circle, place in high temperature environment, put into water, or damage the shell.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description: Chemical power supply based on nonaqueous electrolyte. Composed by positive electrode, negative electrode, diaphragm, electrolyte and shell.

Hazardous ingredients:

Common Chemical Name	Chemical Formula	Concentration (%)	CAS No.	EC No.
Aluminum	Al	12.4	7429-90-5	213-0072-3

Copper	Cu	16.1	7440-50-8	213-159-6
Lithium Iron Phosphate	$LiFePO_4$	30	15365-14-7	921-62-3
Carbon (proprietary)	C	13.5	7782-42-5	231-955-3
Separator (proprietary)	$(C_3H_6)_n$	3.9	9003-07-0	/
Electrolyte (proprietary)	$LiPF_6$/EC+DEC	24.1	/	/
Lead	Pb	Not Detected	7439-92-1	231-099-0
Cadmium	Cd	Not Detected	7440-43-9	231-152-8
Mercury	Hg	Not Detected	7439-97-6	18540-29-9

SECTION 4: FIRST-AID MEASURES

First aid measures

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Swallowing: Do not induce vomiting. Get medical attention.

Most Important Symptoms/Effects

No information available.

Indication of any immediate medical attention and special treatment needed

Inform physician. Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

CO_2, dry chemical powder, wet sand, plenty of water (for cooling).

Unsuitable Extinguishing Media:No information available.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

Special hazards arising from the substance or mixture:

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when

subjected to high temperature (>150℃), When damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

SECTION 6:ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.

Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas.

Environmental precautions

Environmental PrecautionsRefer to protective measures listed in Sections 7 and 8.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

SECTION 7:HANDLING AND STORAGE

Precautions for safe handling

Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse.
More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. No smoking at working site. Materials to Avoid: Strong oxidizing agents, Corrosives.

Conditions for safe storage, including any incompatibilities

Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short-circuits. Materials to Avoid: Strong oxidizing agents, Corrosives.

SECTION 8:EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

Use ventilation equipment if available. Safety shower and eye bath.

Personal Protective Equipment:

Respiratory System: Not necessary under conditions of normal use.

Eyes: Not necessary under conditions of normal use.

Clothing: Wear appropriate protective clothing.

Hand: Safety gloves.

Other Protect:

No smoking，drinking and eating at working site. Wash thoroughly after handling.

SECTION 9: Physical and chemical properties

PhysicalState	Form: Prismatic
	Color: Blue
	Odour: Odourless
	Odor Threshold: No information available

Change in condition:	
pH, with indication of the concentration	Not determined.
Melting point/freezing point	Not determined.
Initial boiling point and Boiling range:	Not determined.
Flash Point	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Auto-ignition temperature	Product is not self-igniting.
Decomposition temperature	Not determined.
Other Information	No further relevant information available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Stable under recommended storage and handling conditions (see section 7).

Chemical stability: Stable under normal conditions of use, storage and transport.

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to avoid: Strong heating, fire, Incompatible materials.

Incompatible materials: Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products: Carbon oxides, other irritating and toxic gases.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity: No data available.
Skin corrosion/irritation: No irritant effect.
Serious eye damage/irritation: Cause serious eye irritation.
Respiratory or skin sensitization: No sensitizing effects known.
Specific target organ system toxicity: No information available.
Note: The internal battery materials may cause irritation to eyes and skin.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation: Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. Contact a licensed professional waste disposal service to dispose of large quantities materials.
Other disposal recommendations
Recommendation: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

The product had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3.(see section 2)
EmS No: F-A ,S-I
Marine pollutant: No
Environmental hazards: Not applicable.
Special precautions for user: Not applicable.
Hazard Class: Class 9
UN/ID Number: UN3480
Packaging Group: II

Air transport

Label for conveyance: Class 9 lithium battery hazard label, Cargo Aircraft Only Label

The lithium ion batteries package complied with the requirements of Section IA of Packing Instruction 965 of 62nd DGR Manual of IATA（2021 edition）.

Maritime transport

Label for conveyance: Class 9 lithium battery hazard label

The lithium ion batteries package complied with the requirements of Packing Instruction P903 of IMDG CODE（Amdt. 39-18）(2018 Edition)

Land transport

Label for conveyance: Class 9 lithium battery hazard label

The lithium ion batteries package complied with the requirements of Packing Instruction P903 of European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR 2021)

SECTION 15: REGULATORY INFORMATION

International Regulation:

Globally Harmonized System of Classification and Labeling of Chemicals

Recommendations on the Transport of Dangerous Goods Model Regulations

IATA Dangerous Goods Regulations（DGR）

International Maritime Dangerous Goods（IMDG CODE）

EU Regulation:

EU regulation (EC) 1272/2008 on "Classification, Labeling and Packaging of Substances and Mixtures" (CLP)

Registration，Evaluation and Authorization of Chemicals（REACH）

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

US Regulation:

American National Standard for Hazardous Workplace Chemicals – Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation

SECTION 16: OTHER INFORMATION

This file is only effective to the batteries（CB71173204EB） provided by commissioner Ruipu Energy Co., Ltd.. The commissioner provides the composition information of batteries, and promises its integrity and accuracy. Users should read this file carefully, and use the batteries in correct method. Vkan Certification & Testing Co., Ltd. (CVC) doesn’t assume responsibility for any damage or loss because of misuse of batteries.

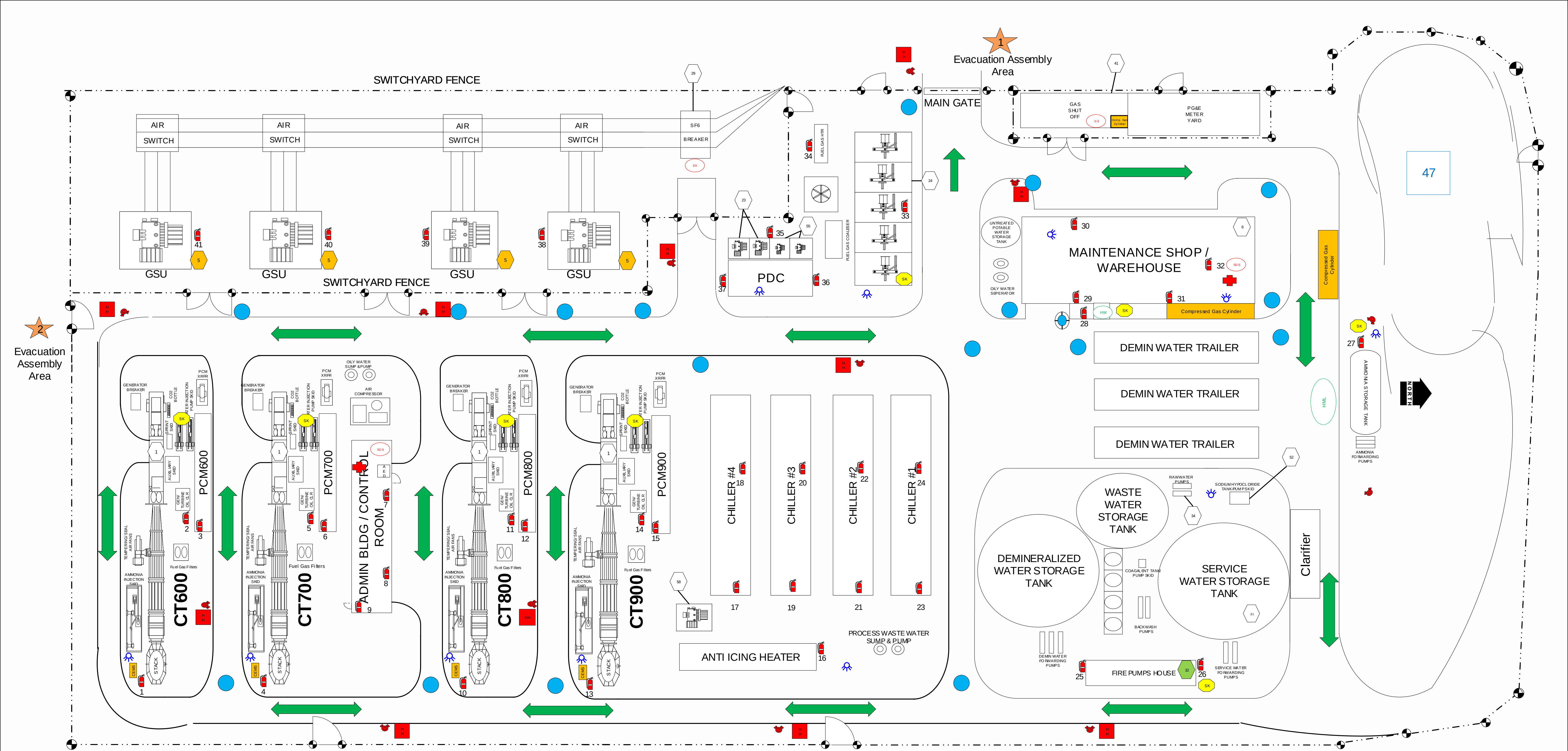
Important

1. The test report is invalid without the official stamp of CVC.
2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of CVC.
3. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. The test report is invalid if altered,
5. Objections to the test report must be submitted to CVC within 15 days,
6. This report is valid for the samples provided by commissioner only.

**The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented. **

Address: No.3, Tiantai 1st Road, Kaitai Avenue, Science City, Guangzhou，Guangdong, China.
Building D, BASIGO INTELLIGENT, No.179, Guangpu East Road, Huangpu District, Guangzhou, P. R. China.
Tel：020 32293888
FAX：020 32293889
Post Code：510663
E-mail： office@cvc.org.cn
http://www.cvc.org.cn

Attachment 8
Emergency Site Map



	Equipment Conlalmrlll Hazardous Material!/ Hazardous Materlals	Hazardolts Mateflals
I	General Electric; (GE) IM--6000PC Sprmt Combusll00 Turbine ceoeeetcrs [CTGl fx4l	Generator Lubrkatooo Oil
IIIII	Continuous Errussions Monrtonng System (CEMS) enclosures lx4l	CEM Cahbrabon Gases
Au,aflary Skid	CTG AuJUllary Sldd b4l	Turbine Lubocatlon Oil
CO2 Bottles	CTG Fire Protection Sf:ld (CO2 CyllfIOefs) (x4)	carbon Dioxide
G'''	Generator Step.Up Transformer (GSU) (x4)	Mineral Insulating Oil, and Compressed N<trogen Gas evt,ncl==
S	GSU COmpre=-d Gas Storage	COmpressed Nitrogen
'	Unrven.al Waste Storage	Umven.al Waste
	Oihi Water Sumo	[illegible]
	OllyWaterS!!,parator	[illegible]
eoc	Power 0,stnbution Center !POC}	Lead Aod 6attenes
''	Aux Transformers /IC2l	Mineral Insulatm1 Oii
''	Fuel Gas Compressor Skid	[illegible]
''	230 KV Circuit Breal:er	Sulfur llexafluorlde !SF6)
32	fire Water Puma Sbd	300 Gallon Diesel No. 2 fll<!l Tank
''	Process Waste Water forwardmg Pumps	Aluminum (o;,aulant Solutooo

	Equipment Contamlng Hazardous Materials/ Hazardous Matenals Locations	Hazardous Matenals
	Aqueous Ammoria Storage Tank	19% Aqueous Ammonia
	Warehouse and Maintenance Building (Hazardoos M<tenals Storage)	storage of hydraulic oil, lubncatlon oil, gas turbine compressor cleanln1 fluid, acetylene, o,cygen, propane, CEMS calibration eases
41	Fuel aas letdown Station	Compressed Helium, Nitrogen, and Hydrogen Gas Cylinders
	Chiller Packalle	R 134A (1-1-1-2-Tetrafluoroethane), Soles! 220 Oil
	Control BuildlnQ	FM 200 Fire Extll'l!ulshlrur seent
	Power Control Module (PCM) (K4)	lead Acid Batteries
	CTG (PCM) Transformer (x4)	Mineral Insulating 0ll
52	Chemical Storage Tote	Sodium Hypochlonte (12.S% solution) Spectrus NXU00 DMP 6016, 0MP 3001
SS	Station service Transformer; (K4)	Mineral Insulating 0ll
58	Antl-lcma Transformer	Mineral insulatma 0ll
HML	Hazardous Materials loadlng/Unloilding erea	
HW	Hazardous Waste Storaae (Includma Oill	

	Emergency Equipment
	First Aid/AEO
	Safety Shower/Eye Wash
SDS	Safety Data Sheets
SK	Spill Kit
ES	Electric: Shutoff
GS	Gas Shutoff
	Fire Extinguisher
	Fire Hydrant
HH	Fire Hose House
	CTG Fire Projection Skid (CO2 Cylinders) (x4)
31	Service/Fire Water Storage Tank (45' DIA.)
32	Fire Water Pump Skid

	Evacuation
	Evacuation Routes
	Evacuation/Staging Area
	Sita Drainage
	Storm Drain Inlet
47	Detention Pond
	Safe Drain BMP

Figure 2
Facility Site Map
Mariposa Energy Project

Attachment 9
Public Services Will Serve Letters

Alameda County Fire Department
6363 Clark Avenue • Dublin, CA 94568 • fire.acgov.org
Tel (925) 833-3473 • (510) 632-3473 • Fax (925) 875-9387

WILLIAM L. McDONALD
Fire Chief

SERVING:
City of Dublin
City of Emeryville
City of Newark
City of San Leandro
City of Union City
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Unincorporated Areas of Alameda County
Alameda County Regional Emergency Communications Center
"Accredited Center of Excellence"

December 9, 2021

Mariposa Energy Center
Nightshade BESS Project
Attn: Sarah Fafard
Project Manager, Nightshade BESS
633 W. 5th Street, 27th Floor,
Los Angeles, CA 90071

Subject: "Will Serve" Letter for Fire Services for Mariposa Energy Center and Proposed Project Nightshade

Dear Ms Fafard:

In response to your request, this letter will serve as confirmation that the Alameda County Fire Department has determined there will be no significant change in the service level required by our Department to serve the proposed Nightshade BESS which will be collocated at the Mariposa Energy Project, located at 4887 Bruns Road in the City of Byron, California.

ACFD is the responding agency for the site and that we will still serve it when the BESS facility is installed. We believe the level of service required by the addition of the BESS will not impact our Department and that our Department has the necessary personnel, equipment, and facilities to support the Mariposa Energy Project and Nightshade BESS during and after the installation.

Sincerely,

William L. McDonald
Fire Chief

Will Serve Letter from Alameda County Sheriff's Office has been requested and will be filed when received.