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CALPINE GREENLEAF 1 EMERGENCY GENERATOR

FACILITY CLOSURE PLAN

KIEWIT PROJECT NO. 20057371

ISSUED: JANUARY 27, 2025

REVISION H – ISSUED FOR INFORMATION

TABLE OF CONTENTS

TITLE **PAGE**

DEFINITIONS AND ABBREVIATIONS

ACRONYM	DEFINITION
BMP	Best Management Practice
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CRR	Conditions and Reporting Requirements
CT	Combustion Turbine
CWA	Clean Water Act
DWR	Department of Water Resources
EC	Environmental Coordinator
EEA	Energy Emergency Alert
ESSRRP	Electricity Supply Strategic Reliability Reserve Program
FRAQMD	Feather River Air Quality Management District
GE	General Electric
GL1	Greenleaf 1
GLH	Calpine Greenleaf Holdings Inc. LLC
KPC	Kiewit Power Constructors
kV	Kilovolt
LORS	Laws, ordinances, regulations, and standards
MV	medium voltage
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric Company
SCR	Selective Catalytic Reduction
SEC	Sutter Energy Center
SWPPP	Storm Water Pollution Prevention Plan
TM2500	GE TM2500 Aeroderivative Gas Turbine
WEAP	Worker Environmental Awareness Program

EXECUTIVE SUMMARY

The Department of Water Resources (DWR) owns two General Electric TM2500 gas turbines (TM2500) with Selective Catalytic Reduction (SCR) emission control units and supporting auxiliary equipment. The two TM2500 units are currently operating at Calpine Greenleaf Holdings, Inc. LLC (GLH), Greenleaf 1 (GL1) site near Yuba City, California as part of DWR's Electricity Supply Strategic Reliability Reserve Program (ESSRRP). ESSRRP assets operate to ensure the continued reliability of California's electrical grid, particularly during "extreme events," as defined in the Public Resources Code. On September 3, 2021, Calpine Greenleaf Holdings, Inc. LLC (GLH) filed a self-certification application with the CEC requesting a license to temporarily host and operate two 30 megawatt (MW) General Electric Company (GE) TM2500-G4 gas turbine package units at the site. The TM2500s have been in operation at GL1 since achieving commercial operation in the summer or 2021.

The Facility Closure Plan will remove the TM 2500's and associated equipment and Greenleaf 1 will be decommissioned.

1. INTRODUCTION

This Facility Closure Plan for the Greenleaf 1 site will be submitted to the California Energy Commission's (CEC) Siting, Transmission, and Environmental Protection Division as fulfillment of the requirement below.

The original licensing document, *CEC Staff's Recommendation to License* (21-TPG-02) contains Conditional and Reporting Requirements (CRR), *CRR-9* states:

At the end of the life of the permit, to ensure that a planned facility closure does not create adverse environmental, health, and safety impacts, the project operator shall submit a facility closure plan to the CEC for review and approval at least 6 months (or other time period agreed to by the CPM) prior to commencement of closure activities.

Appendix A provides the CEC Staff's Recommendation to License with the referenced CRRs.

1.1. PLAN PURPOSE AND OBJECTIVES

This Facility Closure Plan delineates the comprehensive approach for the disposal and proper abandonment of the described equipment and associated infrastructure at Greenleaf 1. It elaborates on the expected equipment decommissioning, material handling, and land restoration activities, ensuring they are conducted in accordance with regulatory codes and alleviation commitments. The plan aims to assure that all aspects of the decommissioning process adhere to a high standard of environmental stewardship and regulatory compliance. This Facility Closure Plan has been prepared based on the best information available at this time. Procedures and considerations for the decommissioning, removal, transportation, and disposal of equipment/material may vary based on the situation and condition at the time removal.

1.2. GREENLEAF 1

Greenleaf 1 (GL1) is located near Yuba City California. The approximately 0.85-acre project site is located southwest of the Yuba County Airport at 5087 S Township Road and is 600 feet east of Calpine's Sutter Energy Center (SEC). The SEC is a 578 MW natural gas-fired, combined-cycle electrical generating facility that was certified by the CEC on April 4, 1999, and began commercial operation on July 2, 2001, and is fully operational at this time. GL1 is the former site of the decommissioned 49.5 MW Greenleaf 1 Cogeneration facility. In 2021 The Department of Water Resources (DWR) contracted with GE and Kiewit Power Contractors (KPC) for the procurement, design, construction, and commissioning of the natural gas-fired temporary power generators. GLH operates GL1 under a contract with DWR. Upon completion of decommissioning and restoration, the project site will be left in a permanent decommissioned state. Additional development or improvements are not planned or incorporated into the project.

2. PLAN OVERVIEW AND COMPONENTS

2.1. PLAN OVERVIEW

The primary goal of the General Closure Condition is to avoid creating significant adverse impacts during decommissioning and demolition. This Facility Closure Plan includes the following objectives:

- Describe the nature of the closure (temporary, permanent)
- Describe plans for continued use of facility land and equipment
- Outline procedures for implementing safe layup
- Describe plans to reuse and recycle plant equipment and materials
- Describe procedures to be used to demolish and transport equipment and materials
- Analyze potential environmental and regulatory impacts of shutdown, demolition, and decommissioning

2.2. SAFE LAYUP AND DISMANTLING

At such time that DWR intends to cease operations and commence safe layup of the facility. Initial activities will involve safe layup of the facility and the draining, removal, and appropriate disposal of all hazardous materials. Equipment and materials planned for reuse or sale will be evaluated for potential removal from the site.

2.3. DECOMMISSIONING AND PERMANENT CLOSURE OVERVIEW

Once authorized by GLH, the process of decommissioning and removal of salvageable pieces of equipment will begin. All equipment added as part of the 2021 ESSRRP project is considered property of DWR. This will include the combustion turbine, generator, SCR, CEMS and other usable equipment. This equipment will be disconnected from plant infrastructure and transported to other locations for reuse, recycling, or sale. The assignment of allocation (removed, reused, etc.) of removed equipment is at the discretion of the owner DWR. All foundations installed as part of the GL1 project will be demolished and removed. The GL1 project did not include any underground piping, conduit, or duct bank. No underground demolition is planned as part of the facility closure.

Once the salvageable equipment has been removed, the remaining facilities and equipment that will not be reused/recycled and were part of the ESRRP will be removed. GL1's natural gas and water supply pipelines will be capped near the GL1 tie in point.

Further, the fee title owners for offsite easements granted to GLH may similarly desire that underground or above-ground lateral installations not be removed. However, in order to obtain approval from the CEC for any eventual demolition of such installations, DWR will perform an environmental assessment in Section 4.0 that assumes all onsite installations and foundations are removed.

Any areas of ground surface that are disturbed during demolition operations will be graveled and/or regraded, consistent with the property's zoning.

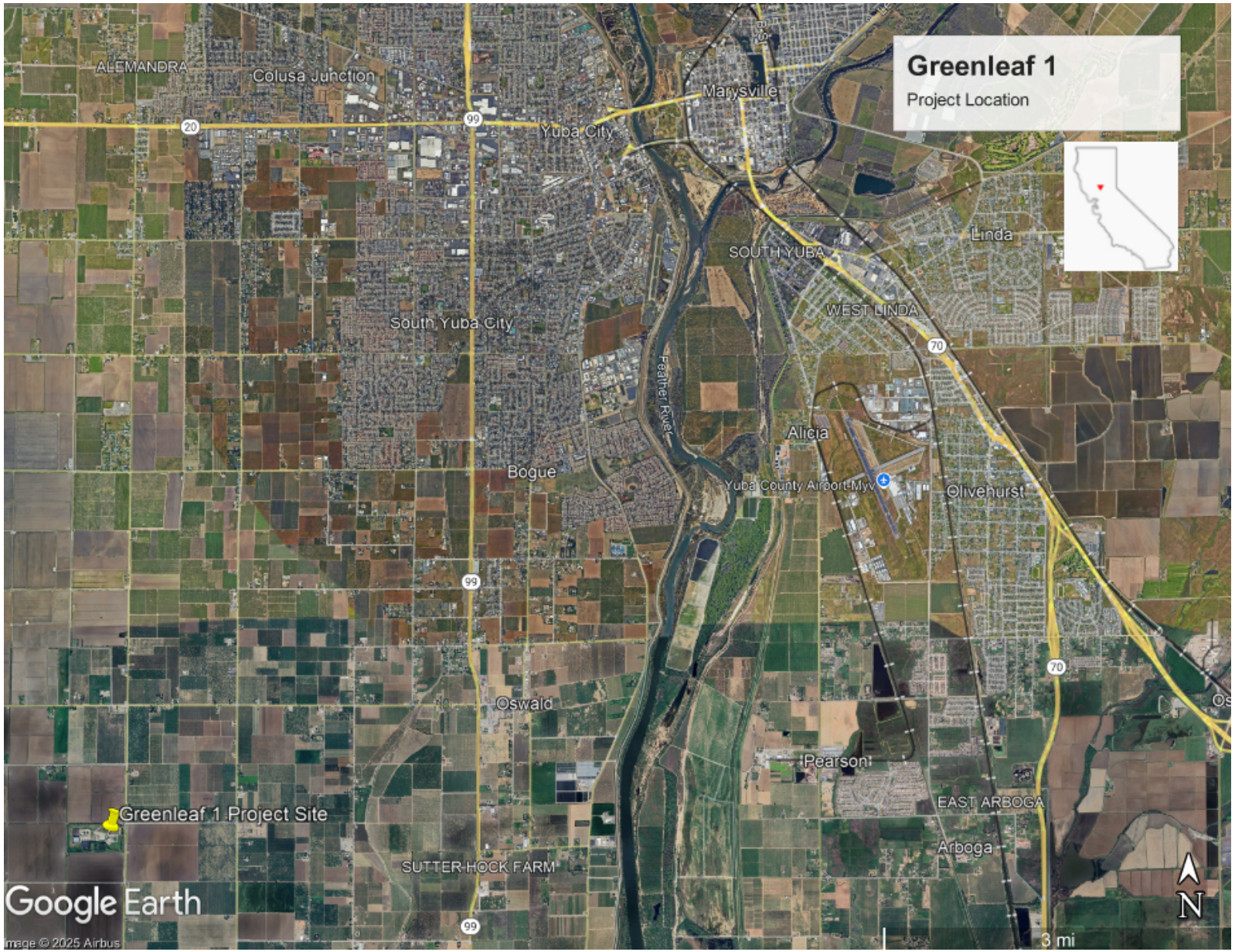
In accordance with Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.147, contractor will establish and implement procedures for a project specific lockout/tagout (LOTO) program. Focus of the procedure will be safety of personal and protection of equipment. Elements of the procedure will include an Energy Control Program, Lockout/Tagout, Employee Training, and Periodic Inspections. Hazardous Energy will be isolated and stored energy will be released. Personnel will verify there is no Hazardous Energy present in the isolated portion of the system prior to starting work. All machines and equipment will be properly shut off and not able to be started up again prior to demolition or removal activities.

The 13.8-kV generator tie-lines will be disconnected at each 120kv-138kv Generator Step-up Transformers (GSU). Cable and associated cable tray to be removed up to the GSU. Fuel gas piping and instrumentation up to the tie-in point will be capped off with a blind flange.

2.4. SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS OF DECOMMISSIONING

This Facility Closure Plan includes a discussion of impacts that decommissioning may have on the environment, and proposed measures to mitigate any potentially significant adverse impacts. The Facility Closure Plan also provides a discussion of the impact of the decommissioning on the GL1's compliance with applicable laws, ordinances, regulations, and standards (LORS). Section 5.0 of this Plan includes a discussion of the potential environmental impacts associated with facility decommissioning, as well as a discussion of the consistency of the decommissioning procedures with LORS. Section 5.0 concludes that there will be no significant environmental impacts associated with implementing the actions specified in this Closure Plan and that the decommissioning process will comply with all applicable LORS.

Appendix A provides document - *CEC Staff's Recommendation to License*. This document contains a list of referenced Conditional and Reporting Requirements (CRR). A majority of the CRRs apply to the original construction and operation of Greenleaf 1. As such, most CRRs are not directly applicable to decommissioning activities. However, in order to provide the Commission with awareness of the types of measures and best management practices that would be implemented during decommissioning, the existing CRRs are attached and referenced as needed.


Greenleaf 1
Project Location
ALEMANDRA
Colusa Junction
Marysville
Yuba City
South Yuba City
SOUTH YUBA
Linda
WEST LINDA
Feather River
Alicia
Bogue
Yuba County Airport (MYV)
Olivehurst
Oswald
Pearson
EAST ARBOGA
Arboga
SUTTER HOCK FARM
Greenleaf 1 Project Site
Google Earth
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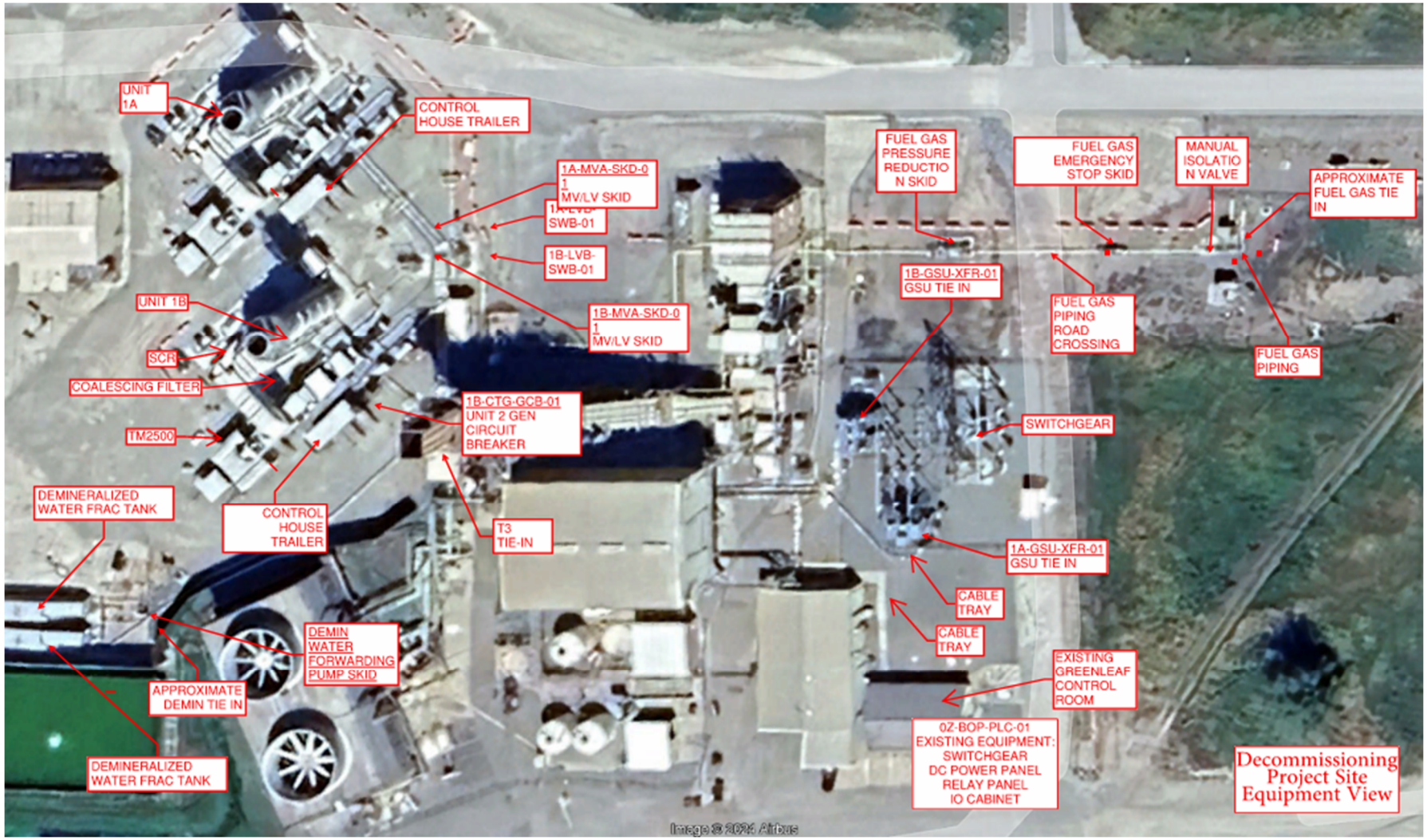
UNIT 1A
CONTROL HOUSE TRAILER
1A-MVA-SKD-01 MV/LV SKID
1A-LVB-SWB-01
1B-LVB-SWB-01
1B-MVA-SKD-01 MV/LV SKID
UNIT 1B
SCR
COALESCING FILTER
TM2500
1B-CTG-GCB-01 UNIT 2 GEN CIRCUIT BREAKER
DEMINERALIZED WATER FRAC TANK
CONTROL HOUSE TRAILER
T3 TIE-IN
DEMIN WATER FORWARDING PUMP SKID
APPROXIMATE DEMIN TIE IN
DEMINERALIZED WATER FRAC TANK
FUEL GAS PRESSURE REDUCTION SKID
FUEL GAS EMERGENCY STOP SKID
MANUAL ISOLATION VALVE
APPROXIMATE FUEL GAS TIE IN
1B-GSU-XFR-01 GSU TIE IN
FUEL GAS PIPING ROAD CROSSING
FUEL GAS PIPING
SWITCHGEAR
1A-GSU-XFR-01 GSU TIE IN
CABLE TRAY
CABLE TRAY
EXISTING GREENLEAF CONTROL ROOM
0Z-BOP-PLC-01 EXISTING EQUIPMENT: SWITCHGEAR DC POWER PANEL RELAY PANEL IO CABINET
Decommissioning Project Site Equipment View
Image © 2024 Airbus

3. PLANT LAYUP ACTIVITIES

3.1. STAFF AND SECURITY

GL1 is manned during normal business hours. When operations or maintenance staff are required during off hours, they are dispatched from the adjacent SEC facility. Access to the GL1 site is controlled via a security fence and gate shared with the SEC site. The security fencing/gate and video capabilities will be continued 24 hours per day and 7 days per. Safe layup procedures will ensure that no environmental or safety hazards are present in the event of facility closure.

3.2. SAFE POWER PLANT EQUIPMENT ISOLATION

The safe layup of a power generation facility can create hazards to personnel and potential equipment damage due to the potential for accidental energization of equipment. The safe layup process includes the de-energization of certain control systems and the partial de-energization of others. If not specifically mitigated, these conditions can lead to equipment starting and/or valves opening or closing unintentionally. Accordingly, GL1 in coordination with KPC will isolate specific equipment to ensure unintentional operation does not occur.

Some of the major equipment to be isolated are listed below:

- Combustion Turbine (CT) – Disable and decouple starting means
- GSU – removing low side connections
- Natural gas supply – blinding and/or air gapping the supply

The safe layup of GL1 will mitigate the hazards associated with inadvertent energization during the layup process. All other maintenance work, during the safe layup activities will be conducted in accordance with GL1 and SEC existing procedures.

3.3. REMOVAL OF HAZARDOUS MATERIALS

During safe layup of GL1, the Operations Manager will arrange to remove all chemicals and hazardous materials from the site.

The ammonia system will be evacuated of ammonia and flushed with water as appropriate. Before removal of the aqueous ammonia totes, the piping will be inspected to ensure that there are no conditions that would preclude proper operation during the transfer of ammonia to a transport container/vehicle. The aqueous ammonia will then be removed from the totes and taken offsite for disposal by a license waste hauler and disposal company. Totes will be sealed or flushed with water as appropriate until final removal.

Lube oil will be evacuated and flushed as appropriate. Before removal of the lube totes, the piping will be inspected to ensure that there are no conditions that would preclude proper operation during the transfer of lube oil to a transport container/vehicle. The lube oil will then be removed from the totes and taken offsite for disposal by a license waste hauler and disposal company.

Batteries will then be removed offsite and if not suitable for reuse by DWR will be disposed of at a licensed facility for battery reclamation.

Equipment containing chemicals will be drained and shut down to ensure public health and safety and to protect the environment.

3.4. GENERATOR TIE-LINE

During safe layup, the GL1 will be isolated from the generator tie-lines by opening the air break switch in the GL1 switchyard, tagging it out , and then grounding the high/low sides of the GSU thereafter KPC will commence with disconnection of the generator tie-line conductors from the low voltage side of each GSU. Additionally, the MV/LV skid tie-in to GL1 T3 Switchgear will be isolated on LOTO by GL1 in order for the cables to be removed by KPC prior to disconnecting GSU connections. GL1 to coordinate any additional feeds to T3 as required for future use as determined by GLH.

4. DECOMMISSIONING AND CLOSURE

Before beginning decommissioning and closure, KPC or another qualified contractor will perform the closure functions. If not self-performed, KPC will provide the name(s) and qualifications of the selected contractor to the CEC CPM once the contractor has been selected.

After the determination has been made to close GL1, decommissioning will begin removing the usable equipment (provided by DWR for reuse or recycle, followed by removal of other materials provided by DWR) for salvage or scrap.

4.1. FACILITIES TO BE REMOVED

Table 4-1 presents the disposition of the following GL1 equipment. Equipment will be disconnected from existing electrical, fuel, lubrication, and other lines and disconnected from their foundations. Equipment will be disassembled and relocated, offered for sale, or recycled as listed.

TABLE 4-1. GL1 Major Equipment Utilization

Equipment	Future Utilization
Combustion Turbine Generator	Reuse
Selective Catalytic Reduction System	Reuse
Ammonia Flow Control Unit Skid	Reuse
Continuous Emission Monitoring System	Reuse
Ammonia Totes	Reuse
Ammonia Forwarding Skids	Reuse
Waste Oil Tanks	Reuse
Wash Water Drain Tanks	Reuse
Demineralized Water Forwarding Pump Skid	Reuse
Demineralized Water Frac Tank	Rental
Fuel Gas Pressure Reduction Skid	Reuse
Fuel Gas Emergency Stop Skid	Reuse

Fuel Gas Coalescing Skid	Reuse
Fuel Gas Final Filter	Reuse
MV/LV Skids	Reuse
BOP Power Panel	Recycle/Sell
Emerson RX3i PLC based system (BOP)	Recycle/Sell
Instrumentation (non-skidded)	Recycle/Sell
Control House Trailer	Reuse

4.2. FACILITIES TO REMAIN IN PLACE

Excepting the high voltage switchyard, none of the GL1 facilities associated with the ESSRRP will remain in place. All equipment foundations, above ground utilities, and installations as part of GL1 from the tie-in points will be removed. The PG&E-owned gas metering station and the GLH owned GSUs will remain and are not associated with this scope of work beyond the decommissioning of equipment associated with GL1. If in case that GLH requests that any equipment or material be left for reuse, GLH shall request approval from DWR and notify KPC prior to starting decommissioning activities.

4.3. DECOMMISSIONING AND RECYCLING

All other materials and equipment at the site provided by DWR as part of ESSRRP that will not be reused will be decommissioned, removed, and transported for recycling and salvage value. In addition to other material, this could include piping, wiring, concrete, and other ancillary equipment. These materials will be transported offsite by the contractor to be sold for salvage value (motors, working equipment), or recycling/scrap value (piping, metal scrap, etc.).

4.4. SITE RESTORATION

Once equipment has been removed from the site, site may require minor cleanup and restoration. Any excavations will be graded to match the existing drainage and hard surfaces may be restored to pre-decommissioning condition, consistent with the state of GLH's GL1 project site prior to participation in the ESSRRP program. The contractor will require a temporary laydown space for equipment or scrap. There is sufficient developed laydown space within GLH's GL1 project property site to be used for these purposes. It is not envisioned that laydown activities will result in any ground disturbance.

4.5. SITE FENCING

The site is secured by fencing around the entire perimeter, with a security gate. All demolition, decommissioning, and salvage activities will take place within the site fence. After GL1 decommissioning is complete, the fenced area will be retained for future uses by GLH.

4.6. SCHEDULE AND DECOMMISSIONING WORKFORCE

Facility closure site activities are expected to take approximately four (4) months from the date of commencing decommissioning activities. The decommissioning schedule assumes up to three (3) months of engineering (at an offsite location), followed by three (3) months of decommissioning onsite, followed by one (1) month of close-out onsite. Work is expected to occur five (5) days per week and up to ten (10) hours per day. Weekend, night, or holiday work is not expected but may occur.

4.7. NOTICE TO PUBLIC AGENCIES

Notice to public agencies will begin prior to commencing decommissioning activities. Table 4-7 lists key agencies to be notified.

TABLE 4-7. Public Agencies to be Notified and Their Interest/Jurisdiction

Public Agency Name	Jurisdiction/Permit/Interest
California Independent System Operator	Balancing Authority
Sutter County Environmental Health	Notify the County of the cessation of operations and removal of ammonia, other hazardous materials.
Sutter County Public Works/Road Maintenance	Potential effects to local roadways of demolition truck traffic
Feather River Air Quality Management District (FRAQMD)	GLH to request GL1 be removed from the shared permits. Project Owner to request that FRAQMD process a request to bank air emission reduction credits.
California Water Boards	Notice of Intent (NOI) to comply with the terms of the General Permit to Discharger Storm Water Associated with Construction Activity.
California Department of Transportation	Construction notification of possible heavy hauls of turbines, generators, other major equipment
Pacific Gas and Electric Company	Discontinue use of the generator tie-line and natural gas.
Environmental Protection Agency, Pacific Southwest Region 9	Notify the EPA of the cessation of operations.
Sutter County Fire Department	Notify the department of the project plans.

5. ENVIRONMENTAL ANALYSIS OF DECOMMISSIONING

The following sections provide an environmental analysis for each of 14 different discipline areas that address the potential effects of permanent closure and decommissioning on the environment. This analysis indicates that decommissioning will have no significant adverse environmental impacts and that the decommissioning and permanent closure process will comply with applicable LORS.

TABLE 5-0. Environmental Analysis Disciplines Focus of Environmental Analysis

Discipline	Summary
Air Quality	Construction equipment will emit a minor amount of diesel exhaust and dust on a temporary basis during decommissioning activities. Upon permanent closure, no further air emissions will be generated from the facility.
Biological Resources	Permanent closure will not impact biological resources.
Cultural Resources	Permanent closure will involve minimal ground-disturbing activities impacting native soils that could contain previously undiscovered archaeological resources and will have no effect on cultural resources.
Geology and Paleontology	Permanent closure will involve minimal ground-disturbing activities impacting intact native soils or geological deposits that could contain significant fossils and will have no effect on geology or paleontological resources.
Land Use	No change in land use.
Noise	Facility operational noise will cease. There will be temporary, minor noise from equipment used for demolition and transport.
Public Health	Permanent closure will result in a net benefit from cessation of air emissions. A minor amount of diesel exhaust and fugitive dust will be emitted due to construction equipment operation.
Socioeconomics	Sufficient local workforce is available to complete the decommissioning.
Soil and Water Resources	Closure activities will ensure proper stormwater drainage after decommissioning. Foundations added for GL1 will be removed but all storm water controls will be left in place.
Traffic and Transportation	Decommissioning workforce will have no material impact on local traffic.
Visual Resources	Permanent closure will have a neutral impact on visual resources resulting from removal of the equipment at the site.
Hazardous Materials Management	Hazardous materials, including ammonia and petroleum products, will be properly removed and disposed of.
Waste Management	Project waste will be disposed of or recycled properly. Adequate landfill capacity is available for project wastes.
Worker Safety and Fire Protection	Compliance with existing worker safety and fire protection LORS during decommissioning activities will ensure no impacts.

Table 5-0 lists the environmental disciplines analyzed in this Facility Closure Plan. Many of these disciplines were not considered in the CEC Staff Assessment and Commission Final Decision based on the Governor's Emergency Orders in 2021. However, out of an abundance of caution, assessments are provided of the potential impacts of GL1's permanent closure and demolition along with a review of LORS compliance where applicable.

5.1. AIR QUALITY

The shutdown and cessation of GL1 operations will result in a minor long-term net benefit to air quality in the Feather River Air Quality Management District because GL1 will no longer be emitting air pollutants. Decommissioning activities will result in short-term, minor, and localized air quality impacts from tailpipe emissions from construction equipment used, waste/recycling truck trips, and construction worker commutes. Prior to the start of decommissioning activities, FRAQMD will be notified that GL1 is no longer in service and power generation capability will be completely removed from the site.

For decommissioning activities, contractor will implement dust control practices to reduce the potential for decommissioning activities generating dust from disturbed soil surfaces. Typical dust mitigation practices such as sprinkling, vegetative cover, wind breaks, and stone will be used with limitations and effectiveness considerations as well as site specific needs and weather conditions.

Compliance, monitoring, and recordkeeping shall be handled by an assigned onsite compliance manager.

TABLE 5-1. Table of applicable Air Quality LORs

Permit	Condition	Requirement	Comment
California H&SC §2451, et seq. (Portable Equipment Registration Program – PERP	Allows the permitting of portable equipment under a Statewide registration program.	If portable equipment requiring permits is used for the decommissioning and demolition activities, that equipment will be registered through the CARB PERP.	All portable equipment will comply with the Statewide PERP.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-10	Engineering Controls – Dust Control measures.	The contractor will have a dust control plan during decommissioning activities.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-13	The project operator shall comply with the terms and conditions of the Authority to Construct (ATC) and the Permit to Operate (PTO) issued by the Feather River Air Quality Management District (FRAQMD).	Compliance with the FRAQMD air
Feather River Pollution Air Quality Management District (FRAQMD) – Nuisance Emissions	49	Nuisance emissions are not allowed.	Emissions from demolition equipment and activities will be monitored by an on-site compliance staff.
Feather River Pollution Air Quality Management District (FRAQMD) - Fugitive Dust	66	All reasonable precautions shall be utilized to prevent dust emission beyond the property line.	
Feather River Pollution Air Quality Management District (FRAQMD) - Surface Preparation and Cleanup	67	Project shall minimize use of VOC solvents to 20 gallons or less per year. Store all VOC's in approved storage containers.	

Feather River Pollution Air Quality Management District (FRAQMD) - Portable Engines	70	Portable engines shall not require an additional permit as long as they are registered with the CA Air Pollution Control Board

5.2. BIOLOGICAL RESOURCES

Decommissioning activities involve minor potential impacts to biological resources that can be mitigated using BMPs to control stormwater and manage hazardous materials in accordance with existing Conditions and Reporting Requirements. Additionally, the project site includes landscaped areas to the east and north of GL1, which are planned to remain in their current state and will not be disturbed. A Worker Environmental Awareness Program (WEAP) will be implemented to train construction workers about the importance of protecting and preserving biological resources. Adherence to Referenced CRR-8, CRR-9, CRR-11 requirements will ensure that biological and environmental resources are preserved. In accordance with CRR-8, contractor will assign a qualified Environmental Coordinator (EC) to assume responsibilities of designing a WEAP program, report special status plants, wildlife, or habitat. EC will be available for updates or consultation upon request. Note, at the time of the temporary generator installation, the site was considered a previously disturbed site and was in a decommissioned state.

TABLE 5-2. Table of applicable Biological Resource LORs

Permit	Condition	Requirement
Clean Water Act (CWA) of 1977	Title 33, USC, sections 1251-1376, and Code of Federal Regulations, part 30, sections 330.5(a)(26)	Compliance would be managed through use of the Construction Stormwater Pollution Prevention Plan (SWPPP).
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-8	An Environmental Coordinator (EC) shall be retained by the project operator. The EC shall have the authority to review and approve the following materials and assume the following duties: • per CCR-9, design the Worker Environmental Awareness Program; • issue stop-work orders as per CCR-9; • Report to the CPM, CDFW or USFWS any take of special status plants, wildlife, or habitat (per CCR-11): •The EC shall have the following qualifications: at minimum, hold a bachelors degree in Environmental Science, Environmental Planning, Urban Planning, or a related field, and have a minimum of 3 years of applicable, relevant experience; and •The EC shall be available to the CPM or their CEC staff-designee, for consultation and updates upon request.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-9	CCR-9: The project operator shall implement a Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, is informed about sensitive biological and cultural resources associated with the project. The WEAP must: • be developed by or in consultation with the EC and consist of an on-site or training center presentation in which supporting written material and electronic media are

		made available to all participants; • discuss the locations and types of known sensitive biological resources on the project site and adjacent areas; • present the reasons for protecting these resources; • include a discussion of applicable laws and penalties under law; • include samples or visuals of artifacts that might be found in the project vicinity; • include a discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed; • include a discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits; • present the meaning of various temporary and permanent habitat protection measures; • identify whom to contact if there are further comments and questions about the material discussed in the program; • include instruction that work crews are to halt work in the vicinity of a potential cultural resources discovery, and shall contact their supervisor, and that redirection of work would be determined by the construction supervisor, EC, and CPM; and • include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines. Verification: The project operator shall provide a quarterly compliance report to the CPM, a record of the number of persons who have completed the training in the prior months and a running total of all persons who have completed the training to date. The signed training acknowledgement forms from construction shall be kept on file by the project operator for a period of at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for 6 months following the termination of an individual's employment.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR -11	The project operator shall implement the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological and cultural resources: • Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar material that is approved by the CPM, and California Department of Fish and Wildlife (CDFW); • ensure that all food-related trash is disposed of in closed containers and removed at least once a week; • prohibit feeding of wildlife by staff and subcontractors; • prohibit non-security-related firearms or weapons on site;

	• prohibit pets on site; • report all inadvertent deaths of sensitive species to the Environmental Coordinator, who will, within 24 hours, notify the CPM, CDFW and United States Fish and Wildlife Service, as appropriate; and • minimize use of rodenticides and herbicides in the project area.

5.3. CULTURAL RESOURCES

The decommissioning activities will not involve ground disturbance outside the footprint of previous excavation, impact intact native soils, or affect known historic- or prehistoric-era cultural resources. Ground-disturbing activities for closure are expected to be minor. All utilities as part of the GL1 project were installed above ground. Underground piping, conduit, or duct bank removal is not expected as part of the closure activities. Additionally, the Greenleaf 1 Cogen project site was surveyed for cultural resources in 1984, prior to its construction. No cultural resources were identified on the project site. A cultural survey is not warranted as the area where excavations will occur have been previously disturbed. Adherence to CRR-4 will be followed in the case of a cultural resource being found. In the event a cultural resource is found, contractor will notify the project EC for consultation for CRR compliance.

TABLE 5-3. Table of applicable Cultural Resource LORs

Permit	Condition	Requirement
Section 106 of the National Historic Preservation Act, 54 United States Code § 300101- 320303; Code of Federal Regulations (CFR), 36 CFR Part 800 et seq.	Requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning.	There are no historic properties on the Project site
California Code of Regulations, Title 14, section 4852	Defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.	Decommissioning and demolition would not adversely affect cultural resources as the site is disturbed.
Public Resources Code, Section 5000	Establishes the California Register of Historical Resources (CRHR), establishes criteria for eligibility to the CRHR, and defines eligible resources.	Decommissioning and demolition would not adversely affect cultural resources as the site is disturbed.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-9	The project operator shall implement a Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, is informed about sensitive biological and cultural resources associated with the project.

CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR -11	The project operator shall implement the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological and cultural resources Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar material that is approved by the CPM, and California Department of Fish and Wildlife (CDFW); : • ensure that all food-related trash is disposed of in closed containers and removed at least once a week; • prohibit feeding of wildlife by staff and subcontractors; • prohibit non-security-related firearms or weapons on site; • prohibit pets on site; • report all inadvertent deaths of sensitive species to the Environmental Coordinator, who will, within 24 hours, notify the CPM, CDFW and United States Fish and Wildlife Service, as appropriate; and • minimize use of rodenticides and herbicides in the project area.

5.4. GEOLOGY AND PALEONTOLOGY

The decommissioning activities will not affect geological or paleontological resources. Ground- disturbing activity is expected to be minor and will involve removal of foundations. This will take place within the footprint of previous excavation and is not expected to impact intact native soils.

TABLE 5-4. Table of applicable Geology and Paleontology LORs

Permit	Condition	Requirement
California Public Resources Code (PRC) 5097.5	This law protects paleontological resources and establishes criminal and civil penalties for violations.	No paleontological resources were previously identified during project construction and operations, and decommissioning and demolition activities will occur within the existing disturbed site
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CCR-12	Improvements to the site made for the project including concrete pads, temporary equipment, and temporary or permanent fencing must be removed once the project's permit has expired.

5.5. LAND USE

The project site is zoned Industrial/Miscellaneous Industrial. The project site is not mapped or designated by the California Public Utilities Commission as Fire Threat. Additionally, the project would not remove healthy, mature scenic trees zoned as Farmland, agriculture, forest land, or timberland. The property has a General Plan land use designation of LI, Light Industrial.

5.6. NOISE AND VIBRATION

GL1 decommissioning would result in a minor reduction of area intermittent ambient noise because the project would no longer operate. Decommissioning activities could cause temporary noise impacts, mainly due to the operation of cranes, trucks, and other heavy equipment. Decommissioning is expected to be typical of other demolition projects in terms of schedule, equipment used, and other types of activities. Sound levels resulting from construction activities for demolition will at times exceed the 60 A-weighted decibels (dBA) at the nearest 1,500 feet residential receptor. CRR-3 addresses noise concerns at the project site but is limited to temporary project generators. In adherence with CRR-3 and to address any temporary noise concerns, the project will implement the Noise Complaint Resolution form for any noise complaints.

TABLE 5-6. Table of applicable Noise and Vibration LORs

Permit	Condition	Requirement
Occupational Safety and Health Act of 1970. 29 USC Section 651 et seq. Title 29 CFR Section 1910.95	Regulates the worker noise exposure to 90 decibels (dBA) over an 8-hour work shift. Areas above 85 dBA need to be posted as high noise level areas and hearing protection will be required.	Decommissioning and demolition activities would comply with these requirements.
California Title 8 CCR Section 5095 et seq.	Worker noise exposure is limited to 90 dBA over an 8-hour work shift. Areas where worker noise exposure exceeds 85 dBA must be posted as a noise hazard zone and a hearing conservation program is required.	Decommissioning and demolition activities would comply with these requirements.
Occupational Safety and Health Act of 1970. 29 USC Section 651 et seq. Title 29 CFR Section 1910.95	Regulates the worker noise exposure to 90 decibels (dBA) over an 8-hour work shift. Areas above 85 dBA need to be posted as high noise level areas and hearing protection will be required.	Decommissioning and demolition activities would comply with these requirements.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CCR-3 - Noise	If the project receives a noise complaint, project personnel shall document and investigate the complaint to determine the source of the noise. If the investigation determines that the noise is project related, project personnel shall attempt to resolve the complaint to the satisfaction of the complainant.

5.7. PUBLIC HEALTH

The shutdown and cessation of GL1 operations will result in a minor long-term net benefit to air quality in the Feather River Air Quality Management District because GL1 will no longer emit criteria pollutants or toxic air contaminants.

Decommissioning activities will result in short-term and localized air quality impacts from diesel emissions of trucks, cranes, and other equipment used in the decommissioning activities. The project will adhere to BMPs and mitigation measures to control fugitive dust emissions to ensure that significant and adverse impacts do not occur to air quality due to GL1 safe layup and demolition activities.

LORs related to public health are not applicable or anticipated. As described in the other sections, decommissioning activities will adhere to applicable LORs listed in Section 5.1 Air Quality, Section 5.12 Hazardous Materials, and 5.15 Worker Safety and Fire Protection. Together, this presents a comprehensive approach to mitigate known potential public health risks.

5.8. SOCIOECONOMICS

Facility closure will take place over approximately 4 months. Contractor will secure the necessary workforce from its current employees and the local area to the extent feasible. Yuba City has a population of approximately 69,000, and Sutter County has a population of approximately 98,000. Additionally, the Sacramento metro area with population of over 2 million is located 38 miles to the south as a viable source for the skilled labor to support the GL1 decommissioning if the necessary workforce is not available within either the local City or County. Therefore, the project will not place an undue burden on the local workforce. Contractor will attempt to secure the necessary workforce from the local area to the extent feasible.

5.9. SOIL AND WATER RESOURCES

Decommissioning and permanent closure of GL1 will have a minimal effect on soil and water resources. Decommissioning will take place within the existing GL1 developed area, which is primarily covered in gravel or paved. No sensitive water or soil resources are existing within the GL1 fence line. The temporary generator project received a SWPPP waiver from the State Water Resources Board but was required to maintain best management practices (CRR-2). The project for GL1 decommissioning does not have an exception to providing and implementing a SWPPP. Contractor will adhere to CRR-2 and also develop a SWPPP as part of the GL1 activities. SWPPP development will include but not limited to sight assessment, erosion/sediment BMPs, good housekeeping BMPs, and recordkeeping.

TABLE 5-9. Table of applicable Soil and Water Resource LORs

Permit	Condition	Requirement
Porter-Cologne Water Quality Control Act of 1967, California Water Code Section 13000 et seq.	Requires the State Water Resources Control Board and the nine Regional Water Quality Control Boards to adopt water quality criteria to protect state waters.	Compliance would be managed through the use of a Construction SWPPP.

The Safe Drinking Water and Toxic Enforcement Act of 1986, Health and Safety Code section 25249.5 et seq.	Prohibits the discharge or release of chemicals known to cause cancer or reproductive toxicity into drinking water sources.	Compliance would be managed through the use of a Construction SWPPP.
State Water Resources Control Board Resolution No. 68-16 (the "Anti-Degradation Policy")	Declares the State's policy that, among other things, the discharging of wastes will not pollute or result in a nuisance.	Compliance would be managed through the use of a Construction SWPPP.
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CCR-2 – Water Resources	The project operator shall implement stormwater best management practices (BMPs) to ensure that no contaminated water is discharged off-site.

5.10. TRAFFIC AND TRANSPORTATION

Workforce travel to GL1 for decommissioning activities will result in an insignificant impact to traffic and transportation. The license for GL1 assumed that the initial construction workforce would peak at 150, with an average of 100. The estimated maximum monthly demolition workforce is 40. The highest estimated number daily truck trips is 8, and the Passenger Car Equivalent (PCE) ratio for trucks is 1.5, such that 8 truck trips is the same as 12 passenger car trips. Adding 40 worker commute trips to the 12 truck trips, there would be a total of 52 vehicle trips per day during times of peak demolition activity. The expected number of daily trips for facility closure is approximately 1/3 of the number of trips during the initial facility construction. Therefore, decommissioning of GL1 will not result in significant traffic and transportation impacts.

Oversized loads will be avoided where possible however some oversized loads are expected for transporting large equipment such as turbines. The number and routes of trucks is dependent on equipment size and final use. Total number of oversized loads over the course of decommissioning is estimated at less than 10. Contractor will coordinate oversized trucks use with the Caltrans Transportation Permit system for oversize/overweight vehicles including definition and classification of said trucks for Routing and Safety Requirements. Contractor will coordinate additional permitting for Sutter County and Yuba City if required. Material final disposal and reuse locations are not known at this time. Additional permitting may be required upon complete information.

TABLE 5-10.1 Table of applicable Heavy Haul Load LORs

Official	**Permit/Ordinance**
State of California Department of Transportation - Caltrans	Single Trip Permit - loads greater than 8'-6" wide, 14'-0" high, and over 80,000 pounds. Annual Permit - loads up to 12'-0" wide, 14'-0" high, and Kingpin to Rear Axle (KPRA) 40'-0" maximum (except as specifically allowed per CVC). Travel on red routes prohibited. Repetitive Permit - loads up to 12'-0" wide, 14'-6" high, and 90'-0" long. Sea Container Permit - 4-Axle tractor and 3-Axle trailer of maximum Overall Length (OAL) of 65'-0", and Kingpin to Rear Axle (KPRA) 40'-0" maximum, transporting intermodal cargo containers on state highways in the vicinity of the Port of Los Angeles and the Port of Long Beach. Variance Permit - vehicles greater than 15'-0" wide, 17'-0" high, and 135'-0" long, or on special hauling equipment which exceeds the Department's standard method of weight classification. Motorsport Permit - vehicles going to an Automobile Competition Committee for the United States (ACCUS) sanctioned event at one of the locations currently authorized per vehicle code.

	STARS2 (Caltrans Single-Trip Application and Routing System 2) - STARS2 is an electronic method to obtain single-trip permits that requires customers to have a Caltrans debtor account and internet access to apply.
SUTTER COUNTY DEVELOPMENT SERVICES DEPARTMENT	Height greater than 14 feet Width greater than 8.5 feet Length greater than 40 feet for single unit or 65 feet for combo unit (See CVC 35400) Weight greater than LEGAL (See CVC 35550)
Yuba City	Yuba City, California - Code of Ordinances TITLE 4. - PUBLIC SAFETY CHAPTER 9. - TRAFFIC Article 13. - Regulating Trucks and Special Vehicles on Certain Streets

TABLE 5-10.2. Table of Traffic and Transportation LORs

Permit	Condition	Requirement
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-10	Engineering Controls – Dust Control measures
CEC APPROVAL OF LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS, DOCKET NO. 21-TPG-02	CRR-13	The project operator shall comply with the terms and conditions of the Authority to Construct (ATC) and the Permit to Operate (PTO) issued by the Feather River Air Quality Management District (FRAQMD).
Feather River Pollution Air Quality Management District (FRAQMD)	66	All reasonable precautions shall be utilized to prevent dust emissions beyond the property line.

TABLE 5-10.3. Table of Estimated Truck Traffic

Material types	Estimated Quantity	Total number of haul trips	Daily number of haul trips
Concrete	700 yards	70	8
Metal	50 tons	5	5
Equipment (non-permit)	40 each	40	8
Equipment (Permit)	10 each	10	2

5.11. VISUAL RESOURCES

GL1 demolition will result in a net benefit in terms of visual resources because it will involve the removal of above grade structures at the facility. Decommissioning will not cause adverse visual resources effects and no mitigation measures are needed.

5.12. HAZARDOUS MATERIALS MANAGEMENT

Hazardous materials expected to be removed from the site during the decommissioning process are listed in Table 5-12. These materials include aqueous ammonia and hydraulic/lubricating/mineral oils. Any

other operational chemicals listed as hazardous will be removed as part of the facility closure activities. The Contractor will recycle unused chemicals and gases where feasible. Equipment containing chemicals will be drained and shut down to ensure public health and safety and to protect the environment.

Hydraulic fluids and oils will be transferred directly to an oil drum and/or tanker truck from their respective holding tanks and vessels. Storage tanks/vessels that will be rinsed will have the rinsate collected and transferred to tanker trucks or put into drums for proper disposal. Other items that are not feasible to remove at the point of generation, such as smaller containers, lubricants, paints, thinners, solvents, cleaners, batteries, and sealants will be kept in a locked storage facility with integral secondary containment, meeting all requirements for hazardous waste storage until removal for proper disposal. Oils will be recycled offsite at an appropriately licensed facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Contractor will implement a Hazardous Materials Business Plan.

TABLE 5-12.1. Hazardous Material Removal List

Material	Site Use	Location	Procedure
Hydraulic/Lubricating/Mineral Oil	Used in rotating equipment and transformers	Contained within equipment	Remove unused totes and containers to other facilities for reuse. Drain liquid/gases from equipment prior to removal. Rinse tanks and piping as necessary prior to processing and recycling. Product will be recycled offsite or disposed of at an appropriate facility.
Compressed gases	Calibration gases and fire suppression.	Emission monitoring system and compressed gas storage area	Chemicals to new facility.
Ammonia	SCR	Totes near SCR	Remove unused totes and containers to other facilities for reuse.

TABLE 5-12.2. Table of Hazardous Material LORs

Permit	Condition	Requirement
California Health & Safety Code §§ 25500 to §§ 25543; 19 California Code of Regulations §§ 2720 –2734	Directs facility owners, storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the USEPA, and the designated local Administering Agency for review and approval.	All materials on site during decommissioning are being handled and would be removed according to approved plans during decommissioning including the existing site plan, if applicable.

5.13. WASTE MANAGEMENT

After cessation of operations, all remaining nonhazardous wastes will be collected and disposed of in appropriate recycling centers, landfills or waste collection facilities. Hazardous wastes will be disposed of according to all applicable LORS. The site will be secured 24 hours per day during the closure activities.

Pre-closure activities include removal of products such as hydraulic, lubricating, and mineral oils; and other materials to reduce the risk of exposure of workers and the environment to chemicals. All operational liquids and chemicals are expected to be removed prior to demolition, including remaining calibration and other gas cylinders, and any maintenance lubricants and solvents.

Unused or partly used containers may be recycled at other similar facilities to the extent feasible.

Hazardous materials containers and pipelines will be rinsed clean when feasible and the rinsate collected for offsite disposal. When possible, these materials will be placed directly into tanker trucks or other transport vessels and removed from the site at the point of generation to minimize the need for hazardous material and waste storage at the site.

Decommissioning will entail breakdown and removal of structures and facilities. Residual materials from these activities will be transported to the Landfill where the debris will be processed for recycling. The Contractor expects to reuse, recycle, or resell GL1 material and waste to the extent possible.

Mechanized equipment and trained personnel will be used to safely dismantle and remove structures including removal of the turbine generators and related equipment, including MVLV skids, power cables, cable tray, and aboveground piping within the project boundary. All major equipment is targeted for reuse at a new project site.

If any buried facilities are removed, any resulting cavities will be backfilled with suitable material of similar consistency and permeability as the surrounding materials and compacted.

Debris will be placed in temporary onsite storage area(s) pending transportation to the recycling/disposal facilities.

The debris and removed equipment will be cut or dismantled into pieces that can be safely lifted or carried with the onsite equipment being used. A front-end loader, backhoe, or other appropriate equipment will be used to crush or compact compressible materials. These materials will be laid out in a processing area to facilitate crushing or compacting with equipment prior to transport for disposal/recycling. Steel, glass, and other materials will be temporarily stockpiled as needed at or near the processing location pending transport to an appropriate offsite recycling facility.

The following nonhazardous waste streams potentially could be generated during decommissioning activities:

Plastics, glass, insulation, and wood. These wastes will be recycled where practical. Waste that cannot be recycled will be disposed of weekly in a Class III landfill.

Metal. Waste will be recycled, where practical, and non-recyclable waste will be deposited in a Class III landfill.

Concrete waste will be recycled, where practical. Waste that cannot be recycled will be disposed of in a Class III landfill.

5.13.1. NONHAZARDOUS SOLID WASTE

The following nonhazardous waste streams potentially could be generated during decommissioning activities:

- Plastics, glass, insulation, and wood - These wastes will be recycled where practical. Waste that cannot be recycled will be disposed of weekly in a Class III landfill.
- Metal - Waste will be recycled, where practical, and non-recyclable waste will be deposited in a Class III landfill.
- Concrete and Asphalt. Waste will be recycled, where practical. Waste that cannot be recycled will be disposed of in a Class III landfill.

5.13.2. WASTEWATER

Wastewater generated during closure of GL1 will include stormwater runoff and equipment washdown water. Depending on the chemical quality of these wastewaters, they could be classified as hazardous or nonhazardous. If needed, wastewater would be sampled and if found hazardous would be properly disposed of offsite.

5.13.3. SOLID WASTE DISPOSAL

Nonhazardous waste (often referred to as municipal waste or garbage) will be recycled or deposited in a Class III landfill. Any hazardous wastes will be delivered to a permitted Class I landfill consistent with the operational solid hazardous waste disposal method. The project is not expected to have any significant environmental impacts related to solid waste disposal.

5.13.4. HAZARDOUS WASTE

Hazardous waste is not anticipated at GL1. Any hazardous waste generated will be stored at the facility for less than 90 days. The waste will then be transported to a Treatment, Storage, and Disposal Facility (TSDF) by a permitted hazardous waste transporter.

According to The California Department of Toxic Substances Control (DTSC), there are numerous facilities in California that can accept hazardous waste for treatment and recycling. For ultimate disposal, California has three hazardous waste (Class I) landfills. The closest commercial hazardous waste disposal facility is Chemical Waste Management’s Kettleman Hills Landfill.

5.14. WORKER SAFETY AND FIRE PROTECTION

An Injury and Illness Prevention Program (IIPP) will be provided. All decommissioning workers will be required to undergo proper health and safety training. Decommissioning of GL1 poses a minor potential of causing a material fire. Site training will include a protocol for personnel to inform the local authorities in the event of a fire. Fire extinguishers will be located throughout the work site within ready access by craft and staff. Any additional action by site personnel will be defined at the time project execution.

5.15. ALTERNATIVE ANALYSIS

Under CEQA, an “Alternatives Analysis” is not required for demolition of facilities or decommissioning activities, except for the demolition of facilities of historical significance, which is not applicable here.

APPENDIX A
CEC STAFF'S RECOMMENDATION TO LICENSE

DOCKETED	
Docket Number:	21-TPG-02
Project Title:	Greenleaf 1 Temporary Power Generators Proceeding
TN #:	239617
Document Title:	CEC Staff's Recommendation to License
Description:	STAFF'S RECOMMENDATION TO LICENSE GREENLEAF 1 TEMPORARY POWER GENERATORS (21-TPG-02)
Filer:	Steve Kerr
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/8/2021 9:23:32 AM
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State of California **The Resources Agency of California**

M e m o r a n d u m

To: Drew Bohan, Executive Director **Date:** September 8, 2021

From: **California Energy Commission**
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(916) 661-8213

Subject: STAFF'S RECOMMENDATION TO LICENSE GREENLEAF 1 TEMPORARY POWER GENERATORS (21-TPG-02)

The California Energy Commission's (CEC) Siting, Transmission, and Environmental Protection Division staff hereby submits this recommendation to the Executive Director to grant a license for two temporary power generators at the site of the decommissioned Greenleaf 1 Cogeneration facility in accordance with Governor Newsom's Proclamation of State of Emergency issued on July 30, 2021 (Emergency Proclamation), and the CEC's August 17, 2021, Order number 21-0817-2 regarding the process for licensing new emergency and temporary power generators.[1,2]

On September 3, 2021, Calpine Greenleaf Holdings, Inc. (GLH) filed a self-certification application with the CEC requesting a license to temporarily host and operate two 30 megawatt (MW) General Electric Company (GE) TM2500-G4 gas turbine package units at the site of the decommissioned 49.5 MW Greenleaf 1 Cogeneration facility in Sutter County. The approximately 60 MW natural gas-fired simple cycle electric generating facility, named Greenleaf 1, would be sited adjacent to and east of the Sutter Energy Center (SEC) [criterion (a)(1)]. The SEC is a 578 MW natural gas-fired, combined-cycle electrical generating facility that was certified by the CEC (97-AFC-02) on April 4, 1999 and began commercial operation on July 2, 2001. The California Department of Water Resources (CDWR) has contracted with GE and Kiewit Power Contractors, Inc for the procurement, design, construction, and commissioning of the natural gas-fired temporary power generators (TPGs). GLH or its affiliate would operate Greenleaf 1 under a contract with CDWR. The facility is planned to commence commercial operation on September 17, 2021, if licensed. Based on the information available

1 Governor Newsom's July 30, 2021 Emergency Proclamation can be viewed here: https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf.
2 CEC's August 17, 2021 Order No. 21-0817-2 can be viewed here: https://www.energy.ca.gov/filebrowser/download/3659.

at the time of review, the project would deliver net peak energy by October 31, 2021 [criterion (a)(2)].

The TPGs would be available to be deployed during a grid emergency due to a sudden energy supply shortage in California resulting from an extreme heat wave or wildfire event, as designated and directed by the California Independent System Operator (CAISO). The TPGs would reduce the strain on energy infrastructure, increase energy capacity, and make energy supply more resilient this year to protect the health and safety of Californians.

Staff reviewed the self-certification filed by GLH and provides the summary below to support the Executive Director's verification that the self-certification is complete and meets the requirements of section (a) of CEC Order number 21-0817-2. Therefore, staff recommends that the Executive Director file a decision granting the license subject to the conditions and reporting requirements in **Attachment 1**.

Installation

The TPGs would be installed on previously disturbed land at the site of the decommissioned Greenleaf 1 Cogeneration Facility (see **Figure 1**) [criterion (a)(3)]. The total area is approximately 0.85 square acre. The nearest residence is on Township Road approximately 1,700 feet northeast of the project site.

GLH's existing electrical, natural gas, and water infrastructure would be modified to integrate the new TPGs. Site preparation includes the placement of gravel, approximately 945 feet of aboveground pipe for natural gas and water connections, and construction of 300 feet of new access road required to avoid aboveground piping for the natural gas line. For electric connection, two existing generator step-up units would be used to step up the voltage to interconnect into GLH's existing 115 kilovolt (kV) transmission lines which, would provide power to the CAISO controlled grid [criterion (a)(1) and (a)(3)iv]. Approximately 750 feet of aboveground conduit is required to connect the existing transformer to the TPGs. The TPGs would utilize an existing natural gas line, located at the northeast corner of the site, to interconnect and receive natural gas from the Pacific Gas and Electric Company (PG&E) natural gas system [criterion (a)(3)ii]. Demineralized water for NOx control would be provided from the SEC site through an existing pipeline. [criterion (a)(3)iii]

As described below, the TPGs will be retrofitted with a selective catalytic reduction (SCR) system and catalytic oxidation system as soon as practicable. CDWR has indicated that the SCR system will be available and installed by late 2022. [criterion (a)(4)]

Air Quality

The natural gas-fired TPGs are expected to operate very infrequently and during grid emergencies only, as designated and directed by the CAISO, until they meet all local, state, and federal regulatory requirements. Because the TPGs will only operate under emergency conditions for a limited time, this emergency operation is not expected to result in a significant emissions increase (an increase in emissions that is significant for that pollutant that is defined and regulated under the United States Environmental Protection Agency's (U.S. EPA) New Source Review program).

As required by the Emergency Proclamation, the California Air Resources Board (CARB) is developing a mitigation strategy to offset emissions associated with emergency operations of these units. The mitigation plan must include investments to improve air quality in communities, with a particular focus on disadvantaged communities, and to reduce risk to sensitive populations. Details of mitigation options will be determined through a public process. To the extent feasible, CARB will gather local perspectives on how best to mitigate the effects of local increases of emissions to potential and historically affected parties.

Projected Emissions

Emissions guarantees are valid for the ambient temperature range from 9°F to 118°F and a gas turbine generator load between 50% and 100% of capacity as defined in steady state conditions. Emission guarantees are as follows:

- NOx: 25 ppmvd at 15% O_2,
- CO: 203 ppmvd at 15% O_2.

Current best available control technology (BACT) limits for these TPGs under air district rules and regulations are as follows:

- NOx: 5 ppmvd at 15% O_2,
- CO: 6 ppmvd at 15% O_2,
- VOC: 2 ppmvd at 15% O_2.

The TPGs would comply with PM10 and SO_2 BACT requirements by using pipeline quality natural gas.

The selective catalytic reduction (SCR) and oxidation catalyst are advanced active emission control technology systems that are not off-the-shelf products and require custom engineering design before manufacture, delivery, and installation. There is a 10 to 12-month lead time for delivery and it would take an additional 1 to 2 months for installation. In September 2021, CDWR will start negotiations with GE to procure the SCR for the Greenleaf 1 TPGs [criterion (a)(4)]. SCR commissioning is anticipated by late 2022. Once these post combustion controls are installed on the TPGs, a BACT determination will be made by the Feather River Air Quality Management District (FRAQMD) to ensure the TPGs are in compliance with permit

requirements. The SCR and oxidation catalyst are expected to bring the remaining criteria pollutants (i.e., NOx, CO, and VOCs) into compliance with BACT.

FRAQMD is in the process of granting Authority to Construct (ATC) and Permit to Operate (PTO) permits to the TPGs. The PTO would rely on the Emergency Proclamation and the United States Department of Energy's (DOE) Section 202(c) order, which would temporarily waive federal permitting requirements, such as the National Ambient Air Quality Standards under the Clean Air Act, as the TPGs are unable to comply without the SCR installed. The project operator would report emissions from the TPGs in excess of federal air permits to the CEC for transmittal to the CARB [criterion (d)]. The operators are expected to bring the TPGs into compliance with all regulatory requirements by the earliest feasible opportunity.

Table 1. TM2500-G4 Steady State Estimated Emissions - Gas Fuel Operations							
Ambient Temp	F	100	100	100	100	100	100
GTG Load	%	100	90	80	70	60	50
NOx	lb/hr	26.7	26.7	26.7	26.7	26.7	26.7
CO	lb/hr	33.2	34.9	33.1	30.8	26.5	30.4
VOC	lb/hr	2.3	2.4	2.3	2.1	1.8	2.1
PM10/PM2.5	lb/hr	4	4	4	4	4	4
SOx	lb/hr	0.2	0.19	0.17	0.16	0.14	0.12

Table 2. TM2500-G4 Startup & Shutdown Estimated Emissions - Gas Fuel Operations							
Event	**Duration (min)**	**Heat Input (MMBtu - HHV)**	**NOx (lb)**	**CO (lb)**	**VOC (lb)**	**PM10/PM2.5 (lb)**	**SOx (lb)**
Startup	10.0	19.6	3.1	19.4	0.8	0.5	0.1
Shutdown	9.0	23.4	3.4	21.6	0.9	0.6	0.3

Stack Information

Exhaust parameters vary with ambient conditions. Since the TPGs are only expected to operate during grid emergencies, which are expected to occur on hot days, the following stack information and parameters reflect those for a 100-degree day:

- Stack Height: 26' 1-1/4"
- Exhaust Velocity: 190 ft/s
- Exhaust Temperature: 982.7 °F
- Exhaust Flow: 178.1 lb/s

Testing Requirements

GE has provided emission guarantees for NOx and CO based on the following EPA source test methods:

- NOx: EPA METHOD 20 (25 ppmvd at 15% O_2)
- CO: EPA METHOD 10 (203 ppmvd at 15% O_2)
- PM10/2.5 and SO_2 emissions would meet BACT requirements through the use of natural gas fuel.

Additional source testing verification is not proposed as these TPGs are expected to operate very infrequently and during grid emergencies only, as designated and directed by the CAISO, until they meet all local, state, and federal regulatory requirements. Performing additional source testing would require the TPGs to operate for prolonged periods of time that they would not otherwise experience.

Biological Resources

Because the TPGs would be placed on previously graveled or paved substrates, no direct impacts such as loss of federally- or state-protected plants, wildlife, or habitat are expected. Similarly, the proposed access road is located onsite in previously disturbed areas, with no biological constraints identified. Indirect impacts such as lighting, installation and operational noise, and stormwater runoff are expected to be minimal and temporary. Wildlife likely have habituated to such activities at adjacent industrial facilities.

NOx emissions from operation of the TPGs would result in nitrogen deposition from the atmosphere to the biosphere. Excessive nitrogen deposition can act as a fertilizer and promote the growth of non-native vegetation. The increased dominance and growth of invasive annual grasses is especially prevalent in low-biomass vegetation communities that are naturally nitrogen-limited. Based on CEC staff's best estimate, the TPGs would run infrequently and during grid emergencies only, as designated and directed by the CAISO. Therefore, CEC does not expect that this low production would adversely affect state or federally sensitive species or habitat. Deposition of nitrogen oxides is not expected to adversely affect state- or federally-protected species or habitat; therefore, no mitigation is required.

As required by the CEC, Calpine will implement a Workers Environmental Awareness Program (WEAP) based on the SEC's existing WEAP to educate and train on-site staff to recognize, avoid, and report biological resources. [criterion (a)(5)]

Cultural Resources

The Greenleaf 1 project site was surveyed for cultural resources in 1984, prior to its construction. No cultural resources were identified on the project site. Additionally, the proposed package units would be installed at a formerly paved portion of the Greenleaf 1 project site. Therefore, no impacts on cultural resources are expected.

If excavation of utility trenches or other ground disturbance is required to install the TPGs, Calpine will implement responsible best management practices required by the CEC to prevent or ameliorate the impact of inadvertent cultural resource discoveries. These practices are based on Calpine's existing WEAP at the adjacent Sutter Energy Center under CEC jurisdiction. The best practices will consist of retaining an environmental coordinator to oversee compliance with mitigation requirements; including procedures for responding to inadvertent discoveries of cultural resources or human remains in the WEAP; and implementing stop-work, assessment, and reporting procedures in the unlikely event of an inadvertent discovery [criterion (a)(5)].

Environmental Justice

CEC staff reviewed and applied the environmental justice methodology used by DOE—the Federal Interagency Working Group on Environmental Justice and NEPA Committee's Community Guide to Environmental Justice and NEPA Methods—to determine whether the project is located in an environmental justice community. CEC staff also used the methodology in the U.S. EPA's Guidance on Considering Environmental Justice During the Development of Regulatory Actions, which is consistent with the DOE methodology. Based on these methodologies, CEC staff used the most current data available, which is from the U.S. Census, to determine whether the population in the census tract in which the project is located (06101051000) is considered an environmental justice community based on minority (race or ethnicity) or low-income status. CEC staff used 2019 5 Year American Community Survey data at the census tract level, specifically, the DP05 ACS Demographic and Housing Estimates for minority data and S1701 Poverty Status in the Past 12 Months for low-income data. Based on this data, CEC staff determined that the population within the project's census tract is considered an environmental justice population based on low-income status.

In addition to identifying whether the population residing within the project area (census tract in which the project is located) is considered an environmental justice community, CEC staff also looked to the current environmental setting in which the project is proposed to determine whether the project's census tract can be considered environmentally burdened. This consideration is separate from whether a population is considered an environmental justice population, or not. This additive consideration can provide more environmental information on metrics such as air pollution, water pollution, wastewater discharges, hazardous waste presence, versus an environment with low pollution levels and few contaminated properties.

At the Federal level, the tool to conduct this analysis is EJSCREEN. CEC staff used this public online screening tool to better understand the demographic and environmental risk indicators in a geographic area (project's census tract) to ensure that community concerns are not overlooked. It presents demographic and environmental information for a selected geography. The individual indicators have a score. CEC staff compared the environmental indicators with all of those in California. There is no overall score, unlike the overall score provided by the

CalEnviroScreen tool. CEC staff interprets percentiles at 90 or above, compared with statewide levels, to be worth noting when considering how a project would impact a community. None of the EJ Indexes applicable to Greenleaf Unit 1 had percentiles at 90 or above. The highest percentile, 76, was for the wastewater discharge indicator. The project would not contribute to an increase in wastewater discharged and thus not disproportionately impact this population.

At the California State level, the tool to conduct this analysis is CalEnviroScreen version 3.0. CEC staff used this public online screening tool to determine if the site is located within a disadvantaged community (DAC) and confirmed that the census tract within which the Greenleaf 1 site is located has an overall CalEnviroScreen percentile of 54.41 and thus is not considered a DAC. Scores are presented for the individual indicators and a total overall score is provided. The scores are compared with all the scores throughout California's roughly 8,000 census tracts. An overall score in the 75th percentile or above, is considered a DAC.[3]

Staff does not anticipate that the installation and operation of the TPGs at the proposed site would overburden or disproportionately impact an EJ population. CARB is responsible for developing and implementing a State-funded plan to mitigate the effects of additional emissions authorized by the Emergency Proclamation beyond ordinarily permitted levels. The mitigation plan will include plans to invest in programs to improve air quality in communities and to reduce the risk to sensitive populations.

Facility Design

The CEC would verify that design and construction of the facility complies with the applicable California Building Code through a third-party California-licensed delegated chief building official (DCBO) contractor. Verification would include review of materials and methods documentation of the facility design and construction to be submitted by the project operator, followed by onsite inspections by the DCBO and CEC staff [criterion (a)(6) and (a)(8)]. If any significant code-violation items are found, the DCBO would include them in a report as punch-list items and will follow up to ensure that they are resolved.

Hazardous Materials

No acutely toxic hazardous materials would be used on site during operation, and none of the proposed-for-use materials would pose significant risk of off-site impacts because of the quantities on site, their relative toxicity, their physical state, or their environmental mobility. The hazardous materials to be used for the TPGs would also be added to the existing site's Hazardous Materials Business Plan to inform first responders during an emergency. The existing site's Emergency Action Plan would include any required emergency response actions,

3 CalEPA 2017 – California Environmental Protection Agency (Cal/EPA). Designation of Disadvantaged Communities Pursuant to Senate Bill 535 (De Leon), April 2017. Available online at: https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf.

including facility evacuation, hazardous material spill clean-up, and fire prevention. The proposed project would have a less than significant impact to the public and meets the self-certification requirements related to Hazardous Materials. [criterion (a)(5)]

Hydrology and Water Quality

The TPGs would be located on previously disturbed land adjacent to the SEC site. If a project would disturb a total of 1.0 acre or more of land, it would have to file for coverage under the Construction General Permit (CGP). The CGP is a National Pollutant Discharge Elimination System (NPDES) permit administered by the State Water Resources Control Board (State Water Board) which includes filing a construction Stormwater Pollution Prevention Plan (SWPPP). However, according to communication between CDWR and the State Water Board staff, the State Water Board allows for emergency projects to start construction before a CGP has been issued provided that the project operator files for coverage within 30 days of start of construction. CDWR was informed by the State Water Board through email communication that because of the low rain erosivity of the project site the requirements of a CGP/SWPPP could be waived. The rain erosivity for the site is low primarily because it is unlikely that the site would receive any significant rain since construction would occur mostly outside the rainy season (October-May). CDWR asked and the State Water Board issued a waiver for the requirements of a construction SWPPP through WDID 5S51W005182 [criterion (a)(5)].

Since the TPGs would operate as a simple cycle, the project is exempt from the requirements for an industrial SWPPP.

Demineralized water for NOx control would be piped from SEC via an existing water line [criterion (a)(3)iii]. The amount of water needed for the TPGs would be minimal and is not expected to cause SEC to exceed its permitted annual water consumption.

The proposed project would have a less-than-significant impact to the public and meets the self-certification requirements related to Hydrology and Water Quality.

Land Use

The proposed project meets the self-certification requirements related to Land Use. GLH provided a copy of a Grant Deed with its self-certification exhibiting control over the site [criterion (a)(3)]. The TPGs would be located on previously disturbed land at a site that was formally used for energy production. Accordingly, the site has the ability to accommodate additional generating capacity. CDWR identified the Greenleaf 1 site as one of a very few in California capable of rapidly developing generation capacity.

The project site is zoned Industrial/Miscellaneous Industrial. The project site is not mapped or zoned as Farmland, agriculture, forest land, or timberland, and is not located in an area

designated by the California Public Utilities Commission as Fire Threat. Additionally, the project would not remove healthy, mature scenic trees.

Transmission Systems

The proposed interconnection to the existing switchyard, including the step-up transformer and breakers, appear to be adequately sized. The CAISO has applied for a limited tariff waiver to the Federal Energy Regulatory Commission for the interconnection of the Greenleaf temporary generation, thus initiating the interconnection process as required for the self-certification process. The proposed project meets the self-certification requirements related to receiving authorization to interconnect the TPGs to the transmission grid. [criterion (a)(7)]

Noise

The expected sound emissions from the TPGs at the existing Greenleaf site were modeled using an industry-accepted sound prediction model. The structures associated with both the existing Greenleaf plant and the adjacent Sutter combined cycle facility were included in the model to take into account their effect on sound propagation in various directions. Based on this modeling, the noise levels would not exceed 60 dBA at the project boundaries, would be approximately 43 to 49 dBA at the residential receptors northeast on Township Road and 42 dBA at the residential receptor northwest on Pierce Road.[4] The US EPA's recommended threshold for residents is 55 dBA during the daytime hours of 7 a.m. to 10 p.m. and 45 dBA during the nighttime hours of 10 p.m. to 7 a.m. The project's noise level would be below this nighttime threshold for most of these receptors, except the nearest residence northeast on Township Road. Any nighttime operation, when it would be desirable to keep the sound level at or below 45 dBA, would be unlikely or rare. The project's noise impact to the public would be less than significant and the project meets the self-certification requirements related to noise. [criterion (a)(6)]

Modeling results are usually accurate, and CEC staff does not anticipate any noise-related concerns. However, to ensure the public can report any undesirable noise conditions associated with the project, staff has included a noise complaint reporting and resolution process in **Attachment 1**.

4 50 dBA is equivalent to rain, car driving at approximately 25 mph at 100 feet, or quiet conversation.
60 dBA is equivalent to a gas lawnmower at approximately 300 feet, or car driving at 65 miles/hour at approximately 150 feet.

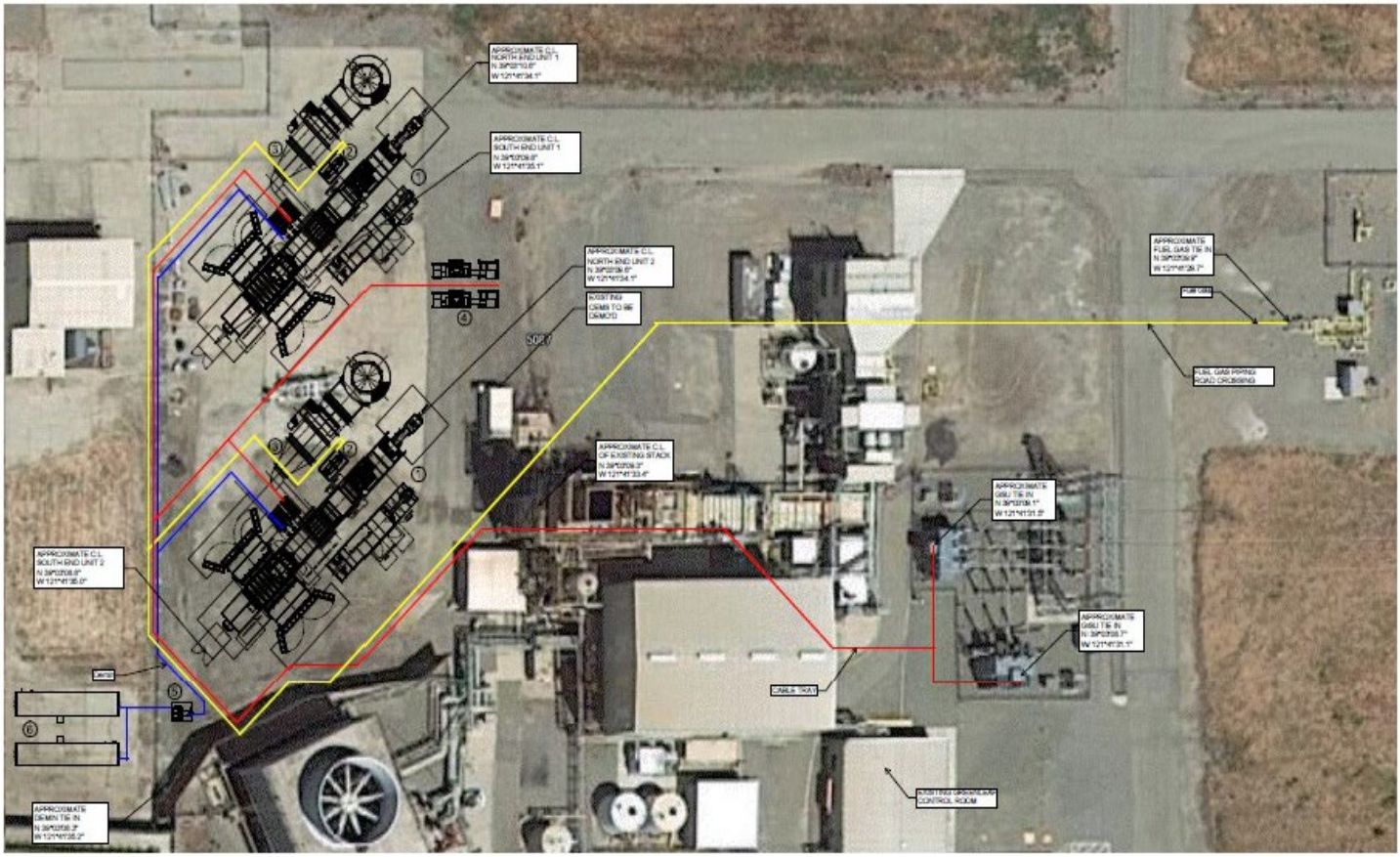

Figure 1: Site Plan
Source: TN 239598 Calpine Greenleaf Holdings, Inc Self-Certification Application

ATTACHMENT 1:
LICENSE FOR GREENLEAF 1 TEMPORARY POWER GENERATORS (21-TPG-02)
CONDITIONS AND REPORTING REQUIREMENTS (CRR)

CRR-1: The project operator shall provide a quarterly compliance report to the CEC Compliance Project Manager (CPM) including a record of the number of persons who have completed the Workers Environmental Awareness Program training in the prior quarter and a running total of all persons who have completed the training to date. The signed training acknowledgement forms from construction shall be kept on file by the project operator for a period of at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for 6 months following the termination of an individual's employment.

CRR-2: The project has been issued a waiver of the requirements of a construction stormwater pollution prevention plan (SWPPP) by the State Water Resources Control Board based on the low erosivity of the site. However, the project operator shall implement stormwater best management practices (BMPs) to ensure that no contaminated water is discharged off-site. Examples of contaminated water include dust suppression water, equipment wash water, and contact stormwater and sediment laden stormwater in the unlikely event that significant rain falls on the project site during construction.

CRR-3: Prior to operation of the temporary power generators, the project operator shall notify the residences within 3500 feet from the project site, by mail or by other effective means, of the commencement of project operation. The notification shall include a telephone number for use by the public to report any undesirable noise conditions associated with the operation of the project. Within five business days, project personnel shall notify the CPM that the above notification has been sent.

If the project receives a noise complaint, project personnel shall document and investigate the complaint to determine the source of the noise. If the investigation determines that the noise is project related, project personnel shall attempt to resolve the complaint to the satisfaction of the complainant.

The project operator shall use the attached Noise Complaint Resolution Form or a functionally equivalent procedure, to document and respond to the noise complaint. The completed form shall be submitted to the CPM within three business days following its completion.

If project personnel and complainant cannot reach consensus, project personnel shall notify the CPM.

CRR-4: If a cultural resource is found during installation of the project, the project operator shall provide the following documentation to the CPM:

- A description of the cultural resource, the circumstances surrounding its discovery, actions taken to protect the resource, and the disposition of any artifacts or features that came into the project operator’s possession.

- A confidential map of the discovery location on an aerial photograph or project plans.
- Photographs of the cultural resource and constituent artifacts or features.

If human remains are found during installation of the project, the project operator shall document the discovery as described in the bulleted list above and demonstrate compliance with California Health and Safety Code, Section 7050.5(b). Demonstration of compliance may include:

- Telephone conversation logs
- Copies of email exchanges
- Minutes from field meetings

The project operator shall provide the documentation described in the previous paragraphs with the reports required under CRR-1, in a confidential appendix. The project operator shall keep this documentation on file for at least 6 months following the start of commercial operation.

CRR-5: After construction is complete, the project operator shall submit Semi-Annual Compliance Reports; the project may be required to submit additional compliance reports as mandated by other CRRs. The reports are due to the CPM at a date agreed to by the CPM. Each Semi-annual Compliance Report shall identify the reporting period and shall contain the following:

- An updated compliance matrix, in a spreadsheet format. The compliance matrix must identify the following:
  - the technical area and number of the conditions and reporting requirements;
  - a brief description of the submittal required;
  - the date when the submittal is required and the expected or actual submittal date; and
  - the compliance status of each condition and reporting requirement.
- A summary of the current project operating status and an explanation of any significant changes to facility operations;
- Documents required by specific conditions and reporting requirements to be submitted along with the Semi-Annual Compliance Report as attachments; and
- A listing of filings made to, or permits issued by, other governmental agencies during the year.

CRR-6: The project operator shall provide access to the CEC for inspection of the power generating equipment and site and provide all available documentation regarding equipment and site as requested by the CEC. The project operator shall report and

provide copies of all incidents, complaints, notices of violation, notices of fines, official warnings, and citations, within seven days of receipt or occurrence, to the CPM. Complaints shall be logged and numbered.

CRR-7: At the end of the life of the permit, to ensure that a planned facility closure does not create adverse environmental, health, and safety impacts, the project operator shall submit a facility closure plan to the CEC for review and approval at least 6 months (or other time period agreed to by the CPM) prior to commencement of closure activities.

CRR-8: An Environmental Coordinator (EC) shall be retained by the project operator. The EC shall have the authority to review and approve the following materials and assume the following duties:

- per CCR-9, design the Worker Environmental Awareness Program;
- issue stop-work orders as per CCR-9;
- Report to the CPM, CDFW or USFWS any take of special status plants, wildlife, or habitat (per CCR-11);
- the EC shall have the following qualifications: at minimum, hold a bachelors degree in Environmental Science, Environmental Planning, Urban Planning, or a related field, and have a minimum of 3 years of applicable, relevant experience; and
- the EC shall be available to the CPM or their CEC staff-designee, for consultation and updates upon request.

CCR-9: The project operator shall implement a Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, is informed about sensitive biological and cultural resources associated with the project.

The WEAP must:

- be developed by or in consultation with the EC and consist of an on-site or training center presentation in which supporting written material and electronic media are made available to all participants;
- discuss the locations and types of known sensitive biological resources on the project site and adjacent areas;
- present the reasons for protecting these resources;
- include a discussion of applicable laws and penalties under law;
- include samples or visuals of artifacts that might be found in the project vicinity;
- include a discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed;

- include a discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits;
- present the meaning of various temporary and permanent habitat protection measures;
- identify whom to contact if there are further comments and questions about the material discussed in the program;
- include instruction that work crews are to halt work in the vicinity of a potential cultural resources discovery, and shall contact their supervisor, and that redirection of work would be determined by the construction supervisor, EC, and CPM; and
- include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

Verification: The project operator shall provide a quarterly compliance report to the CPM, a record of the number of persons who have completed the training in the prior months and a running total of all persons who have completed the training to date. The signed training acknowledgement forms from construction shall be kept on file by the project operator for a period of at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for 6 months following the termination of an individual's employment.

CRR-10: The project operator shall undertake the following:

- provide representative schematics, diagrams, or shapefiles of the final package unit configuration and linear connections;
- design, install, and maintain project-related features such as access roads and storage and parking areas to avoid identified sensitive resources;
- stake or fence the limits of the work zone and access roads, and prohibit any offsite use or impacts;
- eliminate from landscaping or revegetation plans any List A California exotic pest plants of concern as defined by the California Exotic Pest Plant Council;
- prescribe a road sealant that is non-toxic to wildlife and plants; and
- design, install, and maintain any additional necessary facility lighting to prevent side casting of light toward native habitat.

Verification: Implementation of the measures shall be reported in the quarterly compliance reports by the project operator.

CRR-11: The project operator shall implement the following measures to manage its construction site (and related facilities) in a manner to avoid or minimize impacts to local biological and cultural resources:

- Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches if outside an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar material that is approved by the CPM, and California Department of Fish and Wildlife (CDFW);
- ensure that all food-related trash is disposed of in closed containers and removed at least once a week;
- prohibit feeding of wildlife by staff and subcontractors;
- prohibit non-security-related firearms or weapons on site;
- prohibit pets on site;
- report all inadvertent deaths of sensitive species to the Environmental Coordinator, who will, within 24 hours, notify the CPM, CDFW and United States Fish and Wildlife Service, as appropriate; and
- minimize use of rodenticides and herbicides in the project area.

Verification: Implementation of the measures shall be reported in the quarterly compliance reports by the Environmental Coordinator. Within 30 days after completion of project deployment, the project operator shall provide to the CPM, for review and approval, a written construction termination report identifying how environmental resource measures have been completed. This report may or may not be coincidental with the quarterly monitoring report.

CRR-12: Unless determined necessary on an ongoing basis, improvements to the site made for the project such as concrete pads, gravel lining, and temporary or permanent fencing must be removed once the project's permit has expired.

Verification: Within one month of permanent cessation of operation, the project operator shall provide a final report documenting removal of project facilities (this may or may not be coincidental to the quarterly report).

CRR-13: The project operator shall comply with the terms and conditions of the Authority to Construct (ATC) and the Permit to Operate (PTO) issued by the Feather River Air Quality Management District (FRAQMD).

In the event that the air district finds the project to be out of compliance with the terms and conditions of the ATC/PTO, the project operator shall notify the CPM of the violation, and the measures taken to return to compliance, within five days of the occurrence of the violation.

CRR-14: The project operator shall provide an emissions reporting protocol to the CPM for review and approval. The emissions reporting protocol shall explain the procedures for estimating criteria pollutant emissions during emergency operation and reliability testing. The protocol shall list the calculation methodologies, operational parameters used to quantify emissions (e.g., fuel flow, gross calorific value of fuel, predetermined emission factors, water injection, megawatts, etc.), and any assumptions made in the estimate. The protocol shall be submitted at the end of each operating quarter for approval.

Upon approval of the protocol, the operational emissions shall be reported using and presenting the same calculation methodologies, operational parameters and assumptions as contained in the approved emissions reporting protocol. Emissions shall be reported to the CPM quarterly. In addition to emissions reporting, the reported data shall include fuel use, hours of operation and times of operation, and energy produced by that use and operation.

NOISE COMPLAINT RESOLUTION FORM

Calpine Greenleaf 1 State Power Augmentation Site
NOISE COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number: _____
Date complaint received: _____ Time complaint received: _____
Nature of noise complaint:
Definition of problem after investigation by plant personnel: Date complainant first contacted: _____
Description of corrective measures taken: Complainant's signature: _____ Date: _____
This information is certified to be correct: Plant Manager's Signature: _____

ATTACHMENT 2: SELF-CERTIFICATION CHECKLIST

TEMPLATE FOR LICENSING NEW EMERGENCY AND TEMPORARY POWER GENERATORS			
LICENSE APPLICANT ENTITY: **Calpine**	**APPLICANT PRIMARY CONTACT NAME:** **Barbra McBride**	**EMAIL ADDRESS:** **Barbara.McBride@calpine.com**	**PHONE NUMBER:** **925-570-0849**

COLUMNS BELOW FOR CEC STAFF USE ONLY

	SELF-CERTIFICATION YES OR NO	PROVIDE WITH CHECKLIST	DOCUMENTATION PROVIDED AS ATTACHMENT	ADEQUATE YES OR NO	INFORMATION NEEDED TO MAKE ADEQUATE	APPLICABLE ENVIRONMENTAL CONDITIONS
Cover Letter	N/A	Letter dated and signed by each applicant attesting under penalty of perjury to the application's truth and accuracy.	Cover letter provided with template	YES	N/A	N/A
General Project Description	N/A	Provide a general description of the proposed temporary power generator site and a site map delineating the fence line.	Attachment 1, General Project Description	YES	N/A	N/A
III. CRITERIA AND PROCEDURES						
(a)(1) The power generator(s) will deliver 10 MW or more on a single grid intertie.	YES	Unit description, manufacturer specifications and cut sheets for engine-generator package.	Attachment 2, TM 2500 brochure. Attachment 10, pp. 1-11.	YES	N/A	N/A
	YES	Description and one-line diagram showing the generating unit's proposed intertie to the substation, including GSU, breakers and switches.	Attachment 3, Project one-line diagram.	YES	N/A	N/A
(a)(2) the power generator(s) will deliver net peak energy no later than October 31, 2021.	YES	Schedule showing estimated major milestones including generator delivery, interconnection agreements, fuel and demin water availability.	Attachment 4, Project Equipment Delivery Schedule.	YES	N/A	N/A

	SELF-CERTIFICATION YES OR NO	PROVIDE WITH CHECKLIST	DOCUMENTATION PROVIDED AS ATTACHMENT	ADEQUATE YES OR NO	INFORMATION NEEDED TO MAKE ADEQUATE	APPLICABLE ENVIRONMENTAL CONDITIONS
(a)(3) The owner or operator has control over the site, and	YES	Copy of proof of site control (e.g., certificate of title, a deed, ALTA survey, lease agreement or other legal document specifying ownership).	Attachment 5, Grant Deed for the project site, which is owned by GLH and is subject toa site agreement between GLH and DWR for the facility.	YES	N/A	N/A
(a)(3)i. generation will be located in a previously disturbed site;	YES	Date-stamped photographs, aerial photographs, maps, or documents that show the site consists-or consisted of- a concrete pad, pavement, gravel, previously excavated, compacted, or otherwise improved area.	Attachment 6 contains photographs of the site which is the decommissioned Greenleaf-1 Cogen facility.	YES	N/A	N/A
	YES	A description of previous disturbances or development of the candidate site.	Attachment 1, The site is a decommissioned power plant site.	YES	N/A	N/A
(a)(3)ii. generation will use natural gas as soon after construction as practicable;	YES	Initial fuel plan if not natural gas, and description of plan and schedule for conversion to natural gas.	Attachment 1, Greenleaf will utilize natural gas.	YES	N/A	N/A
(a)(3)iii. there is a secure water supply for the project; and	YES	Description of planned demin water supply including source, storage and replenishment methods.	Attachment 1, Sutter Energy Center will supply demin water to the facility though an existing pipeline.	YES	N/A	N/A
(a)(3)iv. there is an available grid interconnection.		See (a)(7) below.				
(a)(4) The power generator(s) can accommodate best available control technology (BACT) and the owner or operator will install BACT as soon as practicable. Operators of sites on	YES	Description of plan for how and when the engine-generator will be made BACT	Attachment 10, PDF pp.12-13 DWR has indicated that the SCR will be available and installed by late 2023.	YES	N/A	N/A

which generators and equipment procured by DWR have been located shall collaborate with DWR on the installation of BACT.		compliant as soon as practicable.				
(a)(5) The owner or operator will implement best management practices and a worker environmental awareness program, as appropriate, during installation and removal of the power generators to protect any environmental resource.		Copy of worker environmental awareness program, storm water pollution prevention, if applicable, and other associated best management practices that will be implemented at the site.	Attachment 8: Sutter Energy Center WEAP Attachment 11, Contractor Hazardous Materials Business Plan for construction.	YES	N/A	CRR-1 CRR-2 CRR-4 CRR-8 CRR-9 CRR-10 CRR-11 CRR-12
(a)(6) The installation of the power generator(s) will be consistent with manufacturer specifications and safety codes and standards.	YES	Attestation letter with agreement to provide completed engineering drawings for installation of the power generator package and all associated appurtenances after commissioning.	Attachment 10, PDF pp.14-15.	YES	N/A	N/A
	YES	Manufacturer cut sheet(s) for all balance of plant appurtenances related to the power generator(s) package	See information on DWR FTP site.	YES	N/A	N/A
	YES	Manufacturer cut sheet(s) for the step-up transformer, if applicable	Attachment 9, Manufacture Cut Sheets.	YES	N/A	N/A
	YES	Manufacturer's cut sheet showing noise specification(s) for the turbine(s), gas compressor(s), and step-up transformer(s). Distance from the project fence lines to the turbine(s), gas compressor(s), and	See information on DWR FTP site. Attachment 10, PDF pp.16-19. Attachment 12, Package Unit Noise Study for Greenleaf 1 Site.	YES	N/A	CRR-3

		step-up transformer(s).				
	YES	Proof of contract and contact information for the party who will do the installation, and a copy of their Injury and Illness Prevention Plan.	Attachment 7, Contractor IIPP and Safety Program. Attachment 10, PDF pp. 20-22.	YES	N/A	N/A
(a)(7) The owner or operator has received authorization to interconnect the power generator(s) to the distribution or transmission grid by the relevant grid authority.	YES	Documentation from the California Independent System Operator or Interconnecting Utility indicating preliminary approval of the interconnection of the additional generation. And, when available, provide the Federal Energy Regulatory Commission approved generator interconnection agreement or modified existing interconnection agreement for the emergency generators.	The CAISO has prepared a draft amendment to the existing LGIA that would provide for the incremental capacity (10.8MW) required to operate at 60 MW. Concurrently, the CAISO has sought a tariff waiver at FERC se eking the authority to grant incremental capacity on a temporary basis. The execution of any amendment to the LGIA will be dependent upon FERC granting the waiver. See CAISO, Petition for Limited Tariff Waiver of the California Independent System Operator Corporation and Request for Shortened Comment Period and Expedited Commission Approval, filed in FERC Docket No. ER21-2753-000, (Aug. 25, 2021).	YES	N/A	N/A
(a)(8) The owner or operator will provide access to CEC for inspection of the power generating equipment and site, and provide all available documentation regarding the equipment and site as requested by the CEC.	YES	Statement of agreement that owner or operator will provide access to CEC for inspection and provide all available documentation requested by CEC.	See Cover Letter.	YES	N/A	CRR-5 CRR-6 CRR-7
(b) Within 10 days after an owner or operator files a self-certification,		N/A				

the Executive Director shall verify that the self-certification is complete and meets the requirements of section (a) and that, based on the information available at the time of review, the project will deliver net peak energy by October 31, 2021. The Executive Director shall file a decision on the self-certification granting or denying the license and may impose conditions or reporting requirements on the license as appropriate. The decision of the Executive Director is final and not subject to further consideration or appeal.						
(c) The owner or operator is authorized to operate the power generators up to 5 years from the date that the Executive Director grants the license.		N/A				
(d) To support the Emergency Proclamation's directive to the California Air Resources Board to develop and promptly implement a State-funded plan to mitigate the effects of additional emissions authorized by the Emergency Proclamation beyond permitted levels, all owners or operators of new and temporary power generators shall report emissions in excess of federal air permits to the CEC for transmittal to the California Air Resources Board.	YES	Statement of agreement that the owner or operator will report emissions data to the CEC.	See Cover Letter.	YES	N/A	CRR-13 CRR-14