DOCKETED	
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Project Title:	Sutter Power Plant Application for Certification
TN #:	261206
Document Title:	Petition for Post-Certification Modification for Sutter Energy Center
Description:	Petition for Post-Certification Modification for Sutter Energy Center (97-AFC-02C) Decarbonization Capture Project Staff's Data Request Set 2, A9 through A20
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CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

January 21, 2025

Barbara McBride
Calpine Corporation
3003 Oak Road
Walnut Creek, California 94597

RE: Petition for Post-Certification Modification for Sutter Energy Center (97-AFC-02C) Decarbonization Capture Project Staff's Data Request Set 2, A9 through A20

Dear Barbara McBride:

The California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 2 which is necessary for the staff analysis of the Sutter Energy Center (SEC) decarbonization project petition to amend (TN# 250246). The proposed project changes include:

- turbine performance improvements,
- installation of a carbon dioxide (CO2) capture facility and an approximately 16-mile pipeline; and
- construction of three Class VI injection wells to inject the CO2 (a nonhazardous waste stream) for permanent sequestration in a geological storage location.

These Data Requests Set 2 seek further information in the areas of biological resources based on the contents of the petition to amend.

To assist CEC staff in timely completing its environmental review and to meet the requirements of CEQA (see Cal. Code Regs., tit. 14, §§15108, 15109), CEC staff is requesting responses to the data requests as soon as possible. If you are unable to provide the information requested or need to revise the timeline, please let me know within 10 days of receipt of this letter.

If you have any questions, please email me at John.Heiser@energy.ca.gov.

John Heiser
Compliance Project Manager

Enclosure: Data Requests

Petition for Modification – Sutter Energy Center Decarbonization Project (97-AFC-02C)

DATA REQUESTS – SET 2

BIOLOGICAL RESOURCES

BACKGROUND: Project Area

Staff has reviewed the Petition for Modification (Petition) (TN250246), including Appendix B Biological Resources (May 2023), and the Biological Resources Technical Memorandum Special-Status Species Habitat Assessment (BRTM) from November 2023 (TN257582); for the Sutter Decarbonization Project. There are differences between the project Biological Study Area (BSA) in the Petition and the BRTM. Specifically, the BRTM shows a Horizontal Directional Drilling (HDD) String (Figure 2, Map 1 of 6) and nine well pad locations (Figure 2, Map 5 of 6). The Petition states there would be three Class VI injection wells located on three well pads.

The BRTM states the carbon capture facility would be located at the site of the decommissioned Greenleaf 1 Cogeneration facility adjacent to the existing Sutter Energy Center. The location of the carbon capture facility is not provided on any of the figures in the BRTM or the Petition. Similarly, the location of the turbine performance improvements is not provided.

The BRTM discusses directionally drilling the pipeline under the Sutter Bypass to avoid disturbance to habitats for various special-status species. Figure 2 Maps 1-6 of the BRTM list pipeline and construction elements in the legend, including "Trenchless Pipeline Construction Area" and "Pipeline." The Petition states that the pipeline is expected to be underground for the majority of the pipeline route until it reaches the injection well location but does not provide details on the pipeline installation methods or staging areas.

DATA REQUESTS

A9. Please explain the discrepancies in the project area between the Petition and the BRTM and provide additional information on the Project. Specifically, please provide the location of the carbon capture facility, the turbine improvements, and any staging or temporary laydown. Also, please provide additional background on the location of the HDD String and the location of the Class VI injection wells, including how many and type of wells are proposed for the project. Please provide clarification on the "Trenchless Pipeline Construction Area" shown in Figure 2 Maps 1-6 of the BRTM and whether this corresponds to areas where the pipeline will be directionally drilled underground. Lastly, please provide pipeline

installation details for areas labeled as "Pipeline" in Figure 2 Maps 1-6 of the BRTM.

Petition for Modification – Sutter Energy Center Decarbonization Project (97-AFC-02C)

DATA REQUESTS – SET 2

BACKGROUND: Biological Resources Technical Memorandum

In the BRTM, it states that appropriate avoidance and minimization measures for special-status fish and wildlife species will be developed through Endangered Species Act (ESA) consultation with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) in coordination with state permitting agencies, as appropriate. Many species discussed in the BRTM are either state listed or California Department of Fish and Wildlife (CDFW) Species of Special Concern. As such, appropriate avoidance and minimization measures will need to be included in the Staff Assessment as required by the California Environmental Quality Act (CEQA). In coordination with the resource agencies, staff may recommend additional conservation measures be incorporated in the staff assessment.

Appendix B Biological Resources of the Petition stated that an aquatic resources jurisdictional delineation was not performed but would be completed to determine the extent of wetlands that are potentially jurisdictional. The BRTR did not discuss the status of the jurisdictional delineation, the location of aquatic features, or potential impacts to aquatic features.

Appendix B Biological Resources of the Petition stated that the CDFW VegCAMP program for the Great Valley Ecoregion was reviewed to determine potential habitat occurrence within the BSA; and during the reconnaissance field survey, the data was further refined to better characterize habitat on-site. However, the BRTR did not discuss whether there were any vegetation and land use changes or refinements identified during the subsequent biological survey. Although general species habitat was identified on Figure 2 of the BRTR, vegetation types and land cover identified were not shown on the figures provided in Appendix B of the Petition or the BRTM.

The project is located within the historic and current range for Crotch's bumble bee (*Bombus crotchii*), which is currently a candidate species for listing under CESA. Under CESA, a candidate species for which notice has been given under Fish and Game Code, section 2074.4 is afforded the same protections as a threatened or endangered species (Fish & G. Code, § 2085), including the prohibition on take without appropriate authorization. Crotch's bumble bee was listed in Table 3-1 of the Petition but was not discussed in the BRTR. The Petition does not assess impacts to Crotch's bumble bee or request take coverage for this species. The closest Bumble Bee Watch observation is over 15 miles to the east and a 2007 CNDDB record occurs approximately 9 miles to the west. Crotch's bumble bee is a relatively new candidate for state listing and there is limited historical data. This does not preclude the potential for Crotch's bumble bee to occur in the area. Natural areas of the project layout may provide floral resources that

could support Crotch's bumble bee. Project-related impacts to Crotch's bumble bee may require incidental take coverage or implementation of avoidance measures.

DATA REQUESTS

A10. Please clarify whether coordination or consultation with state and federal agencies has been conducted, and whether any recommended avoidance and minimization measures were provided for federal, or state listed, special-status species.

A11. Please provide recommended avoidance and minimization measures for federal or state listed, or special-status species that are discussed in the biological reports.

A12. Please provide an aquatic resources jurisdictional delineation report for the project, including potential impacts from the project, the jurisdiction of aquatic features identified, restoration implementation for areas temporarily impacted, and mitigation approach for areas permanently impacted.

A13. Please discuss vegetation and land use cover identified during the September 2023 focused surveys, and if the focused surveys resulted in any changes or refinements to the vegetation types described in the Petition. In addition, please provide a map showing the location of the vegetation types identified in the BSA during the desktop review and subsequent surveys.

A14. Please provide a habitat assessment evaluating the likelihood of bumble bees occurring within and adjacent to the project area. More information on the appropriate Crotch's bumble bee habitat assessment and survey protocol can be found in the Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species document located on the CDFW website at https://wildlife.ca.gov/Conservation/CESA. If the habitat assessment determines potential habitat is present, include a detailed impacts analysis for Crotch's bumble bee and recent results of a protocol-level survey. If this additional information for Crotch's bumble bee indicates that the project or activities proposed as part of the Petition may cause take of Crotch's bumble bee, staff recommends that the applicant revise the petition to request take coverage for this species. This additional request for take coverage must include all information that would be required in an Incidental Take Permit (ITP) application for CESA-listed or candidate species, including an impacts analysis and proposed mitigation measures (Cal. Code of Regs., tit.14, § 783.2).

Petition for Modification – Sutter Energy Center Decarbonization Project (97-AFC-02C)

DATA REQUESTS – SET 2

BACKGROUND: Carbon Dioxide Transport and Storage

It is not clear how the carbon dioxide (CO_2) would be transported between the termination of the CO_2 Transport Pipeline Route and the location of the Class VI Injection Wells. In the BRTM, the closest distance between the termination of the pipeline and the nearest well pad is approximately 0.5 miles, and the farthest distance is approximately 2.5 miles.

Inadvertent drilling fluid release (i.e., a "frac-out") is discussed in the Petition and the BRTM as having the potential to damage individual plants and impact listed fish species. A frac-out could also potentially impact aquatic habitat and other species that utilize aquatic habitat. The project owner states the project does not intend to alter the bed, bank, or channel of existing aquatic features and would directionally drill the pipeline under potential habitat, which makes the potential for a frac-out to harm special status species unlikely. Though unlikely, the potential still exists for a frac-out to impact aquatic habitat.

The Petition states that the pipeline would be equipped with state-of-the-art fiber optic monitoring and automatic shutoff systems to ensure safe operations. Extensive details are provided on the monitoring for the Class VI Injection Wells, but only minimal information is provided for the 15.7-mile CO_2 pipeline. There is a concern regarding the potential for pipeline failures and ruptures that could result in CO_2 leakage and poisoning. Excessive CO_2, which displaces oxygen in the air, can be highly toxic to humans and wildlife. CEC staff acknowledges that Public Resources Code, section 71465 prohibits pipelines from being utilized to transport carbon dioxide to or from a carbon dioxide capture, removal, or sequestration projects until the federal Pipeline and Hazardous Materials Safety Administration has concluded the rulemaking (RIN 2137-AF60) regarding minimum federal safety standards for transportation of carbon dioxide by pipeline (Parts 190 to 199, inclusive, of Title 49 of the Code of Federal Regulations).

The project owner is required to demonstrate that the pipeline meets those standards. Currently, the Pipeline and Hazardous Materials Safety Administration has not initiated the proposed rulemaking (RIN 2137-AF60) regarding minimum federal safety standards. However additional information is needed for CEC staff to evaluate how CO2 will be transported in pipelines.

The Petition states the pipeline would be operated at temperatures ranging from 60 to 120 degrees Fahrenheit at a depth of less than eight feet. It is unclear whether the pipeline would be insulated to reduce the exposure of the surrounding soil to high temperatures or whether the high temperatures would have an impact on surface resources.

Petition for Modification – Sutter Energy Center Decarbonization Project (97-AFC-02C)

DATA REQUESTS – SET 2

The Petition states the geological storage complex for the SEC project is located approximately 10 miles southwest within an approximately 42 square-mile area and is currently used for saltwater disposal. The description does not elaborate on the storage capacity of this area or the expected lifespan of the injection wells and pipeline.

DATA REQUESTS

A15. Please provide details on how CO2 would be transported from the pipeline termination to the proposed well pads.

A16. Please provide details on the boring methodology for the pipeline. For instance, would a tracking wire be used? Would a vacuum truck be on-site during HDD operations? Would the bore be sleeved? How would searches for inadvertent release be conducted? Would a jack and bore be used or other method, and what are the noise or vibration impacts on sensitive biological resources? What is the duration of boring activities (i.e., 24 hours a day)? If boring is anticipated at night, what would the impacts of night-lighting be on sensitive biological resources?

A17. Please provide a Frac-Out Contingency Plan that establishes operating procedures and responsibilities for prevention, containment, clean-up, and disposal of drilling fluid if a frac-out were to occur; including specific measures if a frac-out were to occur in aquatic or another sensitive habitat.

A18. Please provide details on the steps that would be taken to monitor and avoid a rupture along the CO_2 pipeline during operations. Please also provide a contingency plan if a rupture is detected along the pipeline or within the Class VI Injection Wells.

A19. Please provide details regarding the 60 to 120-degree temperatures of the pipeline during operations, if there are any potential impacts to the surrounding soils or surface resources, and if there are any design measures to monitor, insulate, or alleviate those temperatures.

A20. Please provide details on the storage capacity of the geological storage complex and the expected lifespan of the pipeline and injection wells. For cumulative impacts, please provide information on other storage and disposal uses currently or planned in the geological storage complex.