DOCKETED	
Docket Number:	97-AFC-02C
Project Title:	Sutter Power Plant Application for Certification
TN #:	268472
Document Title:	Petition for Post-Certification Modification for Sutter Energy Center (97-AFC-02C)
Description:	Decarbonization Capture Project Staff's Data Request Set 3, A21 through A60
Filer:	susan fleming
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California ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

February 4, 2026

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 3, A21 through A60

Dear Barbara McBride:

The California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 3 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 3 seek further information in the areas of biological resources, geology, minerals, and paleontology, hazards and hazardous materials, worker safety and fire protection based on the contents of the petition to amend.

To assist CEC staff in timely completing its environmental review 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.

Sincerely,

John Heiser

John Heiser,
Compliance Project Manager
Compliance Monitoring and Enforcement Unit
Safety and Reliability Branch
Siting Transmission and Environmental Protection Division

Enclosure: Data Requests

BIOLOGICAL RESOURCES

BACKGROUND: Project Area

As part of Data Request Response A9 in Set 2 (TN 263221), the applicant provided a response to a staff request for clarification on the proposed locations of the Class VI injection wells, including how many and type of wells are proposed for the project.

The applicant's response to Data Request A9 states the following:

> *Locations of the three proposed injection wells and associated monitoring wells are included in the Class VI application submitted to EPA Region IX in 2023. Final locations of the injection wells and the final number and location of monitoring wells will be determined using core data obtained from the stratigraphic well to be drilled in Q2 of 2025. The stratigraphic test well will provide core data that will be used to validate the locations for placement of injection wells*.

In the Biological Resources Technical Memorandum (BRTM), Figure 2, Map 5 and 6 (TN 257582), there are no structures proposed between the termination of the pipeline and any of the eight "well pads" depicted on the figure. If additional pipeline is proposed to be installed between the termination of the pipeline and the proposed injection wells, the location and type of pipeline is not depicted on Figure 2.

Data Requests

A 21. Please provide an update on the *Class VI application submitted to EPA Region IX* and if the final locations of the injection wells and monitoring wells for the project have been determined. Please provide the number of monitoring wells that are proposed for the project and the methodology used to determine why specific well sites were chosen. Please provide a figure depicting the final locations of the injection wells and monitoring wells and the applicable GIS data. If the locations of the injection wells and monitoring wells are still not determined, please provide a timeline for when this information would be made available to CEC.

A 22. Please provide clarification on the lack of structures (e.g., pipeline) depicted on Biological Resources Technical Memorandum Figure 2, Map 5 and 6, between the termination of the pipeline and the location of the well pads. If necessary, please update Figure 2 with the requested additional information as well as a map outlining any permanent, temporary, and indirect impacts within the project area.

BACKGROUND: Biological Resources and Permitting

The Petition for Modification (TN 250246) lists the applicable conditions of certification (COCs) in Appendix H but omits the text of the COCs, specifically **BIO-1** through **BIO-12**. Section 5.2.2 of the BRTM mentions COCs **BIO-8**, **BIO-9**, **BIO-10**, and **BIO-11** for various species, but does not provide the text associated with these measures. The BRTM also states "*with the implementation of the avoidance and minimization measures, discussed in Section 6.3*," however Section 6.3 does not exist and avoidance and minimization measures are not described in the BRTM.

The Final Staff Assessment (FSA) for the original Sutter Power Project (97-AFC-2, October 1998) includes COC **BIO-5**, which requires a Memorandum of Understanding (MOU) with the California Department of Fish and Wildlife (CDFW, formerly CDFG) per Section 2081 of the California Endangered Species Act (CESA); and COC **BIO-6**, which requires a Biological Opinion, per Section 7 of the federal Endangered Species Act (ESA) from the U.S. Fish and Wildlife Service (USFWS). The FSA does not provide details on which species are covered under the CDFW MOU or USFWS Biological Opinion. Copies of these permits are not provided.

The applicant's response to Data Request Set 2 A10 (TN 263221) states that,*"The Project Owner anticipates that ESA section 7 consultations with USFWS will be initiated by the DOE* [Department of Energy] *once the third party NEPA contractor has been selected.*" Staff understands that DOE has terminated their Direct Air Capture grant and the Environmental Protection Agency (EPA) is no longer partnering with CEC on a joint NEPA/CEQA document. The federal nexus for ESA Section 7 consultation is unclear, as is whether applicant would pursue Section 10 consultation and request a Habitat Conservation Plan (HCP).

The applicant's response to Data Request Set 2 A11 (TN 263221) states that a biological assessment is currently being prepared, and avoidance measures for biological resources would be developed parallel with the biological assessment. The response does not state which species would be included in the biological assessment. Furthermore, the response does not clarify if the biological assessment is being prepared for consultation with just USFWS consultation or if National Oceanic and Atmospheric Administration (NOAA) Fisheries consultation is included. Giant garter snake (*Thamnophis gigas*), Chinook salmon – Central Valley spring-run ESU (*Onocorhynchus tshawytscha* pop. 11), and western yellow-billed cuckoo (*Coccyzus americanus*) are both federal and state listed, and several other federal listed species are considered species of special concern by CDFW and as such CEQA requires analysis of impacts to these species in the project's environmental document.

A biological assessment typically covers federal listed species for consultation with USFWS and NOAA Fisheries. The biological documents and response to data requests do not specify whether the applicant is requesting incidental take authorization for state listed species under CEC's in-lieu permitting authority to authorize take of state-listed species under CESA. The applicant did not provide the information that would be included for a CDFW Section 2081 CESA Incidental Take Permit (ITP) (i.e., information pursuant to California Code of Regulations, title 14, section 783.2(a)(1) - (a)(10)). If the applicant is not seeing take authorization under CEC's in lieu permitting authority for state listed species, the COCs must ensure full avoidance for all CESA-listed or candidate species that have the potential to occur within and adjacent to the project footprint.

The applicant provided Attachment C (Vegetation and Land Cover Types in the Project Footprint) as part of the Applicant's Response to Data Request Set 2 A12 (TN 263221) and confirmed that the land cover/vegetation communities in the Biological Study Area are consistent with the descriptions provided in Section 4.4 of the Petition for Modification (TN 250246). Vegetation and land use descriptions in Section 4.4 of the Petition for Modification do not include descriptions in accordance with a Manual of California Vegetation (CNPS 2025; Sawyer et al., 2009). Staff understands that much of the land use in the area is agriculture and other modified vegetation that does not have an associated MCV classification. However, Native Vegetation Dominated Communities are noted and described in the Petition for Modification.

The applicant's response to Data Request Set 2 A16 (TN 263221) states that HDD operations for the Sutter Bypass may require 24-hour operation or boring at night. Though there are no sensitive human receptors nearby to the Sutter Bypass, the applicant acknowledges that the Sutter Bypass provides suitable habitat for special status species, but not limited to chinook salmon, steelhead - Central Valley DPS, green sturgeon - southern DPS (*Acipenser medirostris* pop. 1), Sacramento splittail (*Pogonichthys marcolepidotus*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), bank swallow (*Riparia riparia*), western yellow-billed cuckoo, nesting Swainson's hawk (*Buteo swainsoni*), other special-status bird species, and bats. The applicant further states that avoidance and minimization measures addressing adverse effects of night-lighting on sensitive resources would be developed should night operation or construction be required.

The Petition for Modification (TN 250246) discusses western red bat (*Lasirus blossevillii*) has having a potential to occur within the project area, particularly in the area between the Sutter Bypass and the East Canal. However, bat species were not discussed in the BRTM (TN 257582).

Data Requests

A 23. Please provide the full text of all proposed conditions of certification (COCs) for the Petition for Modification Decarbonization Project. If COCs from the original Sutter Power Project are proposed to be used for the Petition for Modification, please clarify which COCs would apply and any proposed modifications to the text of the COCs. Please provide additional avoidance and minimization measures for impacts to species not covered in the original Sutter Power Project, including but not limited to proposed measures for fish species in the Sutter Bypass, valley elderberry longhorn beetle, tricolored blackbird (*Agelaius tricolor*) western yellow-billed cuckoo, bank swallow, northwestern pond turtle (*Actinemys marmorata*), bats, and rare plants.

A 24. Please clarify whether the original Sutter Power Project obtained an MOU with CDFW and a Biological Opinion with USFWS and whether these permits are applicable to activities proposed under the Petition for Modification Decarbonization Project. If the Sutter Power Project MOU and/or Biological Opinion provides coverage to listed species for Petition for Modification Decarbonization Project, please describe which activities are covered and provide a copy of the original CDFW MOU and USFWS Biological Opinion.

A 25. Please provide the expected federal nexus for Section 7 consultation with USFWS and/or NOAA Fisheries and provide clarification if consultation would be conducted with USFWS, NOAA Fisheries, or both. Please list which species would be included in federal Endangered Species Act (ESA) consultations. Please clarify if the biological assessment mentioned in Applicant's Response to Data Request A11 is being prepared for federal ESA consultations or another purpose and provide a timeline for completion of the biological assessment for incorporation into the Staff Assessment. Please also clarify whether the biological assessment would include analysis of impacts to northwestern pond turtle, which is proposed for federal listing.

A 26. Please clarify whether the applicant is requesting in-lieu take authorization for state listed species. If take authorization is being requested from the CEC, provide an ITP application that addresses each species for which the applicant is requesting take coverage, including the information required in California Code of Regulations, title 14, section 783.2(a)(1) - (a)(10). If take coverage is not being requested, please provide all mitigation measures that would be implemented to ensure full avoidance of all state-listed species that have the potential to occur in the area.

A 27. Please provide communities/land cover alliances as defined in a Manual of California Vegetation (CNPS 2025; Sawyer et al., 2009) and identify which communities are not defined in the MCV. Please update Attachment C Vegetation and Land Cover Types in the Project Footprint in the Applicant's Response to Data Request Set 2 A12 (TN 263221), as necessary, to include the MCV alliances. Also, please provide associated GIS data for vegetation communities and land use, including any requested updates.

A 28. Please verify whether night operation or construction would be needed, the areas that may require night lighting or construction, potential impacts to special-status species that could reside in the areas where night lighting or construction would occur, and avoidance and minimization measures the project would implement to reduce effects of night-lighting on sensitive resources.

A 29. Please provide additional information on bat species that could occur in the project area, particularly in the Sutter Bypass area. Include avoidance and minimization measures to reduce impacts to bat species that have potential to occur. Impacts to bats from night lighting should be discussed if night work is proposed (see Data Request A28).

BACKGROUND: Agency Coordination

Attachment A Coordination and Consultation with State and Federal Agencies was provided in the Applicant's Response to Data Request Set 2 A10 (TN 263221) and noted federal and state agency contacts that provided guidance on various information and surveys for the Sutter Decarb Project. Staff would like to inquire about the status of this additional information.

The discussion with NOAA Fisheries highlighted the Sutter Bypass and Snake River having critical habitat for salmonids and the need for minimizing work below the ordinary high-water mark, site specific BMPs for containing spills and erosion, a frac-out plan, and discussion of essential fish habitat (EFH) in the Aquatic Resources Delineation Report (ARDR). There was also discussion on whether there is a programmatic permit for listed fish species in Sutter County and a specific work window for the project area. There is currently no discussion of EFH in the ARDR or other biological reports. It is staff's understanding that the applicant proposes HDD in the area to minimize impacts, and that informal consultation with NOAA Fisheries may be appropriate.

The discussion with CDFW focused on northwestern pond turtle, tricolored blackbird, Swainson's hawk, and rare plants as well as completing surveys during

appropriate survey windows. In addition, the discussion included getting a better understanding of potential impacts of carbon sequestration/injection for the proposed project on the local environment and species. CDFW stated that surveys for northwestern pond turtle and giant garter snake were not necessary as presence is presumed, but species-specific mitigation measures would be needed. Correspondence further states that Swainson's hawk surveys were previously conducted by Jacobs in May 2023 and can be provided as supplemental data to count toward Swainson's hawk protocol requirements; however, the biological documents do not mention protocol Swainson's hawk surveys. Finally, CDFW would require rare plant surveys to be completed and a Streambed Alteration Agreement (SAA) would be required for impacts to CDFW jurisdictional aquatic features. The BRTM (TN 257582) recommends protocol-level rare plant surveys for Sanford's arrowhead (*Sagittaria sanfordii*) and woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*), pre-construction surveys for special-status bird species, and protocol-level surveys for Swainson's hawk in 2024 to determine nesting sites and whether incidental take authorization under CESA is warranted. Though Wright's trichocoronis (*Trichocoronis wrightii*) is likely extirpated from the area, botanical surveys should include this species. Finally, CDFW would like to better understand any potential impacts that CO2 injections leaks may include.

The discussion with USFWS focused on the three species under their jurisdiction: western yellow-billed cuckoo, giant garter snake, and valley elderberry longhorn beetle. Giant garter snake is assumed present, and USFWS prefers work outside the giant garter snake dormant season. USFWS stated western yellow-billed cuckoo requires a minimum of 30 acres of suitable habitat and requires four protocol surveys conducted between June and August. The BRTM (TN 257582) states that there is suitable habitat for western yellow-billed cuckoo in the Sutter Bypass and impacts would be avoided by directionally drilling. However, as stated earlier, HDD operations under the Sutter Bypass may require night lighting and construction work at night, which could impact western yellow-billed cuckoo if present in the Sutter Bypass riparian habitat (See Data Request #9).

Data Requests

A 30. Please update the Figure 2 Project Elements and Special-Status Species Habitats in the BRTM (TN 257582) or provide an additional figure to include the location of critical habitat and essential fish habitat within the Biological Study Area.

A 31. Please provide site specific BMPs for containing spills and erosion near the Sutter Bypass and Snake River. Please provide a discussion of essential fish habitat (EFH) in the Biological Study Area, including any stream that

has had a historic connection to the Bypass and considered an EFH per NOAA fisheries.

A 32. Please describe impacts to critical habitat and essential fish habitat from the project, and minimization measure(s) to avoid or reduce those impacts. Please describe whether HDD would be conducted within the NOAA Fisheries preferred work window of July 31 to October 31.

A 33. Please verify whether there is a programmatic permit for listed fish species in Sutter County, if that programmatic permit has specific work windows for the area, and if the project would request coverage under the programmatic permit.

A 34. Please provide specific mitigation measures to fully avoid project impacts to northwestern pond turtle, giant garter snake, Swainson's hawk, western yellow-billed cuckoo, and valley elderberry longhorn beetle, or clarify if take is requested for these species. Please clarify if the applicant would be providing protocol level surveys for other special-status bird species (such as tricolored blackbird, western yellow-billed cuckoo), or if avoidance and minimization measures would include preconstruction surveys specific to these species. Please provide details on what project activities would be conducted within or outside the giant garter snake dormant season.

A 35. Please clarify if protocol-level Swainson's hawk surveys have been conducted, and if not, the timeline for completion of the surveys. Please provide the results of any protocol level surveys for Swainson's hawk, including identification of nesting sites, potential foraging habitat, and a figure that depicts location of nest sites and foraging habitat. If the applicant is requesting take under CEC's in lieu permitting authority for Swainson's hawk, please provide a full CESA 2081 ITP application (see Data Request #7).

A 36. Please provide the timeline for completion of protocol-level rare plant surveys for Sanford's arrowhead, woolly rose-mallow, Wright's trichocoronis, and any other special-status plants with potential to occur in the Biological Study Area. Botanical surveys should be conducted according to the most recent CDFW survey protocols (CDFW, 2018), be floristic in nature, and include reference populations.

A 37. Please clarify whether the applicant is requesting a Lake or Streambed Alteration Agreement (LSAA) under CEC's in-lieu permitting authority. If an LSAA is requested, provide all the information required as full stand-alone LSAA application for aquatic resources and riparian areas impacted under CDFW jurisdiction. A map with the applicable GIS data outlining the

permanent, temporary, and indirect loss of all aquatic features subject to Fish and Game Code is required to be submitted with the information that would be included in a LSAA application, if not for CEC's in lieu permitting authority.

A 38. Please provide maps with the applicable GIS data showing proposed permanent, temporary, and indirect loss of state and federally listed special-status species habitats within and directly adjacent to the project area for each species known to be present.

A 39. Please provide proposed mitigation to account for the permanent, temporary, and indirect loss of special-status species foraging, basking, rearing, and nesting habitats for state and federally listed special-status species. Mitigation can be provided through conservating and protecting in-kind lands, through purchasing credits at an approved mitigation bank, or through habitat enhancement and invasive vegetation removal activities.

A 40. Please provide detailed information on HDD activities occurring within or adjacent to all aquatic features including the area within the Sutter Bypass floodplain. The requested information should include at a minimum:

- HDD methodology (i.e. number and locations of each boring pit, the proposed depth of boring activities, and the fracking lubrication fluid that is proposed for use);
- Proposed COCs for HDD activities to reduce potential impacts to aquatic resources;
- A spill contingency plan (frac-out plan) if a frac-out occurs; and
- All construction equipment that would be present and used during HDD activities.

A 41. Please provide detailed information on any impacts associated with Carbon Sequestration/injection leaks as it relates to the following:

- Leaks at the point of injection sites;
- Leaks occurring from catastrophic events (i.e. earthquakes, etc.);
- CO2 impacts on geological features including streams, seeps, springs, etc.; and
- Species impacts exposed to CO2 leaks.

References

CDFW 2018 – Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. California Department of Fish and Wildlife. March 20, 2018. Accessed online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

CNPS 2025 – A Manual of California Vegetation Online. California Native Plant Society. Accessed on: November 3, 2025. Accessed online at: https://vegetation.cnps.org/alliance/535

Sawyer et al. 2009 – Sawyer, J. O., Keeler Wolf, T., & Evens, J. M. A Manual of California Vegetation. 2009. Accessed online at: https://vegetation.cnps.org/

HAZARDS AND HAZARDOUS MATERIALS

BACKGROUND:

The Petition for Modification (Petition) (TN250246) states that an amine-based solvent would be used in the CO_2 capture process. CEC staff requires detailed information on the hazardous or potentially hazardous characteristics of this solvent, including its chemical properties, flammability, risks, and handling requirements. Additionally, staff requests a comprehensive list of all hazardous materials associated with the project to ensure compliance with Condition of Certification (COC) HAZ-1. This should include details on chemical delivery and caustic materials mentioned on page 2 of the Petition. This information is necessary for CEC staff to evaluate the safety and compliance measures in place for handling these materials.

Data Request

A 42. Please provide detailed information regarding the amine-based solvent to be used in the CO_2 capture process including its specific Safety Data Sheets (SDS). Please also provide information on the solvent's flammability, including its flash point, ignition temperature, and explosive limits if that information is not included in the SDS. Additionally, if other hazardous materials are proposed as part of the project, include a description of their use and provide the associated SDS for each material

BACKGROUND:

Pages 4 and 5 of the Petition reference the use of fiber optic monitoring and automatic shutoff systems to ensure safe operations for both the pipeline and wells. Given the critical role these systems play in monitoring performance and

managing operational upsets, CEC staff requests additional information to gain a more detailed understanding of the functionality and operation of the system(s).

Data Request

A 43. Please provide a detailed technical description of the fiber optic system(s), including the following:

- The general principle of operation.
- Whether the system includes redundancy and a backup power source.
- Confirmation of whether the system supports two-way communication for control and integrates with an overarching safety management system (e.g., interfaces with leak detection monitoring and emergency flow-restricting devices [EFRDS]).
- The destination of transmitted data and whether the system is physically or electronically monitored.
- Anticipated response time during an upset condition.
- The control functionalities provided by the system.
- The planned cybersecurity measures to protect the system from unauthorized access or interference.

BACKGROUND:

CEC staff are concerned that installing the CO_2 pipeline within the existing right-of-way (ROW) for natural gas pipelines could pose pipeline integrity risks in the event of a CO_2 release. Such a release could expose the natural gas and CO_2 pipelines to extremely low temperatures, potentially causing embrittlement and/or thermal shock increasing the likelihood of natural gas pipeline failure and further fracturing of the CO_2 pipeline.

Data Request

A 44. Please provide a risk assessment analyzing the thermal effects of a CO_2 release, including the potential for embrittlement, thermal shock, and failure of adjacent pipelines. The assessment should include any design or engineering controls, such as thermal barriers or increased spacing that are planned to prevent thermal exposure to adjacent infrastructure.

WORKER SAFETY AND FIRE PROTECTION

BACKGROUND:

Appendix H of the Petition lists the existing Conditions of Certification (COCs) applicable to the Sutter Decarbonization Project; however, the COCs related to

worker safety and fire protection (SAFETY-1 and SAFETY-2) are notably absent. To ensure regulatory compliance, updated Safety and Health Programs must be developed to address the requirements of both the construction and operational phases. Furthermore, the Petition lacks a comprehensive list of Laws, Ordinances, Regulations, and Standards (LORS) for CEC staff to confirm that all applicable requirements have been identified and addressed during project planning and execution.

Data Request

A 45. Please submit revised Safety and Health Programs for the construction and operational phases of the project, ensuring inclusion of a Risk Management Plan and Process Safety Management Plan in compliance with COC HAZ-2. Additionally, provide a comprehensive list and detailed discussion of compliance with applicable LORS, including but not limited to recent Cal/OSHA standards addressing heat illness prevention, wildfire smoke protection, and Valley Fever mitigation.

BACKGROUND:

Considering the unique risks of a CO_2 release, CEC staff requests detailed updates to the Emergency Response Plan (ERP) and Emergency Action Plan (EAP) with specific protocols for each project component. For the Sutter Energy Center (SEC), please include evacuation procedures, impacts of plant evacuation, availability of supplied air, protections for control operators and the control room, and plans for remote operation, if required, including its implementation and management

Data Request

A 46. Please provide the proposed updates to the Emergency Response Plan (ERP) and Emergency Action Plan (EAP), ensuring that specific sections address the unique emergency protocols for the wellheads, pipeline, and Sutter Energy Center (SEC) individually.

BACKGROUND:

The discussion regarding the potential risks and impacts associated with a fire in the carbon capture facility is deficient. Specifically, the flammability characteristics of the amine-based solvent are unstated. CEC staff must also evaluate the risks associated with potential toxic emissions during a fire at the facility and the impacts of those emissions on workers and the public.

Data Request

A 47. Please provide a detailed description of potential ignition sources within the facility, as well as fire prevention, detection, and suppression measures to be implemented at SEC as part of the planned modifications. Include details on new equipment, systems, or protocols designed to mitigate fire risks, along with updates to existing fire prevention strategies.

A 48. Please provide an analysis of the impacts of a fire at the facility, including potential emissions and their effects on workers and the public, and include an outline of a Fire Needs Assessment.

BACKGROUND:

Based on a review of the general pipeline alignment and proposed well pad locations in the Petition, these areas appear to have a history of agricultural use. This may result in the presence of legacy agrichemicals, such as pesticides and herbicides, which could pose health risks to construction workers. Further investigation is required to evaluate and mitigate potential worker exposure risks and ensure compliance with applicable health and safety regulations.

Data Request

A 49. Please provide copies of any Phase I or Phase II Environmental Site Assessments (ESAs), including investigations of historical agrichemical applications, or related contamination assessments previously conducted for the project area. Include results of any soil sampling or contamination analyses identifying agrichemical residues. If no prior assessments have been conducted, please submit a plan to perform ESAs, incorporating a Sampling and Analysis Plan (SAP) for the well pads and pipeline route within the Phase II ESA. The SAP should specify proposed soil sampling locations with justifications, sampling depths, analytical methods, and the analytes to be assessed during the investigation.

BACKGROUND:

The Petition provides limited information regarding the injection well heads, well pads, and pipeline ROW. CEC staff requires a more detailed understanding of the access, configuration, controls, and design of each to perform a thorough evaluation of the hazards and associated mitigations. Additionally, as the area may be prone to flooding, it is essential to consider how these structures are designed to mitigate potential flood-related risks while allowing access for construction and maintenance personnel.

Data Request

A 50. Please provide a description of the well pads including:

- Are fixed structures planned (e.g. buildings, restrooms, storage).
- How will workers or first responders be notified of elevated CO_2 levels near the pads or in the structures (e.g. vapor detection and alarm systems, strobes or sirens).
- Wellhead configuration, including factors such as surface exposure, worker access provisions, and the use of vaults or confined spaces.
- Local emergency shutoff mechanisms (e.g. manual or automated techniques) and the associated energy sources (e.g. pneumatic, electrical) including proposed backup energy sources.
- Access and security measures including:
- Worker and first responder access and roadways,
- Security fencing,
- Lighting,
- Details regarding remote surveillance and monitoring.
- Planned elevations of access roads and well pads in relation to possible flood levels.
- Mitigation measures to planned address local flooding.
- Fuel management zone or vegetation management planning.

BACKGROUND

With the understanding that Underground Injection Control (UIC), Class VI wells are permitted through the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act, the California Energy Commission (CEC) acknowledges that ultimate approval for the UIC permit will be done by US EPA. However, as a state agency, the CEC seeks to review the Class VI permit to ensure alignment with California's specific regulatory and environmental requirements. This review will allow the CEC to evaluate any potential gaps or overlaps between federal and state standards, thereby ensuring that the project complies with both levels of jurisdiction and maintains consistency with state priorities.

Data Request

A 51. Please provide an unredacted copy of the Class VI permit application.

BACKGROUND:

CEC staff has identified a lack of sufficient information regarding the anticipated CO_2 release volumes and whether dispersion models have been developed to assess potential impact areas under release scenarios involving the SEC, pipeline segments, and wellheads. To conduct a thorough evaluation, CEC staff must assess the risks associated with a potential release.

Data Request

A 52. Please provide an assessment of the potential impacts of a CO_2 release at the SEC, along pipeline segments (both isolated and un-isolated by EFRDs), and at wellheads. This assessment should include dispersion modeling for both worst-case and probable release scenarios, accounting for local topography, prevailing winds, weather conditions, and proximity to sensitive receptors. The modeling should deliver a detailed analysis of the extent and severity of potential impacts on workers, emergency responders, and the public.

BACKGROUND:

Page 5 of Petition Appendix F identifies that the majority of soils along the pipeline alignment are expansive, necessitating engineering controls to mitigate shrinking and swelling effects. However, a detailed explanation of how this and other geologic hazards, such as seismic risks and nearby construction activity, could impact the pipeline, along with the proposed mitigation measures, has not been provided. CEC staff requires this information to complete the staff assessment.

Data Request

A 53. Please provide details on the proposed pipeline monitoring and maintenance program, including the planned frequency of inspections, remedial action plans, worker training, and worker PPE. These plans should outline how identified issues will be managed to ensure ongoing pipeline stability and performance.

BACKGROUND:

Staff are concerned about the potential for pipeline corrosion from external factors, including shallow groundwater and soil chemistry, as well as internal corrosion caused by impurities within the CO_2 stream, such as water and sulfur dioxide.

Data Request

A 54. Staff requests detailed information on internal and external corrosion prevention measures, including the use of external coatings, cathodic protection systems, and other protective technologies. Staff also request details on plans to monitor the composition of the CO_2 stream for corrosive elements and measures to address them. Furthermore, staff seeks clarification on the monitoring and maintenance programs designed to detect, evaluate, and mitigate corrosion risks throughout the pipeline's operational lifetime.

BACKGROUND:

CEC staff requests a detailed explanation of the safe startup and shutdown procedures for the power plant and carbon capture facility, with specific focus on managing CO_2 temperatures, pressures, and states across the system. This should include how the system will ensure CO_2 remains in a critical state during these operations and the measures in place to prevent pressure surges, temperature fluctuations, or phase transitions that could lead to operational hazards.

Data Request

A 55. Please provide detailed information on the startup and shutdown procedures for both the power plant and carbon capture facility. Include descriptions of any automated controls, monitoring systems, and safety mechanisms that will be utilized to ensure safe and efficient operations during these processes.

GEOLOGY, PALEONTOLOGY, AND MINERALS

BACKGROUND:

Description of application submitted to US EPA. In the public versions of these documents, technical information is redacted.

Data Request

A 56. Please provide the unredacted copies of the Class VI Permit Application Narrative, Area of Review and Corrective Action Plan, Pre-Operational Testing Program, Testing and Monitoring Plan, and Post-Injection Site Care and Closure Plan that were submitted to the US EPA. If multiple versions of these files exist, please provide the most recent version.

BACKGROUND:

The 2025 California Building Code, Section 1803, requires new construction to complete a geotechnical and geohazard investigation and report that evaluates, and recommends mitigation for, geologic hazards. It does not appear the applicant has completed a preliminary site-specific geotechnical and geohazard report. The PTA did not evaluate, nor did it propose mitigation for the project's potential impacts on geologic hazards. Also, the PTA did not evaluate, nor propose mitigation for potential impacts from geologic hazards on the project.

Data Request

A 57. Please provide a timeline for when applicant will complete a preliminary site-specific geotechnical and geohazard investigation for the proposed project, consistent with the California Building Code, Section 1803.

A 58. Please provide an evaluation of the potential for injection activities to induce significant seismicity.

BACKGROUND:

The PTA did not evaluate, nor did it propose mitigation for the project's potential impacts on mineral resources.

A 59. Please provide an evaluation of the project's potential impacts on mineral resources that would be of value to the region and the residents of California.

A 60. Please provide a discussion on whether the proposed project modification would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. If it is determined that the modification would have a significant impact, please discuss how the applicant would mitigate it to less than significant.