

DOCKETED

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September 23, 2024

Curt Hilderbrand
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400 Capitol Mall, Suite 3000
Sacramento, CA 95814-4497

Data Requests Set 3 for Willow Rock Energy Storage Center (21-AFC-02)

Dear Curt:

Pursuant to California Code of Regulations, title 20, section 1716, California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests Set 3, which is necessary for a complete staff analysis of the Willow Rock Energy Storage Center (WRESC) under the Warren-Alquist Act and California Environmental Quality Act (CEQA).

Responses to the data requests are due to staff within 30 days. If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send written notice to me and the Committee within 20 days of receipt of this letter. Such written notification must contain the reasons for not providing the information, the need for additional time, or the grounds for any objections (see California Code of Regulations, title 20, section 1716 subd. (f)).

If you have any questions, please email me at leonidas.payne@energy.ca.gov.

/S/

Leonidas Payne
Project Manager

Enclosure: Data Requests Set 3

WILLOW ROCK ENERGY STORAGE CENTER DATA REQUESTS SET 3

BIOLOGICAL RESOURCES

BACKGROUND: Acreage Impacts

In the Supplemental Application for Certification (supplemental application or Supplemental AFC), Sections 2.0 Project Description and 5.2 Biological Resources (TN254806), the applicant discusses temporary and permanent impacts. The impact discussion covers construction impacts based on the location of impact such as WRESC facility, laydown, parking, transmission poles, etc. While this information is very useful, there are discrepancies between the two sections. For example, habitat impacts from transmission pole placement varies from 0.29 acre (Section 5.2) to 16.1 acres (Section 2.0) and habitat impacts from access roads varies from 6.4 acres (Section 5.2) to 4 acres (Section 2.0). Table 5.2-6: Acreage of Land Use and Vegetation Communities provides acreages for each vegetation community/land use designation (TN 254806) which includes optional gen-tie routes and buffers). This table does not provide acreages based on temporary or permanent impacts. Table 7: Acreage of Land Use and Vegetation Communities (TN 258316) provides acreage for gen-tie line variances, P2 north, and P2 south. This table also does not provide acreages based on temporary or permanent impacts.

DATA REQUESTS

42. Please rectify the discrepancies between the acreage number presented in Section 2.0 and Section 5.2 with regards to permanent and temporary acreage impacts.
43. Please update Table 5.2-6 and Table 7 to include permanent and temporary acreages of each vegetation community/land use based on the "location" of impact used in Table 2-3: Summary of Estimated Permanent and Temporary Disturbance With and Without Onsite Rock Re-use.

BACKGROUND: California Desert Native Plant Protection – Cactus Species

The Flora Compendia in Appendix 5.2A (TN 254811) lists one cactus species – silver cholla (*Cylindropuntia echinocarpa*), which is not shown on any figures or in the GIS data already provided. The removal of this cactus requires a permit as well as a fee per plant removed in accordance with the California Desert Native Plant Protection Act (Division 23 of the California Food and Agricultural Code, Chapter 3 Regulated Native Plants, sections 80071-80075, and Chapter 4 Enforcement Powers and Administrative Responsibilities, sections 80101-80108) that will be incorporated into staff's conditions of certification. In order to determine the fee and where these species occur, they need to be counted and mapped.

DATA REQUEST

44. Please provide a map of the location(s) of silver cholla found within all areas of the project (e.g., project site, gen-tie, staging, parking, etc.) including (to the extent feasible) within a 500-foot buffer from the areas that will be impacted by the project.

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BACKGROUND: Raven Management Plan

A draft Raven Management Plan (Plan) was provided in Data Request Response Set 1 (Attachment DR50-1) (TN 245698) for the original project. This Plan contains information specific to the original project and does not reflect the current project and location.

DATA REQUEST

45. Please provide an updated draft Raven Management Plan with the current project information.

GREENHOUSE GAS EMISSIONS (CLIMATE CHANGE)

BACKGROUND

Appendix G of the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) directs agencies to evaluate whether a project conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (GHGs). Staff needs more information to fully evaluate GHG emissions under CEQA Appendix G.

DATA REQUEST

46. Has the project applicant explored the procurement of renewable diesel for the emergency backup generators and the emergency fire pump as a means of demonstrating consistency with the State of California's goal of carbon neutrality established in 100 Percent Clean Energy Act of 2018 (Senate Bill 100, De León, Chapter 312, Statutes of 2018). If not, why not?

BACKGROUND

Section 3.2 of the supplemental application states that the proposed circuit breakers would contain sulfur hexafluoride (SF₆). According to the California Code of Regulations, title 17, section 95352, starting on the applicable phase-out dates, no person may acquire SF₆ gas-insulated equipment (GIE) for use in California unless certain provisions apply.

DATA REQUEST

47. Please describe how the project would comply with the California Code of Regulations, title 17, section 95352.

BACKGROUND

The Project Description section of the Supplemental AFC states that all buildings will be equipped with air conditioning systems, but the refrigerant is not specified, there

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are no calculations of refrigerant usage/leakage and the contribution to GHG emissions.

DATA REQUESTS

48. Please identify the refrigerant to be used in the air conditioning systems.
49. Please explain how the use of the proposed refrigerant would be allowed in the hydrofluorocarbon (HFC) statewide emission reduction target under SB 1383 (Lara, Chapter 395, Statutes of 2016) (Health and Safety Code, section 39730.5).
50. Please provide calculations of refrigerant usage/leakage and the contribution to GHG emissions.
51. Please explain how the proposed refrigerant would comply with the sale and distribution prohibition timelines established in SB 1206 (Skinner, Chapter 884, Statutes of 2022) (Health and Safety Code, section 39735).

HAZARDOUS WASTE

BACKGROUND: Hazardous Waste Storage

The supplemental application (Section 2.0 and Section 5.14) indicates several methods will be used to properly manage and dispose of hazardous waste generated by the project, including waste oil recycling and disposal of hazardous waste at a Class I landfill. Section 5.14 indicates that hazardous wastes would be transported and disposed of by a transporter. Additionally, the supplemental application indicates that hazardous waste generated at the WRESC facility will not be stored onsite for more than 90 days following its generation date and will be transported offsite by a permitted hazardous waste transporter and disposed of at a facility appropriately licensed to accept the identified hazardous waste product. Section 5.14.4.1.2 – Hazardous Waste Best Practices and Mitigation Measures indicates:

- prior to disposal, wastewater will be tested with the applicable U.S. EPA method to determine chemical constituents and characteristics and if determined to be hazardous, it will be disposed of in accordance with the Clean Water Act and the Resource Conservation and Recovery Act (RCRA); and
- hazardous waste will be collected in satellite accumulation containers near the points of generation and before the end of each workday, the hazardous waste deposited in the satellite accumulation containers will be moved to a designated central accumulation area located onsite.

DATA REQUESTS

52. Section 5.14.4.1.2 indicates that hazardous wastewater would be disposed of in accordance with the Clean Water Act and RCRA (both federal requirements), however it does not indicate how disposal of hazardous wastewater would comply with State requirements, such as the Hazardous Waste Control Law, Porter-Cologne Act and

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related Water Code sections, and local requirements. Please provide a summary of which State and local regulations and requirements would apply to the testing, storage, transportation, and disposal of hazardous wastewater and how they would be applied.

53. How will potentially hazardous wastewater be segregated prior to testing and disposal? What is the volume of hazardous wastewater that will be allowed to accumulate (be stored) onsite prior to disposal? How often will wastewater identified as hazardous be disposed of?

54. Identify the potential locations of the satellite accumulation containers.

55. Identify the anticipated hazardous wastes that would be deposited into the satellite accumulations containers and which, if any, of the hazardous wastes would need to be segregated into separate containers.

56. Identify the potential location of the designated central hazardous waste location on site and the type of waste storage containers and the approximate number and volume of hazardous waste containers that would be stored in this location.

57. Please clarify whether hazardous waste transporters will be registered for transporting the various anticipated hazardous wastes generated by the project.

BACKGROUND: Energetic Waste

Storage and transportation of energetic waste is mentioned in Section 5.14.4.1.2, however it is not discussed elsewhere in Section 5.14, nor is disposal of energetic waste noted anywhere in the section. The section notes that energetic waste would be stored and transported in accordance with the Military Munitions Rule found in Title 40 CFR Part 266, Subpart M, however California has not adopted this rule in its entirety.

DATA REQUESTS

58. Is energetic waste anticipated from construction activities, and if so, how much and what would it consist of?

59. Where would energetic waste be stored at the Project site and how would it be disposed of?

60. Clarify which portions of the Military Munitions Rule found in Title 40 CFR Part 266, Subpart M would apply to the project and which State regulations would be applicable to the storage, transportation, and disposal of project generated energetic waste and provide a summary of these regulations.

RELIABILITY

BACKGROUND

Power plant systems must be able to operate for extended periods without shutting down for maintenance or repairs and must achieve an availability factor similar to existing power plant facilities in the California electricity grid system. According to the

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Supplemental AFC (TN 254805), the WRESC would be capable of operating on a 24-hour basis, 365 days a year with an approximately 50-year lifespan. As addressed in the Issue Identification Statement (TN 258407), staff identified the possibility of some operational challenges (issues) with the proposed project, especially given the projected heavy usage of the equipment. These issues were identified through staff's independent research on the reliability of compressed air energy storage (CAES) facilities.

The issues include:

- Affects of corrosion on the piping system;
- Prolonged downtime with single-cavern design (maintenance or inspection); and
- Significant pressure changes in the air compressors and turbines.

It is unclear whether the project has considered or implemented design mitigations to address these issues. Further discussion is needed so that staff can evaluate and assess the project's projected operational reliability.

DATA REQUESTS

61. Please discuss methods for mitigating the effects of corrosion (e.g., material selection, inspection, testing, and maintenance) on the piping system in the air filter upstream of the gas turbine and any other piping system that may be susceptible to severe corrosion.

62. Since the project would be constructed with a single cavern, would the project still be able to fully or even partially operate if supply of compressed air to the turbines is not available through the primary feedline(s)? For example, would the facility be designed with redundant systems such as secondary compressed air feedline(s)? Has the project considered above ground compressed air storage tanks for redundancy?

63. Are there any anticipated issues with maintaining and inspecting the cavern? If yes, has the applicant considered constructing dual caverns to address potential maintenance and inspection related challenges? For example, decreasing the volume of the proposed cavern and constructing dual caverns?

64. Does the applicant anticipate any significant issues with the air compressor and turbine when operating at varying pressure loads, such as metallurgical- and fatigue-related degradation.

65. Staff is aware that Hydrostor has been issued a permit to construct and operate a 200 MW compressed air energy storage facility in Australia but has not found information that backed up that permit approval. Please provide NEPA or CEQA equivalent assessments that the permitting agency conducted.

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TRANSMISSION SYSTEM ENGINEERING

BACKGROUND

As indicated in the Queue Cluster 13 Interconnection Studies, the project is proposed to interconnect to the Southern California Edison (SCE) Whirlwind Substation.

DATA REQUESTS

66. Please provide a detailed Whirlwind Substation one-line diagram. Show all equipment ratings, including bay arrangement of the breakers, disconnect switches, buses, and other equipment that would be required for interconnection of the project.

67. Please provide an executed Large Generator Interconnection Agreement.

BACKGROUND

In the supplemental application, Section 2.1.19 indicated that there are expected to be a small number of short underground gen-tie line segment crossings of a Los Angeles Department of Water and Power (LADWP) high voltage transmission corridor and in other locations where the transmission corridor is congested with preexisting facilities.

DATA REQUEST

68. Please provide evidence that the LADWP and any other neighboring utilities are notified and agree to any changes to utilities corridors and service interruptions (if any) that may occur.

WATER RESOURCES

BACKGROUND: Regional Water Quality Control Board Comments

In response to request for comments from CEC staff, the Lahontan Regional Water Quality Control Board (RWQCB) determined that the filing of the report of waste discharge was incomplete and additional information is needed pursuant to Division 7, Section 13000 et seq. of the California Water Code (TN 258495).

DATA REQUEST

69. Please provide responses to the comments provided by the RWQCB and submit requested applications and accompanying information to the CEC. Please contact the RWQCB directly if you require any clarification. Provide supporting documentation for any supplemental clarification determinations between the applicant and the RWQCB.

REFERENCE

TN 258495 – ROC - 8/7/2024 Lahontan Regional Water Quality Control Board (RWQCB) Staff Review and Comments

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WORKER SAFETY AND FIRE PROTECTION

BACKGROUND

In the Supplemental Application for Certification (supplemental application or Supplemental AFC), Sections 2.0 Project Description, 2.2.1.1 Facility Safety Design, and section 5.17 Worker Safety, numerous sections refer to worker safety and health LORS. In some of these sections, U.S. OSHA is mentioned and in others CAL OSHA is also included. While staff does not suggest that all relevant occupational safety and health regulations be called out, some regulations are particularly important and should be listed, described, and discussed in the outlines of both the Construction Safety and Health Plan and the Operations Safety and Health Plan as well as in the hazards analyses and LORS tables (Tables 5.17-1, 5.17-2, and 5.17-7). Also, some construction criteria are unclear from reading other sections.

DATA REQUEST

70. Please list the following LORS in the LORS Table, the Construction Hazard Analysis, and Construction Safety and Health Plan and provide a narrative on how these safety regulations will be implemented.

Title 8 California Code of Regulations section 8403 – 8568 Tunnel Safety Orders

(Please include section 7091 of the Mine Safety Order addressing radioactive [in this case radon] protection by following the radiation standards of the Mine Safety and Health Administration for Metal and Non-Metallic Underground Mines, published July 31, 1969, February 25, 1970, and December 8, 1970.)

Title 8, California Code of Regulations section 3395 and 3396 Heat Illness Prevention outdoors and indoors

Title 8, California Code of Regulations section 1200 – 1280 Compressed Air Safety Orders

Title 8, California Code of Regulations section 5204 Silica Dust

Title 8, California Code of Regulations section 5144.1 Protection from Wildfire Smoke

Title 8, California Code of Regulations section 3314 Control of Hazardous Energy (Lock Out/Tag Out) for all sources of energy including compressed air and electrical.

OSHA 26 CFR 1926.800 Underground Construction

BACKGROUND

Potential worker exposure to silica dust during construction is mentioned in Supplemental AFC section 5.17 (TN 254805). Also, in the Supplemental AFC Volume II Appendix 511A-Part I, APPENDIX 5.11A Yeh and Associates, Inc. Geotechnical Data Report (TN254829), it was stated that subsurface soil analysis showed "*The alluvium was interpreted to be derived from the underlying quartz monzonite and was*

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encountered as loose to very dense sand with varying amounts of silt and clay (SW, SM, SC). Quartz Monzonite (qm) was encountered below the alluvium. This is strong evidence that worker exposure to silica dust is likely.

DATA REQUEST

71. Please provide an outline of compliance with Title 8 California Code of Regulations section 5204 that includes use of respirators, worker and environmental monitoring, and medical surveillance.

BACKGROUND

Staff needs clarification and descriptions on the subsurface activities so as to better understand the site layout and location relative to above-ground structures, the possible use of fuels by below ground equipment, emergency access and removal of injured workers, and potential maintenance of below ground equipment, as these factors all impact worker safety and health.

DATA REQUESTS

72. Please provide the source of energy (electrical, diesel, gasoline, propane) for the cavern load-haul-dump vehicles.

73. Please describe how the cavern excavation staffing will allow for underground construction of the cavern continuing 24 h/d, 7 d/w.

74. Please provide a description of the need for any maintenance, repairs, or trouble-shooting the subsurface machinery/apparatus and if any of these activities will require worker entry into the cavern post-construction, and the safety measures used to ensure a safe entry and exit.

75. Please provide a more in-depth Emergency Action Plan.

76. Please provide a Construction Blasting Plan that contains a complete description of how explosives would be safely transported and used at the site, evacuation, security and fire prevention procedures, a blasting equipment list, and procedures for notification of nearby receptors. The blasting plan shall be prepared by a qualified, experienced, and licensed blasting contractor and in compliance with appropriate federal and state regulations addressing explosives and worker safety regulations, including: the Hazards Material Transportation Act (49 U.S.C. 5101 et seq. And 49 CFR Part 171-177); the Organized Crime Control Act of 1970, Title XI (Public Law 91-452); BATF regulations (27 CFR Part 555), the California Fire Code Chapter 56 – sections 5603, 5604, and 5607, and Cal/OSHA regulations California Code of Regulations., tit. 8, §s 1550 through 1580 and 5236 through 5252).

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BACKGROUND

Given the insufficient information about how exactly the cavern will be constructed, staff also needs clarification and documentation on how shaft drilling activities will be performed as these also impact worker safety and health.

DATA REQUESTS

77. Please explain how the access will be provided to the shaft drilling which begins at 50-100 feet bgs by providing a discussion, and a vertical drawing plot plan.

78. Please provide the basis for determining that 100-ft between the ground surface and the top of the cavern is sufficient and safe to support the cavern ceiling given the soils type at the site.

BACKGROUND

Staff also needs clarification and descriptions on surface activities so as to better understand hazards to worker safety.

DATA REQUESTS

79. Please provide a safety protocol for the operation of the rock crushing facility.

80. Please provide a safety protocol for the operation of the concrete batch plant.