

DOCKETED	
Docket Number:	24-OPT-03
Project Title:	Soda Mountain Solar
TN #:	264932
Document Title:	CEC Data Request Response Set #2 - July 21 2025
Description:	<p>This document provides responses to:</p> <p>REV 1 DR AQ-1</p> <p>REV 1 DR AQ-2</p> <p>REV 1 DR GHG-1</p> <p>REV 1 DR GHG-2</p> <p>REV 1 DR GHG-3</p> <p>REV 1 DR GHG-4</p> <p>REV 1 DR PH-1</p> <p>REV 1 DR PH-2</p> <p>REV 1 DR PH-3</p> <p>REV 1 DR PH-4</p> <p>REV 1 DR WS-1</p> <p>REV 1 DR WS-2</p> <p>REV 1 DR WS-3</p> <p>REV 1 DR WS-4</p>
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Soda Mountain Solar Project
CEC Data Request Response #2
July 21, 2025

1. Introduction**1.1 Introduction**

On June 18, 2025, Soda Mountain Solar LLC received a Second Determination of Incomplete Application and Request for Information from the California Energy Commission (CEC) for the Soda Mountain Solar Project (24-OPT-03). Table 1 lists all Data Requests for which a response is provided in this submittal. One additional submittal, addressing REV 1 DR BIO-3 will be provided separately.

Table 1. Data Responses Included in July 21, 2025 Response Set

Data Request Resource Area	Data Request Number
Air Quality (includes Greenhouse Gases)	REV 1 DR AQ-1 REV 1 DR AQ-2 REV 1 DR GHG-1 REV 1 DR GHG-2 REV 1 DR GHG-3 REV 1 DR GHG-4
Public Health	REV 1 DR PH-1 REV 1 DR PH-2 REV 1 DR PH-3 REV 1 DR PH-4
Worker Safety	REV 1 DR WS-1 REV 1 DR WS-2 REV 1 DR WS-3 REV 1 DR WS-4

2. AIR QUALITY (INCLUDES GREENHOUSE GASES)**2.1 DATA REQUESTS REV 1 DR AQ-1 THROUGH REV 1 DR AQ-2 AND REV 1 DR GHG-1 THROUGH REV 1 DR GHG-4**

2.1.1 REV 1 DR AQ-1: Please provide an updated CalEEMod analysis reflecting construction emissions from the proposed project changes or provide a justification explaining why an updated analysis is not needed.

Response: CalEEMod was rerun and now reflects the current project description. However, the previous CalEEMod did include the 1-mile 500-kV gen-tie line with tall towers and an underground segment beneath I-15, the deeper and wider electrical connection trenches, and the wider access roads, these were just omitted from the report language. Emissions from the rerun CalEEMod are lower than the previous model run, given the updated timeline and other updates from the current project description.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix A - CalEEMod Results]

2.1.2 REV 1 DR AQ-2: Please provide an updated air dispersion modeling and health risk assessment reflecting construction emissions from the proposed project changes or provide a justification explaining why an updated analysis is not needed.

Response: An updated analysis is not needed since the emissions from the rerun CalEEMod are lower than the previous model run, given the updated timeline and other updates from the current project description.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix B - Baseline Environmental Consulting Air Quality Technical Report Memorandum]

2.1.3 REV 1 DR GHG-1: Please conduct an updated analysis of the amount of GHG emissions that would be avoided by the proposed project, taking into account the declining statewide average emissions of California's power mix as the state reaches future SB 100 renewable and zero-carbon electricity goals.

Response: An updated analysis of the amount of GHG emissions that would be avoided by the proposed project has been added to the Air Quality and Greenhouse Gas Technical Report, now taking into account the declining statewide average emissions of California's power mix as the state reaches future SB 100 renewable and zero-carbon electricity goals. With California's anticipated achievement of carbon neutrality by 2045, an annual reduction of 24.95 pounds CO₂e per MWh is applied to the 499 pounds of CO₂e per MWh GHG emissions intensity factor. The cumulative impact of the annual incremental reduction accounts for additional renewable energy facilities built during the life of the project, and subsequent exponential decay of natural gas power generation by 2045. Therefore, total indirect GHG emissions from round-trip efficiency loss would total approximately 39,035 MT CO₂e, if the BESS were charged only by the grid (Appendix A).

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 Revision

2.1.4 REV 1 DR GHG-2: Please confirm whether any refrigerant would be used for BESS cooling. If yes, please provide the specifications of the refrigerant to be used and provide GHG emissions calculation due to refrigerant leakage.

Response: Per the Tesla UL9540A and Fire Protection Engineering and UL 9540A Interpretation Report for the chosen BESS, the refrigerant used for BESS cooling is R-134a. A discussion of this refrigerant and the GHG emission calculation has been calculated for the refrigerant leakage have been included in the revised Air Quality and Greenhouse Gas Technical Report.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2

2.1.5 REV 1 DR GHG-3: Please demonstrate how the use of R-410A and any refrigerant proposed for BESS cooling would comply with the Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Stationary Air-conditioning and Other End-Uses. If not, please propose an alternative refrigerant, and provide updated greenhouse gas emission estimates associated with the newly proposed refrigerant.

Response: There will be refrigerant utilized only for air conditioning and it has now been conservatively included for the operation and maintenance building, maintenance facility, and warehouse facility in the CalEEMod rerun. The air conditioning units will use R-32 or a similar reclaimed refrigerant, compliant with the Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Stationary Airconditioning and Other End-Uses (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10 on Climate Change, Article 4, Subarticle 5, Section 95374).

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2

2.1.6 REV 1 DR GHG-4: Please explain how the proposed refrigerant(s) 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).

Response: A discussion of the BESS cooling refrigerant, R-134a, and the buildings air conditioning, R-32, has been added to the Air Quality and Greenhouse Gas Technical Report, including how the proposed refrigerants 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).

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2

3. PUBLIC HEALTH

3.1 DATA REQUESTS REV 1 DR PH-1 THROUGH REV 1 DR PH-4

3.1.1 REV 1 DR PH-1: Please provide a copy of the UL 9540A report, if a specific battery manufacturer has been chosen, including measured emissions of criteria air pollutants, toxic air contaminants, greenhouse gases (GHG), and hazardous materials. Otherwise, please provide industry average data or a literature review addressing the emissions and exhaust parameters requested in REV 1 DR PH-2 below.

Response: A copy of the UL 9540A report for the Tesla MegaPack 2XL, including any measured emissions of criteria air pollutants, toxic air contaminants, greenhouse gases (GHG), and hazardous materials has been provided in the modified Air Quality and Greenhouse Gas Technical Report.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix C Attachment A - CONFIDENTIAL Tesla UL9540A and Fire Protection Engineering and UL 9540A Interpretation Report]

3.1.2 REV 1 DR PH-2: Please provide the exact locations (latitude and longitude or UTM coordinates) and dimensions of the BESS enclosures for modeling purposes. Please provide the following input parameters for a dispersion modeling analysis of all potential criteria air pollutants, greenhouse gases, and toxic air contaminants (TACs) that could be generated during combustion: emission rates (in grams/second), exhaust temperature, exhaust diameter, pressure, and exhaust gas velocity resulting from battery damage or thermal runaway. Please include the calculation worksheet if available.

Response: The exact locations of the BESS, dimensions of the BESS enclosures, and input parameters for modeling of the BESS thermal runaway have been provided in the modified Air Quality and Greenhouse Gas Technical Report as Appendix C.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix C - Baseline Environmental Consulting BESS Modeling Technical Memorandum]

3.1.3 REV 1 DR PH-3: Please provide a dispersion modeling analysis of all potential criteria air pollutants and Toxic Air Contaminants (TACs) for the thermal runaway scenario using a well-validated model (AERMOD preferred).

Response: An air quality modeling analysis was prepared using AERSCREEN to evaluate the air quality impacts associated with the BESS thermal runaway event. The analysis uses criteria air pollutant and TAC emission factors obtained from the UL 9540A report. The details have been provided in the modified Air Quality and Greenhouse Gas Technical Report as Appendix D.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix C - Baseline Environmental Consulting BESS Modeling Technical Memorandum]

3.1.4 REV 1 DR PH-4: Please compare the modeled fire-related TACs concentrations to the Office of Environmental Health Hazard Assessment (OEHHA) /California Air Resources Board (CARB) acute Reference Exposure Levels (RELs) and demonstrate whether the acute hazard Index (HI) of TACs would be higher than the significance threshold of 1 at sensitive

receptors. If an OEHHA REL is not available, a level 1 U.S. EPA Acute Exposure Guideline Level (AEGL) shall be used as the threshold of significance. Please demonstrate whether the criteria air pollutant impacts would cause or contribute to any exceedance of ambient air quality standards. If exceedances occur, provide a detailed Emergency Response Plan and outline the applicable regulatory notification requirements.

Response: The modeled fire-related TACs concentrations have been compared to the Office of Environmental Health Hazard Assessment (OEHHA) /California Air Resources Board (CARB) acute Reference Exposure Levels (RELs) and has demonstrated that the acute hazard Index (HI) of TACs would be lower than the significance threshold of 1 at sensitive receptors. The modeling also demonstrates that CO concentrations during a thermal runaway event will not cause or contribute to a violation of the NAAQS. The details have been provided in the modified Air Quality and Greenhouse Gas Technical Report as Appendix C.

Appendix C-1 Air Quality and Greenhouse Gas Technical Report - July 2025 - Revision 2: [Appendix C - Baseline Environmental Consulting Air Quality Technical Report Memorandum]

4. WORKER SAFETY

4.1 DATA REQUESTS REV 1 DR WS-1 THROUGH REV 1 DR WS-4

4.1.1 REV 1 DR WS-1: Please provide more details on the dry pipe fire suppression system for fire cessation via displacement of oxygen with an inert gas and its effectiveness during a thermal runaway event. Clarify whether the inert gas (assumed to be nitrogen) would be stored on site or if the fire department would be required to transport it to the site during a BESS-related fire. Clarify whether deflagration panels would be provided. If deflagration panels would not be provided, clarify why they are not required. Clarify if other explosion prevention features are incorporated into the overall container design as a backup to the ventilation system.

Response: This response has been docketed as Confidential.

4.1.2 REV 1 DR WS-2: Please provide the UL 9540A fire testing results for the selected battery system.

Response: This response has been docketed as Confidential.

4.1.3 REV 1 DR WS-3: Please specify the number of hours of backup power available for the ventilation system to ensure continuous operation when hydrogen gas levels require ventilation.

Response: This response has been docketed as Confidential.

4.1.4 REV 1 DR WS-4: Please confirm whether the project BESS would be CATL BESS units at 300 MW. If not, please provide example facilities of similar magnitude to the proposed Project that also utilize CATL BESS units and that are not included in the CATL Product Brochure or website. Provide a history of BESS failure incidents and cause of failure for BESS facilities utilizing CATL technology.

Response: This response has been docketed as Confidential.