

DOCKETED

Docket Number:	79-AFC-04C
Project Title:	Compliance - Application for Certification of DWR Bottlerock Geothermal Project
TN #:	271843
Document Title:	Data Requests - Set No 10 - Air Quality
Description:	Data Requests 7.5 MW Binary PTA - Set No. 10 - Air Quality
Filer:	Anwar Ali
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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August 6, 2025

Brady Olson
Chief Executive Officer
Open Mountain Energy
3451 N Triumph Blvd STE 201
Lehi, Utah 84043

Data Requests Set No. 10 - Bottle Rock Geothermal Power Plant (79-AFC-04C)

Dear Brady Olson:

The California Energy Commission (CEC) staff is asking for the information specified in the enclosed Data Requests. The Data Requests are necessary for the staff analysis of the Bottle Rock Geothermal Power Plant petition to amend (PTA) (TN # 262318). The Mayacma Geothermal, LLC, proposes to construct and operate a 7.5-megawatt (MW) Binary Geothermal Power Plant within the Bottle Rock Power Plant (BRPP) site. These Data Requests seek further information in the areas of Air Quality for the proposed 7.5 MW Binary PTA.

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), the CEC staff is requesting responses to the data requests within 30 days. 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 anwar.ali@energy.ca.gov.

Sincerely,

Anwar Ali

Anwar Ali, Ph.D.

Senior Environmental Planner

Compliance, Monitoring and

Enforcement Unit

Safety and Reliability Branch

Siting, Transmission, and Environmental

Protection Division

Enclosure: Data Requests – Air Quality.

Bottle Rock Geothermal Power Plant (79-AFC-04C)
DATA REQUESTS – SET NO. 10 - Air Quality

TECHNICAL AREA: Air Quality

AUTHOR: Gerry Bemis

Background

TN#249817 (docketed 4/19/2023), TN # 249901 (docketed 4/28/2023), and TN#s 262182 and 262183 (both docketed 3/13/2025 and dated December 2024) all apparently describe the same proposed amendment; according to the 2025 annual compliance report, the 2023 amendment request was rescinded by the applicant (2025 report, pdf page 6). Page numbers below are from TN#262182, unless otherwise noted.

Data Request

1. Please identify any significant changes between the original amendment requests in 2023 (TN# 249817 and TN#249901) and the amendment request submitted in two parts (TN#s 262182 and 262183), docketed March 13, 2025.

Background

The March 2025 amendment request, dated December 2024, indicates a May 2025 date for start of construction and an estimated 8 months needed for completion of construction (pdf page 33 of 226). However, as of July 2026 the amendment request has not yet been approved.

Data Requests

2. Please update project schedule.
3. Please provide all updated project information as it becomes available.

Background

The amendment request provides only a very general description of the process of extracting geothermal steam from the reservoir to generate electricity and compares operation of the net “7.5 MW” binary cycle facility to the approved 55 MW geothermal steam facility. PDF page 197 of 226 lists net power production as 9.58 MW gross and “7.5 MW net to the grid.”

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4. What was the annual volume of geothermal fluids typically used in the approved 55 MW facility when it operated?
5. What is the expected annual volume of geothermal fluids expected to be needed for the amended “7.5 MW” facility?

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6. Please confirm the expected net power production in MWs delivered to the electric grid. Please confirm that net power to the grid is 7.593 MW, as stated in response to data request set 6 (TN# 268604), question 3, instead of the 7.5 MW value listed on page 197.
7. What is the status of the up to 45 MW BESS that is included in the response to data request set 6, question 1.

Background

PDF page 197 of TN# 262182 states that the facility would operate at a 95% capacity factor.

Data Requests

8. What is the facility's expected annual capacity factor (%) and annual energy production in MWh, taking into consideration load points (MW) and hours of operation?
9. What annual capacity factor was used to prepare GHG emissions in Tables 3.1-5 (page 40) and 3.1-6 (page 41)?

Background

Pages 11 and 12 of TN# 262182 and pages 18 to 20 describe the general process of the interactions between the geothermal steam and the binary cycle working fluid. Figure 2.2-3 (page 15) shows the location of the steam pipe, the condensate return pipe, and the non-condensable gas pipe. Page 24 states that the shutdown process is designed to meet H₂S limits of Lake County AQMD Rule 421.2. Page 26 states that non-condensable gases would be "one percent of the current steam supply." Staff requires a better understanding of the process of emitting air pollutants and toxic substances that could be problematic for public health.

Data Request

10. Please describe and quantify in more detail the process of extracting geothermal steam from underground reservoir, the transport of this steam to the binary cycle heat exchanger, the release of non-condensable gases under both routine operation and upset conditions and the return of remaining condensed geothermal fluids to the underground reservoir. For each step in the process, describe the conditions which lead to release of all air contaminants.

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Background

Table 3.1-3 on page 38 includes GHG emissions, with CO₂ emissions stated to be 1,090.96 lbs./hr. and CH₄ emissions stated to be 38.02 lbs./hr. The footnote states that these values are based upon non-condensable gas flow rate of 1,244 lbs./hr.

Data Requests

11. What is the corresponding net power plant output in MWs when the non-condensable gas flow rate is 1,244 lbs./hour?
12. Please provide detailed calculations in support of Tables 3.1-5 (page 40) and 3.2-6 (page 41).
13. What does footnote "a" in Table 3.2-6 apply to?
14. What is the total emissions of greenhouse gases in CO₂e, in short tons per year, and considering all the greenhouse gases emitted from the facility, including both CO₂ and CH₄. Please do not include the mobile emissions shown in Table 3.1-5.
15. Please provide annual net energy production for the conditions used to compute annual facility emissions in CO₂e and compute emissions in units of lbs. of CO₂e/MWh.

Background

The amendment request indicates that, due to the similarity of locations for the originally-approved facility and the proposed amended facility with a much smaller MW capacity, no air quality impact analysis would be required. The applicant states on page 39 that air dispersion modeling would not be required by Lake County AQMD for public health TAC impacts due to similar release points and the location of the nearest sensitive receptor.

Data Requests

16. What is the effective stack height and diameter of the original Bottle Rock facility and what is the effective stack height and diameter of the amended facility (please confirm the estimated new facility stack height of 26 feet and 10 feet diameter, in response to data request set 3, first response, dated October 22, 2025)?
17. What is the effective stack height and diameter of the bypass stack(s) used when the Stretford system is not available, for both the original facility and the amended facility?

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18. If Lake County AQMD asks the applicant to conduct an air quality impact analysis, please also provide this analysis to the CEC's Bottle Rock docket.

Background

Page 27 indicates that a diesel fueled backup generator is located onsite.

Data Requests

19. Under what conditions is this backup generator operated?
20. How frequently has this backup generator been used, and when is likely to be used in support of the amended facility?