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March 25, 2024

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Erica Iheme

Jesus Ramirez  
APC Division Manager  
Imperial County Air Pollution Control District  
150 South Ninth Street  
El Centro, CA 92243

**RE: JOBS TO MOVE AMERICA’S PUBLIC COMMENTS ON  
BLACK ROCK GEOTHERMAL FACILITY PRELIMINARY  
DETERMINATION OF COMPLIANCE (PDOC)**

Dear Mr. Ramirez:

Jobs to Move America (JMA) is a strategic policy center seeking to advance a fair and prosperous economy with good jobs and healthier environments for all. Our expertise is ensuring that companies receiving public dollars do the most public good for communities across the country. Thank you for the opportunity to provide comments on the Preliminary Determination of Compliance (PDOC) for the proposed Black Rock geothermal facility. Our comment details significant findings where the Applicant, Black Rock Geothermal, LLC, is not in compliance with state and federal ambient air quality standards. We also offer opportunities for meaningful mitigation measures.

**Position Statement.**

In Imperial County, JMA is working in coalition with local organizations, labor, and environmental groups to ensure that communities benefit from the proposed and future renewable energy projects without causing harm to the environment, the surrounding residents, and the current and future workers in geothermal, lithium, and other renewable energy industries. We recognize that Imperial County’s Lithium Valley is a once-in-a-lifetime opportunity to transition the United States to a green economy, but the transition should not be done at the expense of local communities.

Furthermore, BHE Renewables, LLC, the parent company of Black Rock Geothermal, LLC, is a recipient of the California Alternative Energy and Advanced Transportation Financing Authority’s Sales and Use Tax Exclusion Award. The award total is close to \$10 million for geothermal and lithium developments. As a recipient of a large tax exclusion for renewable energy projects, BHE Renewables, through its subsidiary, Black Rock Geothermal, LLC, should strive to reduce as much

environmental harm as possible.<sup>1</sup> JMA provides the following comments on the PDOC:

**Noncompliance with state and federal ambient air quality standards.**

Particulate matter emissions are a major contributor to the degradation of public health in Imperial County. Page 28 of the PDOC for Black Rock lists operational air quality impacts of various pollutants including PM10 and PM2.5. The Applicant is currently not in compliance with the EPA NAAQS limit of 9.0 µg/m3 for PM2.5.<sup>2</sup> ICAPCD must ensure the Applicant first complies with state and federal ambient air quality standards before this project moves forward.

The PDOC should also rely on data from monitoring stations closer to the project development site to develop its air quality analysis. Page 27 of the PDOC states that “the dispersion modeling utilized 5 years of hourly meteorological data collected at the Imperial County Airport.” The airport is approximately 25 miles away from the project site. Data from the Sonny Bono monitoring station should be used since it is approximately 5 miles away from the project site. This data will more accurately model impacts on workers and community members closer to the facility. The ICAPCD should re-model its air quality analysis using data from the Sonny Bono monitoring stations before this project moves forward.

**Cumulative impacts on air quality.** The PDOC must study the direct and cumulative impact on air quality from the construction and operation of the proposed geothermal development. This development will be one of many future renewable energy projects in the Salton Sea region, and increased construction activities can potentially resuspend dust and particulate matter from unpaved roads. Additionally, decreased water flow into the Salton Sea would indirectly affect air quality, as the drying lakebed will release harmful dust into the atmosphere. Imperial County continues to experience high levels of air pollution and continued degradation will likely exceed legal thresholds, negatively impacting public health and resulting in more respiratory and heart diseases, among other worsened health outcomes.<sup>3</sup> Consider mitigation measures for air pollution, such as the use of electric vehicles for the construction and operations phases of projects. Also, consider Salton Sea restoration as a mitigation measure to reduce the negative air quality impacts from exposed dry bed playa. Paved roads are also recognized by the U.S. Department of Transportation Federal Highway Administration as a sustainability measure to improve air quality, thus it should be considered as a mitigation measure.<sup>4</sup>

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<sup>1</sup> California Alternative Energy and Advanced Transportation Financing Authority. Competitive Criteria Process for the 2022 Sales and Use Tax Exclusion Program Applications, 21 Jun 2022.

<https://www.treasurer.ca.gov/caeatfa/meeting/2022/20220621/staff/43.pdf>

<sup>2</sup> Environmental Protection Agency. Rules and Regulations, 6 Mar 2024.

<https://www.govinfo.gov/content/pkg/FR-2024-03-06/pdf/2024-02637.pdf>

<sup>3</sup> James, Ian. “Young children are suffering from alarmingly high rates of asthma near the Salton Sea, study finds.” The Desert Sun, 6 Nov. 2017.

<https://www.desertsun.com/story/news/environment/2017/11/06/near-salton-sea-many-young-children-suffer-asthma-study-finds/837857001/>

<sup>4</sup> U.S. Department of Transportation. “Why is sustainability important in pavement systems?” U.S. Department of Transportation. Federal Highway Administration, 9 Apr 2018.

<https://www.fhwa.dot.gov/pavement/sustainability/why.cfm>

Mitigation planning should also include continued monitoring of Valley Fever, asthma, and other respiratory and heart diseases with reportable data accessible to the public. Reporting on air quality should also include other respiratory irritants, including asbestos.

Consider monitoring data from stations closer to the proposed development. With the potential for the buildout of more geothermal developments and other renewable energy facilities, consideration should also be given to the cumulative impact of PM10 and PM2.5 pollutants. As mentioned before, the Applicant is currently not in compliance with the EPA NAAQS limit of 9.0 µg/m<sup>3</sup> for PM2.5. Additional build-out of more renewable energy development will increase the potential for concentrations (or “hotspots”) of PM10, PM2.5, and other air pollutants. Mitigation planning should include strategies to identify existing and emerging concentrations of PM10 and PM2.5 pollutants.

**Potential hazardous waste storage impacts on air quality.** Proper hazardous and non-hazardous waste and material handling, storage, and disposal must be analyzed thoroughly to prevent atmospheric pollutants and unnecessary emissions. It’s important to highlight that in 2007, CalEnergy / BHE Renewables, the parent company of Black Rock Geothermal, LLC, agreed to pay penalties worth \$910,000 to settle allegations that it violated hazardous waste regulations.<sup>5</sup> This action was taken by the California Environmental Protection Agency’s Department of Toxic Substances Control. On page 6 of the Black Rock PDOC, “the brine pond will be used to temporarily store the spent geothermal fluid, solids that have precipitated out of the fluid during power generation, as well as fluids generated from emergency situations, maintenance, hydro blasting, safety showers, eye wash stations, vehicle wash stations, plant conveyor systems, and reject water from reverse osmosis.” Due to the chemical composition within brine ponds, it can potentially be hazardous.<sup>6</sup> Consider mitigation measures and alternatives, such as the use of above-ground waste management containment systems that are effectively sealed and secured to prevent spillage. Also, consider the implementation of stormwater management plans to prevent the risk of overflow and control spillage of hazardous wastes. The cumulative risks of hazardous waste will increase if future renewable energy developments do not consider effective mitigation measures and alternatives.

### **Non-condensable gasses in the atmosphere.**

In the Black Rock Geothermal Project Response to ICAPCD Data Request #1, the plant may emit 2515 pCi/L of radon. Radon is a naturally occurring gas and prolonged exposure can cause lung cancer.<sup>7</sup> Furthermore, it can be transferred to the surface onto the soil via geothermal fluid movement.<sup>8</sup> Plant workers and nearby communities risk exposure. According to OSHA, the limit that a worker can be

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<sup>5</sup> CalEnergy Operating Corp., SRPD GIC851471 (Dep’t of Toxic Substances Control Mar. 7, 2007) (corrective action consent agreement). [https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/01/CalEnergy\\_ENE\\_CACA.pdf](https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/01/CalEnergy_ENE_CACA.pdf)

<sup>6</sup> Dobson, P., Araya, N., Brounce, M., Busse, M., Camarillo, M. K., English, L., Humphreys, J., Kalderon-Asael, B., McKibben, M., Millstein, D., Nakata, N., O’Sullivan, J., Planavsky, N., Popineau, J., Renaud, T., Riffault, J., Slattery, M., Sonnenthal, E., Spycher, N., ... White, M. (2023). *Characterizing the Geothermal Lithium Resource at the Salton Sea*. <https://escholarship.org/uc/item/4x8868mf>

<sup>7</sup> US EPA. *Radon*. US EPA, 6 Feb 2024. <https://www.epa.gov/radon>

<sup>8</sup> Aydar, E., & Diker, C. (2021). *Carcinogen soil radon enrichment in a geothermal area: Case of Güzelçamlı-Davutlar district of Aydın city, western Turkey*. *Ecotoxicology and Environmental Safety*, 208, 111466. <https://www.sciencedirect.com/science/article/pii/S0147651320313038#:~:text=Those%20water%20saturates%20the%20soil.can%20represent%20high%20soil%20radon.>

exposed to in 40 hours in a consecutive 7 day period is 100 pCi/L.<sup>9</sup> The CDC also recommends taking action if a home is between 2 pCi/L through to 4 pCi/L.<sup>10</sup> Mitigation must consider OSHA, Center for Disease Control, or higher standards to limit exposure. Additionally, the cumulative total of radon emissions will increase as more geothermal sites are developed. The PCOD must more thoroughly center its analysis on radon.

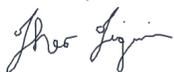
Other non-condensable gasses (i.e. hydrogen sulfide, ammonia, arsenic, mercury, benzene, toluene, and xylene) pose a risk and should be monitored and mitigated to protect geothermal workers and surrounding communities before issuing a decision for this project. Workers and nearby communities may be more exposed to hazardous non-condensable gasses during normal operations of the facility. Mitigation should also include regular health risk assessment to ensure there are no concentrations of hazardous air pollutants in the region.

**Continued monitoring of cumulative impacts and community stakeholder input.** BHER, the Imperial County Air Pollution Control District, and other agencies and developers must implement monitoring of the cumulative impacts as more geothermal, lithium, and renewable energy developers seek to build projects by the Salton Sea. Regular reviews of the best available control technology (BACT) and other best practices should be employed. Monitoring should be thorough and data should be readily available, accessible, and reportable to the public. Periodic review of monitoring should also include mitigation measures and recommended alternatives.

As more geothermal, lithium, and renewable energy projects are developed, it will be important to create regular, publicly accessible avenues for community stakeholders to be a part of ongoing decision-making, review monitored data, and have the ability to meaningfully address unforeseen air quality, public health, and other issues due to the cumulative impact of present and future construction and operations. Community stakeholders, within this avenue and as part of the decision-making process, should also be to discuss non-energy and socioeconomic benefits to the community, such as employment opportunities, workforce training, and public health impacts.

Thank you for your attention on these listed topics. Please do not hesitate to contact me with any additional questions or concerns.

Thank you,



Signed at:  
2024-03-25 16:26:23

Theo Figurasin  
Senior Researcher  
Jobs to Move America

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<sup>9</sup> Occupational Health and Safety. *Radon*.

[https://www.osha.gov/chemicaldata/883#:~:text=100%20pCi%2FL%20\(This%20is,a%20consecutive%207%20day%20period.\)&text=Notes%3A,1910.1096\(c\)\(1\).](https://www.osha.gov/chemicaldata/883#:~:text=100%20pCi%2FL%20(This%20is,a%20consecutive%207%20day%20period.)&text=Notes%3A,1910.1096(c)(1).)

<sup>10</sup> Center for Disease Control and Prevention. *Reduce Radon Levels in Your Home*. CDC, 6 Jan 2022.

<https://www.cdc.gov/radon/radon-facts.html>