



January 24, 2020

Kevyn Piper
California Energy Commission
1516 Ninth Street, MS-18
Sacramento, California 95814

RE: Support Letter for Salton Sea Geothermal Lithium Recovery Demonstration Project

Dear Mr. Piper,

On behalf of the geothermal industry, the Geothermal Resources Council (GRC) applauds the California Energy Commission's embrace of funding for geothermal research and development.

We're writing to especially commend your active interest in the holistic recovery of lithium with geothermal power production and to express our support for a proposal presented to you by BHE Renewables Minerals, LLC—a wholly owned subsidiary of Berkshire Hathaway Energy (BHE).

If fully commercialized, the proposed lithium recovery solution will help reduce the cost of electricity generation from geothermal and therefore lead to new development of geothermal power plants around the Salton Sea. These plants would increase the quantity of renewable electricity on the grid and reduce reliance on other, less safe baseload generation technologies, including nuclear, natural gas and coal.

The GRC is very pleased to support BHE's efforts to design, build, and operate an integrated, pre-commercial geothermal brine pre-treatment and lithium recovery system at its existing geothermal power plant in Calipatria, California, an area adjacent to the Salton Sea categorized as both a low-income and disadvantaged community.

Powered by renewable energy, the proposed one-tenth commercial-scale demonstration facility will use an innovative solution developed by Lilac Solutions to process 100 gallons per minute (g/m) of geothermal brine, recovering lithium chloride for conversion into one of the world's most valuable commodities: lithium carbonate for use in electric vehicle (EV) batteries, as well as batteries for cell phones, computers, tablets, and numerous other battery-powered devices so prevalent around the world today.

The efficient recovery of lithium from brine resources represents a significant technological and financial challenge, but also a tremendous opportunity for California. Traditional lithium recovery from brine resources relies on inefficient and environmentally destructive open-pit mining (in Australia) or evaporation ponds. These evaporation ponds make financial sense only for a few, anomalously high-quality brine resources in South America.

If successful, the proposed closed-loop demonstration system—which eliminates the need for evaporation ponds—would immediately become the world’s most environmentally friendly lithium recovery plant. Critically, it would serve as the foundation for a near-term scale-up to a 1,000 g/m system and, ultimately, for the construction of a regional network of BHE lithium recovery facilities by 2025 that would produce up to 90,000 metric tons of high-quality lithium carbonate per year—making the Imperial Valley the foremost lithium production center in the world.

The Applicant and the project team are exceptionally well qualified to lead the project, with a seasoned leadership team, experienced engineers, proven technology, and strong financial backing. BHE Renewables, the parent company of BHE Renewables Minerals, is an independent power producer with approximately 4,000 megawatts of generation capacity, including 350 megawatts at 10 geothermal power plants in California’s Imperial Valley.

Lilac Solutions has developed a new ion exchange technology that is fundamentally different from other lithium recovery technologies that have been deployed around the Salton Sea. At its laboratory in Oakland, California, Lilac has demonstrated this innovative solution on more than 30 brines from around the world, including brines from underneath the Salton Sea packaged in 1/10-commercial-scale modules. When commercialized, this modular technology will enable lithium producers to cut capital and operating costs, accelerate project startup, and unlock new resources, all in an environmentally-friendly and sustainable fashion.

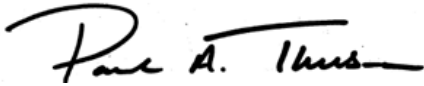
Of critical note, the proposed demonstration project could open the door to private investment in lithium recovery from geothermal brine—investment that has been lacking to date because the technology has not yet been proven on a commercial scale. When fully commercialized, the project will deliver multiple direct benefits to an area categorized as both a low-income and disadvantaged community with one of the highest unemployment rates in the nation. These benefits include preferential hiring for residents of the surrounding low-income and disadvantaged community, the creation of about 400 high-paying jobs with generous benefits packages, extensive workforce training, \$1.8 billion in construction activity, and the annual generation of approximately \$20 million in taxes due to Imperial County.

For these reasons and more, the GRC strongly supports the proposed project and urges you to award it funding in this year’s grant funding round.

The GRC is a non-profit professional and trade association for the geothermal industry and community in the USA and abroad. We were founded in 1972 and are headquartered in Davis, California. We have over 1,300 members from around the world and are working to advance our industry by supporting the development of geothermal energy resources through communication of robust research, knowledge and guidance.

We thank you for your consideration. We are available to answer questions and discuss further at your convenience.

Respectfully,



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