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Comment Received From: Sabrina C. Barber

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Imperial Irrigation District's Comments in Response to Notice of Workshop

Additional submitted attachment is included below.



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November 13, 2017

Via e-Comment Portal

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 17-IEPR-01
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

**Re: *In the Matter of: 2017 Integrated Energy Policy Report (2017 IEPR),
Docket No. 17-IEPR-01
Imperial Irrigation District Comments in Response to October 11, 2017
Notice of Workshop***

Imperial Irrigation District offers comments pursuant to the California Energy Commission's, October 11, 2017 notice of "Workshop on the *Draft 2017 Integrated Energy Policy Report*". IID thanks the commission for the opportunity to provide comments on the *Draft 2017 Integrated Energy Policy Report*, which is integral to the development of energy policies that are important to California's and IID's residents and businesses. IID has closely followed the development of the *Draft IEPR* and has commented on aspects of the IEPR process, including matters involving Senate Bill 350 Low-Income Barriers Study implementation.

IID focuses its comments on the *Draft IEPR's* discussion of resiliency in the electricity sector.¹ The issues described in the *Draft IEPR's* discussion of electric resiliency, from the Duck Curve and overgeneration, to flexibility, to reliability, warrant acknowledgment and analysis. IID proposes that development of new geothermal resources be incorporated into the *Draft IEPR's* recommendations at p. 121 to address grid resiliency and to provide needed assistance to disadvantaged communities.

Resiliency Benefits of Geothermal Resources

IID's service territory offers the potential for significant development of geothermal resources, which provide load-serving entities the opportunity for procurement of clean, in-state, carbon-free energy. IID has proposed in other venues a near-term procurement

¹ See generally *Draft IEPR*, Chapter 3.

goal of 500 MW newly developed geothermal resources, a small, conservative fraction of the potential geothermal capacity that can be developed in the Imperial valley alone.

Geothermal resources meet the resiliency concerns described in the *Draft IEPR*. Geothermal energy is well-known for providing a baseload resource, but recent, technological advances allow geothermal resources to be fully dispatchable, helping provide flexible capacity to the grid and the capability of flattening the belly of the Duck Curve.² While the *Draft IEPR* refers to natural gas as a flexible resource to integrate renewables,³ geothermal resources can provide a carbon-free resource in meeting the same goal. The *Draft IEPR* does reference geothermal as having “limited potential to provide flexibility.”⁴ IID must take issue with the qualifier that such potential is “limited.” New geothermal resources can be developed with flexible output capabilities. While certain, existing resources may only be able to provide baseload output, to the extent that policymakers promote new geothermal resource construction, such new resources can provide flexible capabilities to integrate intermittent resources in a reliable manner. The *Draft IEPR* should look forward on this point, not into the past, and remove the qualifier that the potential for geothermal resources to provide flexibility is “limited.”

A natural advantage of geothermal resources is the ability to provide ride-through during system disturbances. While efforts are being taken to improve solar inverter technology, events such as the sudden outages of solar resources during the Blue Cut Fire underscore the resiliency advantages provided by geothermal resources. This event is alluded to at p. 94 of the *Draft IEPR*.⁵ In addition, geothermal generation can withstand seismic activity without interruption. Geothermal resources are known for providing inertia benefits and support to the grid at large.

The need for the electricity provided by geothermal resources is expected to remain steady or grow. The CAISO’s vision paper issued in October, “Electricity 2030, Trends and Tasks for the Coming Years,”⁶ projects transportation and building retrofits and construction more heavily being integrated with electricity use, as opposed to relying on fossil fuels. The CAISO report states “Electric vehicles (EVs) [will] rapidly replace internal combustion engine vehicles.”⁷ The 2030 Vision Paper also encourages and foresees the establishment of “building standards for Zero Net Energy and all-electric buildings,”⁸ and retrofit of existing buildings to “replace gas space and water heating” with alternative clean

² See e.g., CEERT Analysis at 10-11.

³ See *Draft IEPR* at 101-02.

⁴ *Id.* at 109.

⁵ See

[http://www.nerc.com/pa/rrm/ea/1200 MW Fault Induced Solar Photovoltaic Resource /1200 MW Fault Induced Solar Photovoltaic Resource Interruption Final.pdf](http://www.nerc.com/pa/rrm/ea/1200%20MW%20Fault%20Induced%20Solar%20Photovoltaic%20Resource%20Interruption%20Final.pdf).

⁶ Found at: <http://www.aiso.com/Documents/Electricity2030-TrendsandTasksfortheComingYears.pdf> (“2030 Vision Paper”).

⁷ *Id.* at 20.

⁸ 2030 Vision Paper at 21.

resources, including electricity.⁹ In addition, the CAISO anticipates that the industrial manufacturing sector will increase switching of fuels to electricity.¹⁰ While high penetrations of distributed generation will be a feature of the future electric grid, and energy efficiency will continue to improve, more sectors of the economy will lean on the electricity sector to supply power needs. Geothermal should be part of the carbon-free resource mix to meet those continued needs.

Analyses¹¹ also demonstrate that, when not restricted to analyzing the costs and benefits of installing new generation through incremental costs, but by viewing those costs and benefits through the lens of avoided costs, geothermal resources are less costly to consumers than solar or wind resources. Among the costs avoided are: a) infrastructure costs for build-out to meet intermittent resources' lower capacity factors for purposes of attaining resource adequacy; b) ancillary services procurement costs; and c) upward adjustments to the price paid in power purchase agreements for wind and solar energy to account for those resources' lower capacity factors.¹²

Geothermal's Benefit to Disadvantaged Communities

IID applauds the *Draft IEPR's* discussion of means to better serve disadvantaged communities, including providing better access to renewable and energy efficiency resources. IID appreciates the *Draft IEPR's* acknowledgment of IID's eGreen program to respond to the needs of disadvantaged communities located within IID's service territory.¹³ The *Draft IEPR* could go further and describe the benefits that development of new, in-state geothermal resources bring to disadvantaged communities.

Geothermal development provides environmental and economic benefits for disadvantaged communities. For example, in the area near the Salton Sea, communities suffer from health-related impacts caused by the receding waters of the Salton Sea and

⁹ *Id.* at 20.

¹⁰ *See id.*

¹¹ U.S. Energy Information Administration, "Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2017," Apr. 2017, at Table 4b:

https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf ("EIA Analysis")

see also Caldwell, James and Anthony, Dr. Liz, "The Value of Salton Sea Geothermal Development in California's Carbon Constrained Future," Center for Energy Efficiency and Renewables Technologies, Mar. 2016: http://lowcarbongrid2030.org/wp-content/uploads/2016/PDFs/160322_Geothermal-Analysis.pdf ("CEERT Analysis");

Gagne, Douglas, *et al.*, "The Potential for Renewable Energy Development to Benefit Restoration of the Salton Sea: Analysis of Technical and

Market Potential," National Renewable Energy Laboratory, Nov. 2015:

<https://www.nrel.gov/docs/fy16osti/64969.pdf> ("NREL Analysis").

¹² *See* CEERT Analysis at 10-13.

¹³ *See Draft IEPR* at 77.

the resultant increase in airborne dust and other pollutants.¹⁴ These impacts include lung and breathing difficulties, as well as a high incidence of childhood asthma. A significant proportion of residents living near the Salton Sea struggle to obtain sufficient health care to treat airborne illnesses. Economic obstacles stand in the way of implementing protective measures, such as installing adequate home ventilation and paving walkways and playgrounds (to prevent the kick-up of dust).

The Salton Sea area shares many of the economic difficulties of the remainder of IID's service territory, much of which is economically disadvantaged. As the *Draft IEPR* relates, IID estimates that roughly 70-percent of its service territory¹⁵ is designated as disadvantaged communities according to CalEnviroScreen.¹⁶ Approximately 86-percent of the contract accounts within the disadvantaged communities designation are residential. The development of geothermal generation in the IID service territory provides a helpful synergy to meeting the needs of disadvantaged communities, in terms of jobs, both for construction and for ongoing maintenance, and increased public revenue through payment of royalties¹⁷ and tax revenue from personnel working at the geothermal facilities and contributing to the local economy. Such royalties and tax revenue can be directed to beneficial use to improve health care and reduce exposure to dust and other pollutants, both through building and home improvements and outdoor infrastructure improvements. The *Draft IEPR* should recognize the contributions that geothermal development can make to addressing the needs of disadvantaged communities.

Conclusion

For the above reasons, IID asks that the Commission revise its recommendation at p. 121 of Chapter 3 of the *Draft IEPR*, which urges the establishment of "mechanisms to retain power plants that increase the resiliency of the electric system." The Commission should add to that recommendation that it should be a priority to develop mechanisms for developing geothermal resources to contribute to the integration of renewables and resiliency of the grid and to address the needs of disadvantaged communities.

¹⁴ See Iovenko, Chris, "Toxic Dust from a Dying California Lake," *The Atlantic*, Nov. 9, 2015: <https://www.theatlantic.com/science/archive/2015/11/the-airborne-toxic-lake-event/414888/>

¹⁵ See *Draft IEPR* at 77.

¹⁶ IID also cautions, that relying exclusively on CalEnviroScreen when identifying disadvantaged communities to implement any directive is too limiting and may inadvertently deny benefits to significant parts of the population in need. IID's customers may include those that qualify as low income due to a high cost of living or other factors that may not be captured by CalEnviroScreen. Such customers may also not be adversely affected by pollution or other air or water hazards as compared to other customers, a key focus of CalEnviroScreen, but still would qualify as low income. IID believes that the Commission and other state agencies should keep a broad view on definition of disadvantaged communities, including for purposes of planned, resource procurement.

¹⁷ See e.g., NREL Study at 74.

IID thanks the Commission for the opportunity to submit written comments. IID looks forward to further dialogue on these issues.

Respectfully yours,

A handwritten signature in blue ink that reads "T. Allegranza". The signature is written in a cursive style with a large, stylized initial "T".

Tony Allegranza
Energy Manager, Operations