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Southern California Public Power Authority Comments on IEPR Potential Growth of Hydrogen

Additional submitted attachment is included below.

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California Energy Commission
Docket No. 23-IEPR-06
715 P Street
Sacramento, CA 95814-5512

RE: IEPR Commissioner Workshop on the Potential Growth of Hydrogen

The Southern California Public Power Authority[1] ("SCPPA") is pleased to provide feedback on the IEPR Commissioner Workshop on the Potential Growth of Hydrogen held on September 8, 2023.[2] SCPPA appreciates the significant potential role that hydrogen may have in the electricity and transportation sectors in the future. SCPPA is optimistic about the long-term energy storage benefits that hydrogen can offer to maintain grid reliability, though many challenges will need to be addressed.

The success of clean hydrogen in California is of great interest to SCPPA Members because it represents a long-duration energy storage opportunity that can be deployed seasonally and, in some cases, locally. California utilities are on a tight timeline to reach ambitious decarbonization targets and need additional firm and dispatchable options for their clean energy portfolios. With the following comments, SCPPA hopes to support the CEC's modeling and assumptions with regard to SCPPA Members' ability to utilize clean hydrogen for generating electricity.

CEC staff's presentations and panelists presented several opportunities and strategies for delivering hydrogen to power plants. SCPPA believes that different strategies will be required for different plants. For example, producing and storing hydrogen within the site of an existing power plant will present land use and community impact challenges to bulk generation assets that are contained within a densely developed urban environment. And while a new power plant may be able to receive hydrogen through new, dedicated pipelines, other projects may instead depend on common carrier pipelines (e.g., SoCalGas' Angeles Link project). Future technologies may enable even more options, but these three possibilities – on-site production and storage, dedicated pipelines, and common carrier pipelines – should be included in CEC's evaluations. SCPPA, as well as several SCPPA Members, own their own natural gas-fired power plants that could potentially convert to hydrogen depending on cost and infrastructure. For example, SCPPA owns the Magnolia Power Project (MPP), a 310 MW natural gas-fired combined cycle generating plant in Burbank, California. The MPP, which is located along the I-5 corridor, is 10 miles away from one potential routing concept for the Angeles Link hydrogen pipeline. We

[1] SCPPA is a joint powers authority whose members include the cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, and Vernon, and the Imperial Irrigation District. Each Member owns and operates a publicly owned electric utility (POU) governed by a board of local officials. Our Members collectively serve nearly five million people throughout Southern California. Together they deliver electricity to over two million customers throughout Southern California, spanning an area of 7,000 square miles.

[2] https://www.energy.ca.gov/event/workshop/2023-09/iepr-commissioner-workshop-potential-growth-hydrogen

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encourage the CEC and other stakeholders to be inclusive in their considerations of MPP and other natural gas-fired power plants as potential users of hydrogen and evaluate the most feasible and cost-effective options to deliver hydrogen to those facilities.

An additional consideration should be the use case of potential hydrogen-fueled power plants. CEC staff's presentation on Hydrogen Analysis for Electricity Generation in the 2023 IEPR illustrated the need for renewable power for electrolytic hydrogen production relative to the power produced from a hydrogen-fueled combined-cycle plant. While SCPPA members recognize that electrolytic hydrogen production will require a significant build-out of renewables, the CEC's analysis does not appear to fully recognize the long-duration energy storage and seasonal-arbitrage benefits from the hypothetical system. In other words, the analysis should consider the operating profiles of the renewables and the combined-cycle power plant, along with a seasonal mismatch between supply and demand. SCPPA recommends that CEC's IEPR analyses consider the benefits of hydrogen for long-duration energy storage, and compare it against possible alternatives considering cost, maturity, and system-level benefits.

Additional SCPPA Members may also be able to participate in the clean hydrogen economy if the issue of delivery is addressed. Thus far in Southern California, efforts to produce hydrogen have focused largely on the ports and the recognized air quality challenges that area faces due to trucks and rail traffic. However, because of this focus in one area, hydrogen production has been limited to that area. Southern California is a vast area and the benefits of hydrogen for use in vehicles or for power generation has only been available to inland counties by transporting it via trucks. Trucking hydrogen to distribution sites adds significant cost, making it infeasible and thus leaving the inland areas without good access to hydrogen or even funding for hydrogen production. The Inland Empire is home to large portions of California's warehousing industry, with over 4,000 warehouses and hundreds of thousands of truck trips per day, creating opportunity for using hydrogen in transportation.[3] Because of the infeasibility of trucking in hydrogen, the inland empire will likely depend on fuel delivery via common carrier pipeline. This adds additional variables including the ability of a third party to build a pipeline quickly; the cost of fuel and fuel transmission; and the need to address community concerns on safety and air quality across the common carrier pipeline network. SCPPA encourages regional conversations and consideration to ensure the most effective deployment of hydrogen in Southern California's inland counties, particularly for use in transportation and to ensure that the benefits offered by hydrogen can be realized throughout the supply chain that begins at the ports and culminates in the Inland Empire.

SCPPA Members look forward to collaborating with CEC staff to ensure that customers see the benefits of the hydrogen projects that are already underway. Such projects include the Intermountain Power Plant Renewed as well as power plants in the LA basin. SCPPA recommends the CEC's analysis identify the power plants that could utilize clean hydrogen to generate electricity, and the pathway for delivery of hydrogen to each power plant.

[3] https://calmatters.org/commentary/2023/01/inland-empire-california-warehouse-development/#:~:text=The%20result%3A%20California's%20Inland%20Empire,feet%20of%20the%20Inland%20Empire.

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Thank you for the opportunity to provide comments on the potential growth of hydrogen.

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