BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies.	Rulemaking 19-09-009 (Filed September 12, 2019)

REPLY COMMENTS OF THE CALIFORNIA HYDROGEN BUSINESS COUNCIL ON THE ON ASSIGNED COMMISSIONER'S AND ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENT ON POLICY QUESTIONS AND AN INTERIM APPROACH FOR MINIMIZING EMISSIONS FROM GENERATION DURING TRANSMISSION OUTAGES

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I. Introduction

In accordance with Rule 6.2 of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), and the Administrative Law Judge's ruling seeking comment from interested parties on policy questions and an interim approach for minimizing emissions issued in the above captioned proceeding, the California Hydrogen Business Council (CHBC) [1] welcomes the opportunity to provide the following reply comments.

[1] The CHBC is comprised of over 100 companies and agencies involved in the business of hydrogen. Our mission is to advance the commercialization of hydrogen in the energy sector, including transportation, goods movement, and stationary power systems to reduce emissions and dependence on oil. The views expressed in these comments are those of the CHBC, and do not necessarily reflect the views of all of the individual CHBC member companies. CHBC Members are listed here: https://www.californiahydrogen.org/aboutus/chbc-members/

Our reply comments in the section below are summarized as follows:

A. **The CHBC agrees with several parties that diesel generation should not be the default technology to supply backup power for outages in 2021 and that the state ought to prioritize accelerating expanded deployment of clean technologies, in particular hydrogen fuel cells, which are far cleaner, safe, and commercially available today.**

B. **The CHBC agrees with comments that it is particularly important to recognize and mitigate the impact of diesel emissions on disadvantaged communities and supports mitigating this by prioritizing zero-emissions alternatives like hydrogen fuel cells.**

C. **The CHBC supports exploring innovative ways to leverage hydrogen fuel cells to improve resiliency without polluting, such as utilizing V2G with zero-emissions vehicles as an electricity reliability and renewables integration strategy.**

D. **We believe the Green Hydrogen Coalition makes several good recommendations that the Commission ought to consider for accelerating the displacement of fossil fuels with green hydrogen solutions.**

II. Reply Comments

The following are our reply comments in greater details.

A. **The CHBC agrees with several parties that diesel generation should not be the default technology to supply backup power for outages in 2021 and that the state**

ought to prioritize accelerating expanded deployment of clean technologies, in particular hydrogen fuel cells, which are far cleaner, safe, and commercially available today.

A number of parties shared comments we support expressing opposition to diesel generation being the default technology to manage outages in the year ahead. The Green Hydrogen Coalition, for example, stated they do "not believe that diesel generation should be the default solution for the 2021 fire season given the urgent need for clean resiliency resources."[2] CESA similarly wrote that the organization "strongly disagrees with a single-technology approach and urges the Commission to instead consider clean microgrid solutions that incorporate multiple DER technologies."[3] Doosan added that the "transition to clean generation should begin immediately."[4]

Furthermore, a number of parties advocated for accelerating deployment of fuel cells that run on hydrogen, or potentially other fuels, as a preferred approach to managing outages. FuelCell Energy (FCE), for instance, wrote that because their fuel cell systems "generate continuous power without combustion, criteria pollutants, and air toxics emissions, and maintain the resiliency and reliability of local grid operation, these fuel cell systems should be a critical and preferred resource for California to address power shutoffs and grid unreliability both in front of and behind the meter."[5] Doosan likewise commented that "the Commission should consider fuel cells as a preferred technology solution powered by renewable natural gas, natural gas, propane,

[2] GHC Comments, p. 11
[3] CESA Comments, p. 4
[4] Doosan Comments, p. 15
[5] FCE Comments, p. 2

and/or hydrogen. Fuel cells offer the best way to convert these fuels to electricity with high efficiency, virtually no criteria air pollutants, and with no combustion."[6]

The CHBC strongly supports the Commission prioritizing fuel cells as a preferred technology and especially encourages enabling hydrogen fuel cell technology because of its many environmental and public health attributes. As the National Fuel Cell Research Center (NFCRC) explained in their comments, "Hydrogen is non-toxic, non-poisonous and environmentally benign if a leak does occur…a release of hydrogen does not contribute to atmospheric or water pollution and is not a greenhouse gas."[7] Southern California Gas Company (So Cal Gas) also explained that green hydrogen can help California to achieve its goal to transition to renewable electricity because it can "be created during an overgeneration of renewable energy sources, such as solar PV, and stored in the gas infrastructure for later energy use."[8]

Hydrogen fuel cells are also commercially available, safe, and have a long and strong track record. NFCRC shared that "(f)uel cell systems that can run on stored hydrogen—scalable to the required runtime—have been commercially deployed since the early 2000s."[9] They added that "Plug Power has over 90 installations using stored liquid hydrogen for material handling customers that consume over 24 tons of hydrogen daily. This same type of distribution and storage system will be used in future data center applications."[10]

[6] Doosan Comments, p. 4
[7] NFCRC Comments, p. 10
[8] So Cal Gas Comments, pp. 10-11
[9] Ibid., p. 14
[10] Ibid, p. 17

We also call attention to and support comments by Bioenergy Association of California (BAC) and So Cal Gas that explain fuel cells, including hydrogen fuel cells, offer resiliency benefits because the fuel can be stored underground where it is less vulnerable to natural disasters.[11]

B. The CHBC agrees with comments that it is particularly important to recognize and mitigate the impact of diesel emissions on disadvantaged communities and supports mitigating this by prioritizing zero-emissions alternatives like hydrogen fuel cells.

As FCE commented, "it is important to note the disproportionate negative impact that criteria air pollution, power shutoffs, and emissions from diesel generators have on disadvantaged communities in this state." [12] They and others point out that fuel cells can directly mitigate these hazards.

C. The CHBC supports exploring innovative ways to leverage hydrogen fuel cells to improve resiliency without polluting, such as utilizing V2G with zero-emissions vehicles as an electricity reliability and renewables integration strategy.

The CHBC appreciates Vote Solar and Climate Center for broadening the vision of how hydrogen fuel cells can be deployed to help strengthen resiliency. We support the Commission further considering their "plan for municipal and/or commercial-industrial microgrids that incorporate local electrolysis and fleet refueling capabilities."[13] We agree that "(t)hese sources of renewable hydrogen can be part of 'resiliency hubs' that support back-up generation provided to

[11] See BAC Comments, p. 10, So Cal Gas Comments, p. 10
[12] FCE Comments, p. 2
[13] Vote Solar Comments, p. 11

distribution substations or other areas of critical need."[14] We also concur that "(p)roduction of renewable hydrogen for highly resilient distributed energy systems is an opportunity that should be incorporated into this proceeding" and believe the Commission should adopt their recommendation "that renewable hydrogen production be incorporated in community resiliency projects targeting renewable generation capacity to meet annual peak loads."[15]

D. We believe the Green Hydrogen Coalition makes several good recommendations that the Commission ought to consider for accelerating the displacement of fossil fuels with green hydrogen solutions.

We support recommendations put forth by the Green Hydrogen Coalition to speed up fuel switching to clean hydrogen. These include 1) scaling up manufacturing and deployment;[16] 2) considering multiple benefits ("benefit stacking") for multi-use resources like hydrogen;[17] and 3) ensuring "that any clean substation pilot programs take the form of large, commercial-scale demonstrations that can promote cost-effectiveness improvements along the green hydrogen supply chain, including any needed infrastructure for green hydrogen transport and storage."[18]

IV. Conclusion

The CHBC thanks the Commission for the opportunity to issue these reply comments and looks forward to continuing to work with you on better understanding how hydrogen technologies can

[14] Ibid.
[15] Ibid.
[16] Green Hydrogen Coalition, p. 7-8
[17] Ibid, p. 8
[18] Green Hydrogen Coalition, p. 9

provide non-toxic, criteria pollutant free, low and zero greenhouse gas emissions solutions to California's resiliency needs in the year ahead and beyond.

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Respectfully submitted,

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