DOCKETED	
Docket Number:	23-IEPR-06
Project Title:	Hydrogen
TN #:	252370
Document Title:	NCPA Comments on IEPR Workshop on Role of Hydrogen
Description:	N/A
Filer:	System
Organization:	NCPA
Submitter Role:	Public Agency
Submission Date:	9/22/2023 4:05:34 PM
Docketed Date:	9/22/2023

Comment Received From: Susie Berlin
Submitted On: 9/22/2023
Docket Number: 23-IEPR-06

NCPA Comments on IEPR Workshop on Role of Hydrogen

COMMENTS OF THE NORTHERN CALIFORNIA POWER AGENCY ON IEPR COMMISSIONER WORKSHOP ON THE POTENTIAL GROWTH OF HYDROGEN

Additional submitted attachment is included below.

BEFORE THE CALIFORNIA ENERGY COMMISSION

In the matter of: **Preparation of the 2023 Integrated Energy Policy Report**	**Docket No. 23-IEPR-06** **Re: Hydrogen**

COMMENTS OF THE NORTHERN CALIFORNIA POWER AGENCY ON IEPR COMMISSIONER WORKSHOP ON THE POTENTIAL GROWTH OF HYDROGEN

The Northern California Power Agency[1] (NCPA) is pleased to provide the comments to the California Energy Commission (Commission) to supplement the remarks made by NCPA General Manager Randy Howard as a panel participant during the IEPR Commissioner Workshop on the Potential Growth of Hydrogen held on September 8, 2023.

I. Introduction – The Importance of Hydrogen to California's Energy Future

Hydrogen is positioned to play an important role in California's clean energy future, and the Commission, along with the California Public Utilities Commission (CPUC) and California Air Resources Board (CARB) (together, the Joint Agencies) will play an important role in advancing those opportunities. The state's energy supply, and particularly the supply of electricity to support electrification of all sectors of the economy, must remain safe and reliable. The Commission's efforts and the 2023 IEPR focus on the role that hydrogen can play in facilitating decarbonization of electric generation while ensuring reliability of the state's electricity supply will advance these important objectives.

The Commission has an important role in *leading the effort to transition to greater penetration of hydrogen throughout the state*. This means continuing to work closely and collaboratively with other state and federal agencies, as well as local governments and utilities.

[1] NCPA's members are the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa Clara, Shasta Lake, and Ukiah, Plumas-Sierra Rural Electric Cooperative, Port of Oakland, San Francisco Bay Area Rapid Transit (BART), and Truckee Donner Public Utility District. Collectively, these publicly-owned utilities, rural electric cooperative, port authority, public transit district, and public utility district provide reliable and affordable electricity to approximately 700,000 electric customers in central and northern California.

Many believe that meeting the state's clean energy and environmental goals means electrifying everything. While NCPA agrees that electrification is a critically important element, not everything can be feasibility or cost effectively electrified. As such the Commission must facilitate the messaging to educate consumers about decarbonization, including helping them to better understand what to expect. Meeting the state's decarbonization goals does not mean that there will be a transition to 100% electrification, and the 2023 IEPR can be used to further that message. While efforts are underway to transition all sectors of the economy to greater electrification, those efforts should not be the state's only investments in cleaner technologies. Expanding the availability and utilization of clean hydrogen as a fuel source must be considered in concert with the state's broader decarbonization goals.

II. Comments on the Workshop and Presentations

A. Hydrogen Hub

NCPA agrees with IEPR Lead Commissioner Monahan that the state is in a position to maximize the benefits of federal policies and partnerships, and that we must take this opportunity to address the use of hydrogen in a deep and analytical way. As both Commissioner Monahan and Mr. Eckele from the Governor's Office of Business and Economic Development (GO-Biz) noted, the state is well poised to be a leader in this regard and a hydrogen hub in California would allow us to significantly advance the opportunities to utilize hydrogen moving forward. The U.S. Department of Energy's (DOE) Regional Clean Hydrogen Hubs (H2Hubs) program offers the state the opportunity to leverage federal funding to help achieve the state's goals. The H2Hubs program will be a critically important tool in the state's efforts to decarbonize the grid, and ensure the safe reliable provision of electricity. NCPA believes that the Alliance for Renewable Clean Energy Hydrogen Systems (ARCHES) program will play an integral in advancing both the expansion of hydrogen and meeting the state's clean energy goals, as investing efforts and resources in a hydrogen *network* that extends beyond just California's borders, California can leverage federal funds and expertise to facilitate the development of the state's own hydrogen network.

B. Additionality

Some argue that the concept of additionality must be factored into all aspects of hydrogen production and use. We disagree, especially in the case of California and similarly-situated areas of the nation. As Mr. Howard explained during the Panel session focusing on power generation,

electrolytic hydrogen production at the Lodi Hydrogen Center will rely on recycled water from the City of Lodi, as well as curtailed/excess renewable energy from hydroelectric, geothermal, solar, and wind. The idea of having to use only **new** renewable resources for hydrogen production would result in missed opportunities in California to reduce carbon emissions, increase resource efficiency, and not increase carbon emissions as others have argued would occur in the absence of an additionality requirement. While the use of new renewables may present a viable and desirable solution elsewhere in the nation, in California we already have an abundance of renewable resources, some of which are being curtailed during the day. It is more cost effective and environmentally responsible to use those *existing* resources as a feedstock for facilities such as the Lodi Hydrogen Center, rather than build entirely new generation facilities. A review of publicly available CAISO data on renewable curtailment shows the state already curtails a significant amount of renewable energy. Building new renewable generation and the related transmission and distribution infrastructure is both expensive and time consuming. For California to require the costly development of new renewable energy resources when so much generation is already being curtailed just to support hydrogen production is simply counter intuitive to meeting the state's ultimate goal of providing reliable, clean, and *affordable* electricity.

C. The Definition of Clean Hydrogen

NCPA knows that there is considerable confusion around the "color wheel of hydrogen," and that the state must come up with a definition for "clean hydrogen." However, it is important to develop a definition of "clean hydrogen" that does not needlessly limit the production and use of hydrogen while this technology is being further developed. As the state's resources – including hydrogen infrastructure – evolve and mature, so too should the stringency of hydrogen. Until that time, however, we must look to a "phase-in" approach that allows the production of hydrogen now, including by blending fuels. The term "renewable" hydrogen can be unduly restrictive by prohibiting the ability to use low-to-zero carbon emission production methods that can be made from non-renewable feedstocks. The Joint Agencies can play an important role in ensuring that the state is able to realize the full potential of hydrogen by encouraging this transition rather than adopting rigid limitations that would effectively stifle the industry before it is able to realize its full potential.

D. Clean Hydrogen Development

We want to develop policies that will allow for the production of hydrogen in the cleanest way possible, but we must also be sure that the state does not curtail the beneficial use of hydrogen or slow the development of advanced technologies while we explore and further develop clean hydrogen resources. It is important to have all of the facts under consideration when the state is making these important decisions. Hydrogen can be an integral tool in helping the state meet its clean energy goals while recognizing that it is not cost-effective or technologically feasible to electrify every segment of our economy. Thus, it is imperative that the SB 1075 Report, which will be supplemented by work being done for the SB 100 Report, must present an accurate and fair depiction of the opportunities and challenges for the state in meetings its climate goals and the role that hydrogen can play.

E. Oversight

During the workshop, Commissioner McAllister raised the important question of what infrastructure investments for hydrogen should look like and who should have the ultimate oversight. These are critical factors for the SB 1075 Report to address. At a minimum, it is important that both those seeking to utilize hydrogen resources and the industry helping to advance this technology have regulatory and market certainty to the extent possible. It would be counterproductive to advance these technologies in conjunction with a confusing patchwork of regulations and market uncertainties.

F. Barriers to Scaling Hydrogen Use in The Electricity Sector

Panelists at the workshop agreed that cost will be the greatest barrier to the widespread deployment of hydrogen in the electricity sector. The Joint Agencies are uniquely situated to advocate for the development of hydrogen by ensuring that the state's utilities can utilize state and federal funding to advance hydrogen development. Furthermore, policies that downplay the value of transition-related activities, like blending of fuels for power generation, should be discouraged. As Mr. Howard noted during the workshop, the state should be looking to repurpose the existing infrastructure to advance the use of hydrogen technologies. That means looking at the pipelines, labor, and workforce that are already in place, and transitioning those same resources to support the development of hydrogen. Doing so has the added benefit of facilitating the development of "industrial hydrogen clusters" to reduce the need for new infrastructure to the greatest extent possible.

G. Hydrogen and NOx

The use of any new technologies is going to come with necessary scrutiny, and the impact that hydrogen production has on air quality is no different. It is important, however, to ensure that the assessment of those impacts looks at the entirety of a project and that the science is sound. For example, Mr. Howard noted that at the Lodi Energy Center, NOx emissions declined from 25 to 9 parts per million with the new technology installed. Furthermore, the catalyst process using hydrogen will reduce ammonia usage by 50% of the current level. NCPA understands the concerns regarding NOx emissions and air quality, but those concerns are already being addressed with new technologies that are already lowering emissions.

H. Investment in Hydrogen Infrastructure

A key issue is moving forward with the development of hydrogen resources – on both the supply and demand side. It is imperative that there be funding throughout the process, which includes mid-stream hydrogen infrastructure investments. The uncertainty and costs associated with permitting and transportation costs are hindering the necessary development, and NCPA sees this as an area where the Joint Agencies can help highlight the importance and address the gap. As the 2022 IEPR Update noted, CARB's 2022 Scoping Plan Update envisions a scenario in which low-carbon hydrogen will help decarbonize the transportation and industrial sectors, and to do so, "the supply of low-carbon hydrogen would need to increase by 1,700-fold and almost double what is produced today using fossil fuels, primarily for petroleum refining." (2022 IEPR Update, p. 104)

I. The Definition of Clean Hydrogen

NCPA knows that there is considerable confusion around the "color wheel of hydrogen," and that the state must come up with a definition for "clean hydrogen." However, it is important to develop a definition of "clean hydrogen" that does not needlessly limit the production and use of hydrogen while this technology is being further developed. As the state's resources – including hydrogen infrastructure – evolve and mature, so too should the stringency of hydrogen. Until that time, however, we must look to a "phase-in" approach that allows the production of hydrogen now, including by blending fuels. The term "renewable" hydrogen can be unduly restrictive by prohibiting the ability to use low-to-zero carbon emission production methods that can be made from non-renewable feedstocks. The Joint Agencies can play an important role in ensuring that the state is able to realize the full potential of hydrogen by encouraging this

transition rather than adopting rigid limitations that would effectively stifle the industry before it is able to realize its full potential.

J. Continued R&D

The Joint Agencies should continue to support research and development of hydrogen technologies to support both the electricity sector and the transportation sector. This includes supporting California's efforts for the Hydrogen Hub and facilitating the deployment of pilot programs. NCPA is supportive of the state's clean energy and electrification goals, but knows that resources like clean hydrogen will be needed to reach the farthest corners of the economy. The Joint Agencies play a vital role in funding and encouraging the R&D that is necessary to carry that out.

III. Conclusion

NCPA appreciates that the 2022 IEPR articulated the importance of exploring the future role of hydrogen and development of the report mandated by SB 1075. But the Commission, along with the Joint Agencies, must go further. The final SB 1075 Report must also lay out a framework for encouraging and supporting statewide efforts and regional collaborations to further the use of hydrogen in the near term. Doing so will help to advance California's clean energy and environmental goals, while also helping to ensure energy reliability for the state's residents and businesses. Please do not hesitate to contact the undersigned or Scott Tomashefsky at (916) 781-4291 or scott.tomashefsky@ncpa.com with any questions.

Dated: September 22, 2023

Respectfully submitted,

C. Susie Berlin
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