

**DOCKETED**

<b>Docket Number:</b>	18-HYD-02
<b>Project Title:</b>	Hydrogen Station Capacity Model (HyC) Workshops
<b>TN #:</b>	223943
<b>Document Title:</b>	FirstElement Fuel Inc. Comments On CEC Workshop on Hydrogen Station Capacity
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	FirstElement Fuel Inc.
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	6/26/2018 11:52:12 AM
<b>Docketed Date:</b>	6/26/2018

*Comment Received From: FirstElement Fuel Inc.  
Submitted On: 6/26/2018  
Docket Number: 18-HYD-02*

**On CEC Workshop on Hydrogen Station Capacity**

*Additional submitted attachment is included below.*



California Energy Commission  
Dockets Office, MS-4  
1516 Ninth Street  
Sacramento, CA 95814-5512  
[docket@energy.ca.gov](mailto:docket@energy.ca.gov)

Re: Docket Number 18-HYD-02, CEC Workshop on Hydrogen Station Capacity

Dear CEC Administrators,

FirstElement Fuel Inc. wishes to thank the CEC for taking on the very timely and important topic of hydrogen station capacity. Your ongoing leadership in helping bring consensus and standardization to the retail hydrogen fuel industry is appreciated. FirstElement Fuel participated in the 6/18 workshop and is pleased to provide the following feedback:

Fundamentally, FirstElement believes that hydrogen station capacity should be defined in a way that reflects real-world customer usage so that the definition can serve to incentivize and assure hydrogen stations are built with capacity performance that best serves the customer need. After nearly 3 years of retail hydrogen stations operating in California with real-world customers, our fledgling industry has data that closely matches the usage patterns of customers at gasoline stations (consistent with the analysis of publicly available Chevron data presented by NREL at the workshop). Furthermore, we believe that it is to the benefit of the industry and the State Agencies to achieve consensus on one metric for capacity, so that we can all be working off of the same playbook.

To that end, FirstElement agrees with one of the primary take-aways of the 6/18 workshop, which was to develop one metric for capacity that could be used in different ways across the various State Agencies.

FirstElement also generally supports and agrees with the approach taken by NREL and the HyC model as well.

And finally, FirstElement wishes to express one strong recommendation that *the daily window used for the capacity definition to better reflect real world customer usage based on the learnings over the past 3 years, and the close alignment it has with publicly available gasoline station data*. Specifically, FirstElement suggests considering two approaches for the daily window that is used for station capacity.

- (1) Assume that cars are only filling during an 18-hour window (at FirstElement's stations, the hours between 5am and 11pm represent more than 95% of all customer fueling events); or
- (2) Assume cars are filling during a 24-hour window, but use typical fueling patterns to define that capacity around windows when people fill. For example, in this case a station's rated capacity



should be able to meet the following refueling performance (again, based on the publicly available Chevron Data):

- i. 24 hour = should be able to dispense 100% of its rated capacity
- ii. 18 hour = should be able to dispense 95% of its rated capacity
- iii. 12 hour = should be able to dispense 75% of its rated capacity
- iv. Peak hour (6-7 pm) = should be able to dispense 7% of its rated capacity

Please let me know if FirstElement can clarify any of our positions stated above, or if we can help provide additional information or feedback that can be useful to this process.

Sincerely,

Dr. Shane Stephens  
Founder and CDO  
FirstElement Fuel Inc.