

TO: All Interested Parties

FROM: Analisa Bevan /s/
Assistant Division Chief
Emissions Compliance, Automotive Regulations and Science Division

DATE: November 1, 2018

SUBJECT: PUBLIC SCOPING WORKSHOP TO DISCUSS HYDROGEN STATION
VERIFICATION PROCESS

The California Air Resources Board (CARB or Board) invites you to participate in a public scoping workshop to discuss the hydrogen station verification process. Specifically, the workshop will focus on the process needed to verify the fueling performance at hydrogen stations to help enable successful deployment of fuel cell electric vehicles, allowing the customer to experience safe, fast and complete fills at all stations. The discussion may include the fueling protocol, back-to-back filling, station capacity and other station parameters. In addition, the workshop will include a discussion about who will perform the testing, the qualifications for the testing agencies, testing device specifications, and under what circumstances the testing or degree of testing that should occur. This information will help CARB determine whether to develop requirements through a regulation to verify station-fueling performance.

The scoping workshop will be held at the following location and time:

Date: Thursday, November 29, 2018
Time: 10:00 a.m. to 3:00 p.m. (PST)
Location: CARB's Monitoring and Laboratory Building Conference Room
1927 13th Street
Sacramento, California 95811

The scoping workshop will be available via webinar for those unable to attend in person. To attend the webinar, please register prior to the workshop at: <https://attendee.gotowebinar.com/register/2461292356585259265>. After registering, you will receive a confirmation email containing information about joining the webinar.

Staff will provide information on submitting questions and comments during the webinar for remote participants. To receive information about future activities regarding the hydrogen station verification process, please sign up on our listserv by following the directions at: <https://public.govdelivery.com/accounts/CARB/subscriber/new>. After you

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have submitted your contact information please choose the "California Hydrogen" listserv under the "Climate Change" heading.

CARB will also post the staff presentation and any associated documents prior to the workshop on CARB's website at:

<https://www.arb.ca.gov/msprog/zevprog/hydrogen/hydrogen.htm>

Background

There is urgency among stakeholders to understand a near-term and long-term plan to address coming challenges in the expected transition to a rapidly expanding hydrogen station network. Stations are currently required to meet certain station parameters because of the state funding process and requirements in the California Energy Commission's (CEC) Grant Funding Opportunities (GFOs). CARB staff work closely with CEC staff to ensure that the most recent standards and test procedures are required in the solicitations. For example, CEC funded stations are required to use standard fueling protocols from the SAE International's J2601 standard (SAE J2601), *Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles*. Station evaluations are performed using ANSI approved CSA Group's Hydrogen Gaseous Vehicle 4.3 standard (HG V 4.3), *Test Methods for Hydrogen Fueling Parameter Evaluation* for implementation of SAE J2601.

Evaluation of station performance in California has been enabled by the multi-year efforts of the Hydrogen Station Equipment Performance (HyStEP) program, designed to streamline confirmation of a hydrogen stations' ability to conform to an SAE J2601 fueling protocol. Prior to the introduction of HyStEP, individual auto manufacturers had to independently schedule time with the station developer to test the performance of the station. Often, several testing visits would be required of each auto manufacturer, and scheduling conflicts were likely to occur. The result was an exceptionally long testing period required for station performance confirmation. With HyStEP or a similar device, the ultimate goal is that CARB and/or an independent third-party entity tests and evaluates a station's performance and provides confirmation within a week.

In the interim, the State continues to use the HyStEP device as a first independent test of station performance, with confirmation determined collaboratively with the station developer, CARB and auto manufacturers, who may also perform their own independent testing after reviewing CARB's report of findings. Report review may result in one of several outcomes. If the automobile manufacturers determine that the station does not demonstrate compliance with SAE J2601, then the station developer is responsible for making adjustments to their equipment and scheduling a follow-up test. If the automakers determine that the station complies with SAE J2601, then no follow-

up tests are required and the time to complete the HyStEP verification process is about two weeks.

The State conducts the testing and the automobile manufacturers confirm the proper implementation of the standards through their evaluation prior to the station reaching open-retail status. The State currently does not have a mechanism to require these standards on non-state funded stations.

To achieve open-retail status, stations need to successfully complete or demonstrate all of the following steps in the list below.

1. The station passed final inspection by the appropriate authority having jurisdiction and has a permit to operate.
2. All dispensers installed in the hydrogen refueling station have undergone type evaluation according to the California Type Evaluation Program (CTEP) administered by the California Department of Food and Agriculture/Division of Measurement Standards (CDFA/DMS) and have either a Temporary Use Permit or a type approval Certificate of Approval issued by CDFA/DMS.
3. The hydrogen quality complies with SAE J2719.
4. The station owner has fully commissioned the station, and has declared it fit to service retail fuel cell vehicle (FCV) drivers. This includes the station owner's declaration that the station meets an appropriate SAE fueling protocol.
5. At least three automobile manufacturers have confirmed that the station meets protocol expectations, and their customers can fuel at the station.
6. The station is connected to the Station Operational Status System (SOSS), which is maintained by the California Fuel Cell Partnership (CaFCP).

Discussion

CARB is requesting stakeholder input on the station fueling verification process aiming to simplify steps 4 and 5 listed above and the potential need for a formalized process that would be applicable to all hydrogen stations. Staff welcomes topics, ideas, and proposals for the draft agenda and hopes to have an interactive discussion on the topic. While there is not a formal comment period at this time, comments and discussion ideas are welcome before, during and after the workshop. Staff encourages stakeholders to reach out with additional comments and/or concerns to set up individual or group meetings.

Contact

If you have questions on or topics for the proposed workshop agenda, or would like to present a proposal, please submit them to Ms. Lesley Stern, Air Resources Engineer, at (916) 323-2913 or by email at lesley.stern@arb.ca.gov, or to Mr. Gerhard Achtelik,

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Manager of the ZEV Infrastructure Section, at (916) 323-8973 or by email at gerhard.achtelik@arb.ca.gov.

Special Accommodations

If you need special accommodations or have language needs, please contact Ms. Lori Isbell at (916) 322-6971 as soon as possible but no later than 10 business days before the scheduled workshop. TTY/TDD Speech-to-Speech users may dial 711 for the California Relay Service.

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and verbal comments, submitted attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

cc: Mr. Gerhard Achtelik, Manager
ZEV Infrastructure Section

Ms. Lesley Stern
ZEV Infrastructure Section

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bcc: Annette Hebert, ECARS
Catherine Dunwoody, MLD
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