

Energy - Docket Optical System

From: Gus Block [gblock@nuvera.com]
Sent: Wednesday, October 16, 2013 1:39 PM
To: Energy - Docket Optical System
Cc: Darryl Pollica; Bryan Gordon; Prabhu Rao; Stephen Goyette
Subject: Docket 12-HYD-01 -- Hydrogen and Transportation -- Nuvera

Categories: Ready to Docket

California Energy Commission

DOCKETED
12-HYD-01

TN 72096

OCT. 16 2013

Greetings,

Below please find our comments regarding the draft solicitation concepts for Hydrogen Fuel Infrastructure. If any clarification is required please contact me.

Best regards,
Gus Block

GUS BLOCK

Director of Marketing & Government Affairs

Nuvera Fuel Cells, Inc.

129 Concord Road | Billerica, MA 01821
(617) 245-7553 (w) | (978) 852-5774 (m)
Visit: www.nuvera.com

- Section 11-C: .
 - Need to further define what a station is. Is the station classified as a single dispenser with H70/H35 nozzles, or multiple dispensers with H70/H35 nozzles located within the property lines of a station?
 - Clarify whether station throughput should be measured at the nozzle.
 - Minimum station fueling capacity should be 50 kg/day.
 - Address whether a station that has two 50 kg/day hydrogen generation units constitutes a 100 kg/day station.
- Section 11-D:
 - Need more information on what constitutes a 'fill,' i.e. what is the tank pressure/temperature/mass for each tank type at the beginning of the fill. Station operators could state they can fill three 7kg H70 and three 7kg H35 tanks when the tanks arrive at 50% State of Charge (SOC) but not when they arrive at 25% SOC.
 - It isn't clear that "the minimum peak fueling capacity is reduced." Three 7 kg Type A for 70 MPa and three 7 kg Type B for 35 MPa constitutes 42 kg/h, versus the previous requirement of five 7 kg Type-A fills (35 hg/h).
 - The requirement states "back to back" refueling events. Actual refueling has some dwell time in the order of minutes. Can the CEC elaborate on what "back to back" means, if it is more restructure than three fills per hour?
 - Clarify the "type A/B" nomenclature with current SAE standard of H2 temperature classification nomenclature (i.e., T40, T30...T0), and the assumed ambient temperature.
 - Can the dual pressure H35/H70 be done in simultaneous dispenses?
- Section 11-F:

- Current meter technology at best is 4-5% accurate. Most Divisions of Weights and Measures require 1% for liquid fuels currently.
- Does the CEC require compliance with NIST Handbook 130 Section 2.32 or could the International Organization of Metrology R139 Publication be used in substitute of NIST Handbook 44?
- Section 12:
 - The renewable energy requirement is overly restrictive at this early stage of infrastructure development, unless “provide a plan for dispensing at least 33% through direct physical pathways” is meant to suggest that it isn’t necessary to execute 33% renewable hydrogen content at station start-up, but only to provide a plan for doing so subsequently. Please clarify this, as well as the meaning of a “direct physical pathway” for the renewable energy requirement. For instance, in the case of on-site generation from steam methane reforming, would ‘greening’ of the natural gas grid by introducing biogas into the pipeline at a remote location qualify?
 - Water is a significant feedstock for hydrogen production, does water constitute a renewable resource?
- Section 18-D
 - What defines adequate documentation? Please provide examples.
- Section 20
 - Hydrogen Fueling Station Performance:
 - If the project increases dispensing capacity to 140kg/day+ within 18 months, will additional funds be made available to enable that?

General Comment – Automotive OEM’s are going to require the latest refueling protocol, regardless of the status of SAE J2601-1 at the time of station commissioning.