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Comment Received From: Equilon Enterprises LLC d/b/a Shell Oil Products US
Submitted On: 2/22/2019
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Docket No. 18 - HYD “ 04, Draft Solicitation Concepts for Light-Duty Hydrogen Refueling Infrastructure

Additional submitted attachment is included below.



Shell Oil Company
910 Louisiana Street
Houston, TX 77002

February 22, 2019

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512
Delivered via website

Re: Docket No. 18 - HYD – 04, Draft Solicitation Concepts for Light-Duty Hydrogen Refueling Infrastructure

Dear CEC Administrator:

We respectfully submit this letter of comment to the California Energy Commission (CEC) in response to 18-HYD-04, Draft Solicitation Concepts for Light-Duty Hydrogen Refueling Infrastructure.

The Draft Solicitation Concepts for Light-Duty Hydrogen Refueling Infrastructure (18-HYD-04) is innovative and, we believe, can help to enable the increased scale and pace needed for hydrogen to contribute meaningfully to California meeting its ambitious goals for zero emission vehicles (ZEV) and emissions reductions from the transportation sector. The draft solicitation clearly articulates a structure for progress toward a viable market for hydrogen fuel cell vehicles (FCV) and the related infrastructure, accomplishing the most possible with available funds and authorization. We believe the combination of the Low Carbon Fuel Standard (LCFS) Hydrogen Refueling Infrastructure (HRI) credits adopted by the California Air Resources Board (CARB) and these Draft Solicitation Concepts can provide a strong signal of market confidence in the development of the hydrogen refueling network, to those who would bring FCV to market, those who would invest in hydrogen supply, and customers who would consider the purchase or lease of an FCV. It is therefore imperative for this Draft Solicitation to succeed in establishing the

reliable multi-year delivery of hydrogen refueling infrastructure that decreases cost, improves performance, and provides high quality customer service.

We believe the Draft Solicitation Concepts are innovative, potentially transformative, and could result in a large number of high-performing hydrogen refueling stations to be built over a multi-year period in tranches and batches through the remaining duration of the AB8 authorization. To help ensure this outcome, we kindly offer the following comments:

Solicitation structure:

Structure Batches to enable efficient, cost-effective, and timely delivery of station development:

in support of the proposed multi-year program of development for the entire tranche awarded, we recommend that the Notice of Proposed Award (NOPA) specifies the (a) tranche awarded (total number of stations), (b) Initial Batch with specific site addresses, and (c) any subsequent Batches if the applicant provides specific addresses with documentation of site control. All sites identified with specific address and site control, regardless of Batch, should be fixed in Area Classification and technical requirements. This would provide greater certainty to the market for the planned refueling network development in support of FCV adoption, should provide greater certainty to the station developer (e.g., technical requirements, area classifications), and should be considered in scoring Project Readiness as to the credibility of the application for delivery of the entire Tranche as being relatively more secured.

While only the Initial Batch would have funds encumbered, we further suggest that Match Share expenditure on all sites identified with specific address and site control be allowed to commence at NOPA, regardless of Batch, at the Applicant's own risk to future Batch authorization by CEC and funds appropriation. This would enable efficient implementation of a program of development for as much of the awarded tranche as the Applicant is willing and able to prepare.

Structure Area Classifications and Scoring to ensure the intended results and the most progress possible to 200 refueling stations while enabling a range of potential effective approaches:

capacity may be accomplished through station site and/or station density; coverage is related to the total number and placement of stations. We recommend the "Capacity Growth" Area Classification is not needed to ensure the outcome – there is sufficient motivation in the scoring criteria for applicants to propose cost-effective capacity – and could have unintended consequences in being overly prescriptive. For example, in dense urban areas with relatively small sites, the requirement for three fueling positions may preclude otherwise ideal locations and prevent an approach of accomplishing capacity through increased density (e.g., more two-position stations). To get the best outcome from a range of approaches, we therefore suggest

eliminating the “Capacity Growth” Area Classification or the associated minimum number of three fueling positions.

Conversely, the outcome at large sites may be unintended in the other direction. For example, Connector or Destination stations may have sufficient space for an applicant to respond to the incentives for cost-effective capacity with many fueling positions, while customer demand at the location does not warrant the capacity. This could result in public funding directed toward excess station capacity. Again, to get the best outcome from a range of strategies, we therefore suggest considering some approaches to capping capacity and/or fueling positions at single sites to ensure the available funding also accomplishes the most possible in terms of number of stations and network coverage. For example, these approaches may include a maximum number of 2 fueling positions at Connector or Destination stations, a maximum total station throughput in some Area Classifications, and/or the relative weighting of cost-effectiveness metrics for CEC Funds per Capacity and CEC Funds per Station.

Decrease Match Share requirement on Equipment Capex from 50% to 25%: limiting eligible expenditure to equipment capex while also increasing the Match Share requirement is a significant step from prior solicitations, with potential risk for an under-subscribed outcome. While the LCFS HRI credits provide new support to hydrogen station development, this support may be applied to both partially offsetting initial capex and procuring higher-cost lower-carbon supply, both of which are also objectives in these Draft Solicitation Concepts. Decreasing the Match Share requirement would encourage applications and decrease the potential risk of an under-subscribed solicitation, while not diminishing the incentives in the solicitation structure for applicants to propose a larger Match Share than required. This would allow the market to speak while helping to ensure a successful process for the CEC with an innovative solicitation at an important time in hydrogen infrastructure development. The Draft Solicitation Concepts place significant emphasis in scoring on cost-efficient delivery and achieve simplification by limiting grant funding to equipment capex; it would be a shame to have poor response from over-reaching on the Match Share requirement.

Increase the Single Applicant Cap from 33.3% to 45%: a higher cap would enable the CEC to select the most competitive applications, with flexibility within the cap on potential outcomes ranging from few large tranche proposals to many smaller tranche proposals, thereby promoting the most competitive delivery of hydrogen refueling stations.

Allow 3 to 4 months between solicitation and applications due date: the potential size of tranche proposals and new requirements for preparing grant applications may take more time for applicants than in prior solicitations. Allowing three to four months between the solicitation

and applications due date may be prudent to ensure the most competitive set of applications possible.

Minimize administrative burdens and associated obligations to promote more prudent stewardship of public funds to achieve the primary objective for infrastructure deployment: limiting grant funding to equipment capex should reduce reporting requirements for invoicing and eliminate state procurement requirements on other categories of expenditure; quarterly rather than monthly reporting should suffice for effective oversight; trailblazer signage on local roads should be eliminated as it is unnecessary in the age of GPS and can involve significant cost and delay; participation in government research and development projects should be suggested rather than required; participation in station design reviews and safety evaluations with PNNL HSP after the first year should be suggested rather than required as both parties will have established a basis for determining the potential benefit for continuation, and achieving safe outcomes is in the act by those who deliver those outcomes of creating safety plans and adopting a safety culture rather than a panel creating reference materials; keeping NREL reporting at 3 years will still ensure robust data sharing over a multi-year development program. We suggest that decreasing public funding should be complemented by decreasing agency involvement and requirements, as part of an effective off-ramp to a commercially viable market.

Ensure delivery on primary objectives in the weighting Evaluation Criteria and the evaluation of application: we recommend the CEC consider two aspects of evaluation to ensure delivery on awarded funding. Item one: increase the weight for Tranche Budget, of which the cost-effectiveness metrics and benefit-cost are just three of six factors. Item two: include in the Tranche Budget and the Project Readiness factors evaluation of the likelihood of delivery on the entire tranche proposed, for example the total number of sites identified with specific address and site control, and the total amount of Match Share secured.

Encourage Renewable Hydrogen Supply with low carbon intensity through scoring rather than exclusion: increasing renewable content and decreasing carbon intensity of hydrogen supply are imperative to realizing the potential for hydrogen contributing to California emission reduction goals. Furthermore, with the creation of dedicated supply there is opportunity to get hydrogen production “right” on these aspects from the start. In the Draft Solicitation Concepts workshop, it was also recognized that the State may not want to provide incentive for certain feedstocks for hydrogen production, namely landfill-derived renewable natural gas, which could result in the unintended result of increasing waste disposal in landfills rather than re-directing waste at upstream points. However, reducing the total cost to serve customers, which includes the cost of hydrogen supply, is also imperative to the scale in FCV adoption, that is also essential for the material contribution to California emission reduction goals. To enable the best possible outcomes across a range of approaches, we recommend scoring both the source and carbon intensity of the planned renewable hydrogen supply rather than excluding landfill-derived

renewable natural gas from eligibility. The higher scoring for other renewable feedstock and/or lower carbon intensity may occur in the Tranche Budget (benefit-cost score), and Social and Environmental Benefits.

Technical requirements:

- 1) It appears there is no limit on the time between fills in the Draft Solicitation Concepts, which could imply a potential for anywhere from 60 seconds (an LCFS requirement) to 427 sec (a GFO minimum fueling requirement). To be relevant for the customer, in our experience the time between fills should be larger than 2 minutes and less than 4 minutes. Anything less than 2 minutes is irrelevant since the payment initiation, transaction completion, and drive away will take longer; allowing for less than 2 minutes could indicate spurious indication of capacity. Longer than 4 minutes can impose an unacceptable customer experience.
- 2) We understand there is no validation of the HySCapE model for a liquid station. The NREL validated a gaseous station using NREL station facility test data but did no validation of their liquid station model. In our estimation, the HySCapE model may overestimate a liquid station capacity by approximately 20 percent.
- 3) The Draft Solicitation Concepts include several important aspects for station technical requirements and performance, including the use of the HySCapE model. In order to provide comprehensive feedback, we respectfully request that the CEC extend the comment period on technical requirements to March 8, 2019.
- 4) We recommend relaxing or eliminating prescriptive design requirements on POS options currently in the GFO in order to permit competition and innovation aimed at improving the customer experience, reducing cost, and improving reliability. The current wording prevents implementation of options such as mobile payment, dispenser/POS integration, and other options that enhance the customer payment process while increasing system reliability and decreasing cost.
- 5) We recommend allowing applicants to demonstrate innovations in sampling gas quality that both safeguard the customer and are accepted by vehicle OEMs as sufficient to protect fuel cell stacks. This will reduce the cost and operational burden to test fuel quality, while providing better protection for consumers. There are alternatives to periodic gas sampling available that are cheaper and continuous that should be eligible under this GFO.

We compliment the CEC for engaging through three workshops in late 2017 and the positive response to comments that is apparent in these Draft Solicitation Concepts. We

appreciate the opportunity to provide this feedback to the CEC and welcome an opportunity to clarify as needed. We believe the changes recommended here will further support significant progress towards a healthier California by facilitating an accelerated pace of infrastructure development and hydrogen refueling station deployment. As FCVs are becoming rapidly more available, our collective ability to safely increase capacity and coverage in refueling infrastructure is paramount to customer adoption and to meeting mandated emission reductions.

Sincerely,

A handwritten signature in black ink, appearing to read "Wayne Leighty". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Wayne Leighty

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