

October 16, 2013

To: California Energy Commission

From: Stephen Szymanski
Director of Government Business
Proton OnSite
10 Technology Drive
Wallingford, CT 06492

California Energy Commission

DOCKETED
12-HYD-01

TN 72098

OCT. 16 2013

Subject: Comments to Draft Solicitation Concepts, Hydrogen Fuel Infrastructure

I appreciate the opportunity to review the subject solicitation concepts. I am encouraged by a number of changes that are being contemplated relative to PON-12-606, particularly with respect to station locations, funding levels, and the early completion bonus. In general, there have been some thoughtful changes that should encourage a higher level of competition, and result in a more timely completion of projects.

Having said that, I think there is one fundamental element of unfairness that should be addressed. The idea that hydrogen from reformed biogas is somehow equivalent to renewable hydrogen from an electrolyzer is completely misinformed, and results in an unfair advantage for the industrial gas companies. Here is why I make that statement. First, from an environmental standpoint, reforming biogas to get hydrogen is no better than reforming CNG straight from the pipeline. The greenhouse gas emissions are the same. Secondly, trucking "renewable hydrogen" in a diesel fueled truck only makes the environmental story worse. As more and more of these stations are built, the demand for bio-based hydrogen will continue to increase, and the hydrogen will need to be trucked in over greater and greater distances. The net result is that the environmental benefit associated with this program never lives up to its promise.

Conversely, producing the hydrogen at the point of use via electrolysis, using certified green electrons, is a zero-emission, carbon-free process. There are no direct greenhouse gas emissions associated with generating this hydrogen, and no indirect transportation emissions associated with moving it from Point A to Point B. Thus, if the primary objectives for developing a hydrogen-based transportation system are GGE reduction and air quality improvement, then renewable electrolysis should be recognized as a preferred source for hydrogen fuel. However, in the proposed scoring system, hydrogen from reformed biogas is given the same weight as hydrogen from renewable electrolysis. This is fundamentally incorrect in terms of the relative environmental benefit derived from each.

This results in an unfair advantage for the industrial gas companies, because they have already locked up the market on biogas, and own all of the infrastructure for reforming it and transporting the product hydrogen. Consequently, the likelihood that they will be interested in proposing electrolyzers in the upcoming PON is small, as long as the scoring does not provide an appropriate higher weighting toward carbon-free hydrogen sources. In fact, I would go so far as to suggest that the Renewable Hydrogen Set-Aside be limited to carbon-free hydrogen fuel, such as that produced from renewable electrolysis. This is the only way that the dominant players in the fueling station market will ever propose an electrolyzer in a project. At a minimum, the scoring for renewable hydrogen should place a higher value on hydrogen produced from renewable electrolysis, to demonstrate the higher level of environmental benefit it offers. Again, this is the only fair way to ensure that the maximum potential benefit of a hydrogen transportation system is fully realized. Otherwise, the state of California will continue to get hydrogen fuel from CO2 producing reformers and delivery via trucks that constitute secondary polluting sources.

If you have any questions about these comments, feel free to contact me at 203-678-2338 or sszymanski@protononsite.com.