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Reign in exorbitant H2 pricing and extreme unreliability of stations

Additional submitted attachment is included below.

I am a driver of an FCEV car since March 2022. I am truly grateful that the CEC is hosting this Workshop. It shows that the CEC is cognizant of the extreme pain that we FCEV drivers are experiencing and have been experiencing for the last year. I am also grateful that the CEC has funded the development of a hydrogen infrastructure, because I, probably like many attendees of this workshop, believe in the promise of hydrogen as a fuel for transportation, and indeed other energy needs.

However, in my estimation, the CEC has dropped the ball, and dropped it hard, with regard to oversight not only of the operability of the hydrogen fueling infrastructure it has funded with millions of tax-payer dollars, but also of the prices charged at the H2 pump. I hope that this Workshop is a step towards the CEC's rapid and expeditious picking up of the ball again.

I believe that we are at a make-or-break moment for hydrogen-fueled transportation. And if it is a 'break moment', it will be to the great detriment of the health and prosperity of the residents of California, and indeed the nation, over the next decade or two.

I would like to ask the CEC to take a number of actions:

1. Vigorously pursue all legal avenues to:
   a. hold CEC-funded hydrogen refueling station operators accountable for providing reliable refueling. This could be in terms of incentives or in terms of penalties.
   b. enforce a cap on hydrogen cost at the pump for CEC-funded operators; for example, it can be tied to gasoline prices at the pump, or it can be tied to the wholesale price of industrial hydrogen, and there could be incentives to stay below the cap, etc. (I am not an economist, but I imagine that there are numerous ways to keep pump prices at a level which will forcefully promote adoption of FCEVs. A price increase in H2 by a factor of more than 2.5 over 15 months by one of the main H2 refueling companies is simply inexcusable. The remaining companies have 'only' doubled their prices.)

And there is a hook for this in the solicitations and probably the underlying Bills. CEC's Solicitaion GFO-19-602 unforgiveably had essentially zero mention of station reliability and H2 pricing. But at least it had this statement: "Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies."

In contrast, there is a bigger hook in Solicitation GFO-23-602, for Heavy- and Medium- duty refueling/charging stations. It has, in its Scope of Work, the statement that recipients shall "Provide a plan explaining how hydrogen stations will maximize uptime with a goal of 95% uptime". This is a good start, but there are no incentives or penalties associated with this goal. And the language is far less firm

than the equivalent for charging: "Ensure that the charging port uptime for each charging port installed in the project is at least 97 percent of each year for six years after the beginning of operation". *There needs to be similar attention to reliability of light-duty vehicle fueling.*

There is also support from AB8 (with similar language in the newer AB126), which charges the Commission with

> "establishing a hydrogen-fueling network that provides the coverage and capacity to fuel vehicles requiring hydrogen fuel"

It authorizes the commission to

> "design grants, loan incentive programs, revolving loan programs, and other forms of financial assistance, as specified, for purposes of assisting in the implementation of these provisions."

And states:

> "The commission ... shall award moneys ... according to a strategy that supports the deployment of an *effective and efficient* hydrogen-fueling station network in a way that *maximizes benefits to the public* while minimizing costs to the state." (emphasis added)

In brief, state-funded hydrogen fueling infrastructure should be reliable, available, affordable, and competitive with traditional fuels, from the point of view of the driving public. Currently the infrastructure is failing on all these fronts, with no respite in sight.

2. Heavy-Duty Fill stations funded by the CEC must be forced to also cater to light duty vehicles. Solicitation GFO-23-602, **requires** stations to have nozzles conforming to "SAE International J2600 or ISO 17268". These are the very same nozzles and pressures that light duty vehicles use. The CEC should explicitly require stations to accept light-duty vehicles at these stations. Note that currently there are a number of HD stations in LA County that do not accept LD vehicles - this must be changed. Further note that GFO-23-602 **permits** high flow-rate nozzles (ISO 27268:2012) which are HD-only, but that style of nozzle is **optional**. Panelist Lewis Fulton from UC Davis also expressed the opinion that HD stations should allow refueling of both HD and LD vehicles.

3. Promote competition: For example, give preference to, and incentives for, having multiple fueling providers in any 10-mile-radius circle, rather than a single company operating all the stations in the area.