THE LINDE GROUP

August 10, 2012

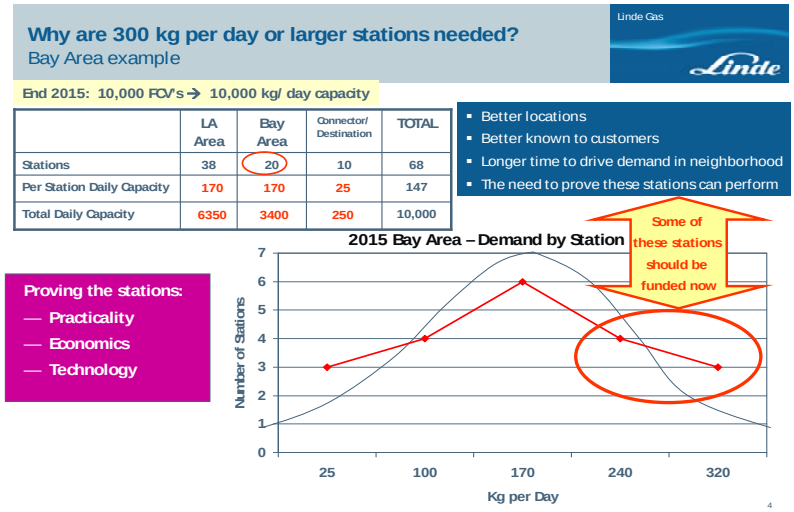
CEC Docket Reference 12-HYD-1

Linde is a leader in hydrogen fueling having designed and built over 80 hydrogen fueling stations for cars, buses and fork lift trucks with over 300,000 safe fuelings. Linde commends the CEC for their efforts in supporting hydrogen fueling infrastructure with funding to ensure fueling capability is available for drivers of fuel cell vehicles. We believe it is very important for the CEC to continue to provide funding for hydrogen fueling infrastructure to enable the commercial release of large numbers of fuel cell vehicles by OEM's in California in the 2015-2017 timeframe.

This letter is to be posted to the CEC Docket 12-HYD-1 for consideration for the upcoming hydrogen fueling infrastructure solicitation in the Fall of 2012.

Linde encourages the CEC to require minimum fueling standards and performance metrics for all stations and believes all stations must comply with SAE J2601 fueling specifications, Type A for 70 MPa and Type B for 35 MPa fills. Linde also believes it is important for the CEC to incent greater performance on some stations for four important reasons:

- All stations funded in this round of funding will be operational in 2016, and some in 2017, when the OEM projection shows tens of thousands of cars on the road. A number of these stations must be capable of dispensing well in excess of 250 kg per day. See slide below.
- If the industry can prove these higher performing stations from an economic, technical and practical perspective, this will attract more investors to the industry as they see high throughput stations work and the business case proved.
- By meeting consumer fueling needs, more consumers will purchase fuel cell vehicles which will drive the OEM's to bring more cars to California instead of other geographies creating a greater chance this California hydrogen fueling infrastructure program is successful.
- The industry and CEC should not ***solely*** rely on future upgrades of stations in order to meet consumer needs.



Linde recommends the following performance incentive for station capacity be included in the solicitation.

Stations that have a capacity in excess of 250 kg per day should be provided a higher level of CEC share funding. A proposed method of accomplishing this is shown below based on the last CEC solicitation funding share percentages (*in italics*) with added funding for increasing station capacity:

Total station/system cost below	Stations less than 250 kg/day	Stations between 250 – 350 kg per day	Stations over 350 kg per day
Over $3,000,000	*Greater of 1,500,000 or 40%*	Greater of $1,650,000 or 45%	Greater of $1,800,000 or 50%
Up to $3,000,000	*$1,200,000 or 50%*	Greater of $1,300,000 or 55%	Greater of $1,400,000 or 60%
Up to $2,000,000	*$700,000 or 60%*	Greater of $750,000 or 65%	Greater of $800,000 or 70%
Up to $1,000,000	*70%*	75%	80%

Based on the above funding recommendation, the CEC funding share for a $1,000,000, 140 kg per day station is $5000 per kg/day of capacity ($700,000 / 140 kg/day) and the CEC funding share for a $2,000,000, 350 kg per day station is $4,000 per kg/day of capacity ($1,400,000 / 350 kg/day) resulting in a better and more cost-effective use of State funds.

Please also refer to the Linde presentation to the July 29 CEC workshop for Linde comments on station performance.

With respect to station daily capacity, SAE J2601 section 3.1.2 states that station capacity is to be calculated over a 12 hour period. Linde believes the CEC should make this clear in the solicitation to ensure there is no misunderstanding by station developers as to how to calculate daily capacity. Certainly, a station is not going to dispense fuel over 24 hours and it is in the best interests of the industry that there be no discrepancy between proposals, with some using a 24 hour period for the calculation while others use a 12 ***consecutive*** hour period, allowing the CEC to compare apples to apples.

Below are comments on the scoring criteria used by the CEC in the most recent solicitation.

Market Transformation and Market Viability
This criteria is important to ensure the station concept, technology and long term viability are considered. These are critical attributes of stations to ensure CEC funding is a good investment for the State and ensure the investment is successful in facilitating the deployment of fuel cell vehicles by the OEM's. Ensuring fueling stations meet consumer fueling needs is the most important method for the State to "encourage" consumers to purchase fuel cell vehicles and ensure long term success of the program. A total of 30 points is not sufficient to adequately incent the deployment of stations that meet consumer needs in 2015-2017 and Linde recommends the total points for these criteria be increased by 30 points to a total of 60 points.

Project readiness
CEQA cannot be completed prior to CEC grant agreement for the vast majority of locations and this process is often controlled by the municipality. Linde believes reference to CEQA readiness should be removed to ensure a site is not removed from consideration just because a municipality requires completed drawings and/or the CEQA approval process to coincide with permitting – either negates the ability of a station developer to begin the CEQA process prior to grant agreement execution (see

comment below). As a result Linde recommends the points for this criterion be reduced by 10 points to a total of 20 points.

Project budget
While budgets are important, the CEC funding share percentages are heavily tied to cost-effectiveness and low cost stations. Less expensive stations are awarded higher percentages of CEC share funding. This is a powerful method of ensuring station developers move down the cost curve quickly and deploy cost-effective stations. The combination of declining CEC funding share percentages and 30% of scores based on budget (60 points) could result in the CEC awarding funding to inexpensive stations that do not meet consumer needs. To properly balance cost and performance Linde recommends the number of points for this criterion be reduced by 20 points to a total of 40 points.

Finally, Linde cannot commit to begin work on obtaining CEQA approval for a hydrogen fueling station until we have an executed grant agreement with the CEC. This is because obtaining CEQA approval often requires detailed equipment and site drawings which entails detailed engineering and the hiring of a consultant, and can be costly. In addition, some municipalities will ONLY consider CEQA approval requests in conjunction with the permitting process. Without the certainty of a grant agreement, Linde does not believe it is a prudent business decision to begin the CEQA approval process or the permitting process prior to execution of the grant agreement.

Please contact Steve Eckhardt at 908-656-6471 or at steve.eckhardt@linde.com if you should have any questions.

Regards,

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