Cory-Ann Wind
Clean Fuels Program
Oregon Department of Environmental Quality

Re: Comments on Proposed Forklift Estimation Methodology and Metering Requirements

PineSpire appreciates DEQ providing further information on the basis for developing the proposed Forklift Estimation Methodology and hosting discussion with credit generators and aggregators. These comments are to provide further information as requested by DEQ on the basis for estimation parameters and to elaborate on the guidance needed by DEQ before metering can be cost-effectively implemented by businesses operating material handling equipment. We align with DEQ in wanting to ensure that credits generated under the CFP are accurately reported and quantified.

ESTIMATION METHOD PARAMETERS

We understand DEQ's drive to make the estimation method more accurate and therefore request that parameters are based on data that is provided in the workshop and comments.

Limiting the Depth of Discharge to 20% is arbitrary and mispresents how batteries are typically utilized. Generally the cost of a battery is a significant portion of the overall electric forklift purchase. This necessarily means that forklift users aim to buy the least battery capacity that can meet their needs. It is not economical to purchase a battery and only use a small portion of its capacity.

It is unclear why the DEQ would not require the reporting to accurately reflect the number of shifts operated, which for some industries particularly in peak season, is more than two shifts per day. We ask the DEQ to require accurate shift reporting per facility and not to limit that number based on overall perceived averages.

As noted in discussion, this draft spreadsheet is currently built to request both FSE-level information and forklift-level information on the same row, which is not feasible to accurately complete. It is suggested that it is re-designed to be filled out with each row being a unique forklift serial number.

METERING CLARIFICATIONS BEFORE IMPLEMENTATION

We appreciate your statement "DEQ recognizes that it will take time to install meters and collect more accurate data from forklift charging." We strongly encourage DEQ to recognize that the industry cannot practically begin to install wide-spread metering until the DEQ issues clear and consistent guidance published for all CFP participants that addresses several questions:

- Metered Energy Usage Allocation: How should reporting be done for meter that measures a fleet that has both pre-2016 and post-2015 forklift model years (such as a meter on a panel, breaker, or charger)?
  - o Given the low value of pre-2016 forklifts in credit generation, it may not be economical to meter them; would the DEQ consider continuing the estimation method for older model year forklifts or other changes that would enable these lift trucks to still participate in the program?
- Power Measurement Location(s): Are there specific requirements for metering AC power vs. DC power?
  - o Should there be an adjustment in energy reporting if it is measured AC side? Or on the DC side (i.e. at the battery, which is not a full representation of the power pulled from the grid because of charger efficiency ratings).
- Registration
  - o Is information on the meter (such as make, serial number) required to be registered, and if so how would that be uploaded into OFRS in the templates relative to the existing information on lift trucks and how would that

vary in the different types of metering installations (1:1 meter to unit vs. 1 meter across many units, etc.). If the metering is done at the charger, does charger information (such as make or serial number) need to be registered or documented, similarly if the meter is installed on a battery, is that battery's specific information required to be documented with registrations?

o If the meter is moved from truck to truck, or battery to battery, does the registration need to be updated, and if so how and when (i.e., would it be a new registration or a supplemental report)

o If the forklift moves to multiple sites in a single quarter, are there limitations on the reporting as long as there is meter data that can be differentiated by the dates the forklift is at each site? For example, this would fit into the operational date requirements in the FSE Detail template (columns N and O) and would be similar to CARB guidance 19-04 and Ecology's FSE Registration User Guide that state "if the same eTRU is being operated at multiple locations, it may be registered as a different FSE for each location."

o Are there additional documents on the meters or their installation that are required.

- Reporting: If a meter's connectivity to the cloud drops and there is a time period without measured energy use (likely to be a common issue in warehouse spaces), is there an acceptable method for estimating usage on missing time period based on the remaining measured energy use data.

We strongly encourage DEQ to allow for a broad array of metering solutions as the most cost-effective option varies by facility and operation.

Once these questions have been addressed, ideally with input from equipment operators and meter experts, we request that the DEQ allow the industry a *minimum* of 6 months to install compliant metering. This amount of time is needed to make time available in busy fleet manager schedules, obtain site-specific hardware, schedule installation that does not disrupt plant operations, get on the schedule for electrician services, and troubleshoot the installed system. The currently proposed metering start date of 4 weeks from now will result in loss revenue as businesses will not have time or the certainty needed to implement metering. This will result in significant financial loss to countless Oregon businesses that are using electric forklifts and leave a negative impression of the reliability CFP program for many businesses.

We look forward to further discussions with the DEQs on the Estimation Methodology and Metering Implementation timeline.

Sincerely

Ryan Huggins
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PineSpire