DOCKETED	
Docket Number:	19-ERDD-01
Project Title:	Research Idea Exchange
TN #:	247090
Document Title:	Penske Truck Leasing Comments on Behind-the-Meter Zero-Emission Backup Technologies
Description:	N/A
Filer:	System
Organization:	Gladstein, Neandross, and Associates
Submitter Role:	Applicant Consultant
Submission Date:	10/28/2022 1:53:45 PM
Docketed Date:	10/28/2022

Comment Received From: Gladstein, Neandross, and Associates
Submitted On: 10/28/2022
Docket Number: 19-ERDD-01

Penske Truck Leasing Comments on Docket #19-ERDD-01 relating to Behind-the-Meter Zero-Emission Backup Technologies

Hello,

Penske Truck Leasing (Penske) would like to thank the California Energy Commission (CEC) for the opportunity to provide comments on Docket #19-ERDD-01. The Commission has consistently provided an opportunity for stakeholder engagement and feedback to shape and refine rulemaking to ensure they are meeting their intended purposesâ€"a process we strongly respect and admire.

Penske has significant operations in California with 25,000 vehicles, 60+ locations, and 2,100 employees. They remain committed to reducing vehicular emissions and accelerating deployment of cleaner vehicle technology and as such can be a natural partner with the CEC in achieving some of its goals to reduce emissions from transportation. With an average customer size of between 14 and 18 trucks, Penske provides comprehensive vehicle services to companies that do not have the financial capital and necessary experience to purchase and maintain alternative fueled vehicles. Leasing with Penske provides the following benefits to fleets:
â€¢ No upfront purchase costs and concerns about vehicle residual/resale
â€¢ No costs to modify maintenance facilities
â€¢ No maintenance training costs or investment in special tools
â€¢ No fueling anxiety as Penske will help with vehicle routing and fueling contracts
â€¢ 24/7 Roadside assistance & nationwide service network
â€¢ Cost savings from Penskeâ€™s purchasing power for fuels and vehicles that are passed onto customers

Please see below for Penskeâ€™s specific responses to the questions posed by the CEC on Docket #19-ERDD-01:

To best organize this response to solicitation, the structure of the responses will be split into the sections as described in the request for information including the structure of the solicitation, specific technology advancement research, and high-impact use cases for this research area.

Structural Responses
Q.3: If the CEC issues a solicitation in this research space, should there be carve outs for specific technologies or technology bundles targeting specific performance metrics (e.g., separate groups each targeting a technology such as critical load panels, switchgears, and multi-mode inverters)? How should technologies be bundled, and what metrics should be targeted?

Penske suggests separating funding into two categories, the first for equipment that is used to generate or store energy, and the second for interconnection equipment that is used to bridge generation equipment directly to the grid and/or any other electrical equipment. These discrete categories will help ensure that CEC receives a wide range of proposals and can provide support and funding for a diverse array of projects. Additionally, Penske recommends that the CEC should build in flexibility to provide for the movement of funding if certain categories are undersubscribed. Unused funds could be utilized to support additional requests in other categories. This flexibility will allow the funding to be effectively distributed across the two categories and support the development of both generation and distribution equipment that are a part of the fundamental framework of a holistic energy backup ecosystem.

Q.4: If the solicitation included multiple groups, how should those groups be structured?

Penske believes that a significant volume of the technologies available in this space are still in their early development phases, either in initial stages such as research and development (R&D) or executing preliminary pilot/demonstration projects. In many cases, technology development requires an iterative process of R&D and pilot demonstration/deployment to refine and formalize a commercially viable and sustainable product. Given this iterative process, the proposed structure of the funding suggested by the CEC may cause confusion concerning the allocation of each technology to the proposed groupings. This is particularly true of systems that integrate relatively mature technologies in a novel way, where they fall into various phases of product maturity (notionally Technology Readiness Levels 6-8). Consequently, Penske suggests grouping funding based on the use case scenario of each project, primarily into three categories: mobile, stationary, or mixed applications. For example, the project would be either servicing a mobile application, such as vehicle charging, stationary applications, such as powering buildings, or a mixed application, where the same system could be used to provide both for vehicle charging and backup power to buildings. Penske believes there is a growing need for solutions that provides resiliency for both stationary and emerging transportation loads, especially with the development of new state rules that require fleets to convert a portion of their vehicles to electric at a faster pace than grid growth. These regulations effectively compel fleet electrification and inherently link the reliability of fleet operations to the reliability of the electric grid. For example, high priority fleets expect to utilize 2,500 heavy-duty trucks in CA drayage operations alone, which is equivalent to around 460 MW of grid capacity for statewide vehicle charging by 2033 on a grid that already struggles to serve statewide power demands on peak days. Based on these projections, there is a massive gap between projected grid capacity and projected energy usage by 2033 as a result of transportation electrification. This gap clearly demonstrates the need for solutions to provide resiliency in the future. For that reason, the CEC should consider separating out solicitation funding into multiple groups, with distinct funding allocated to BTM solutions supporting stationary buildings, transportation related grid loads, and mixed-use applications that support both areas.

Technology Advancement Responses

Q.8: What would be the most strategic form of implementation for the next generation of critical/smart load panels?

Penske believes that it is crucial to invest in critical/smart panel technology that would facilitate the use of BTM renewable backup generation. Enabling the facilitation of interconnection between the various forms of energy generation is needed for this technology to succeed, and the development of smart panel technology will allow this facilitation to be reliable, sustainable, and replicable. Additionally, an area that is not covered in this inquiry but that should be included in the pending solicitation is the potential growth of portable battery energy storage solutions that may integrate with the grid. A portable battery energy storage system that has the potential to power essential loads as outages occur, simply by arriving at the specific site of outage can have a multitude of use case applications (From capacity bridging to emergency infrastructure/disaster recovery). A single mobile battery energy storage system could support a wide geographical range, supporting multiple sites with additional capacity and/or resiliency on an as needed basis. During disaster events, power outages or public safety power shutoffs a mobile system has the benefit of being able to travel to the areas in most critical need whereas a stationary system has no such flexibility. It is for these reasons that Penske recommends investing and prioritizing smart load panels and technologies that facilitate the development, implementation of, and connection to the grid for these mobile battery energy storage systems.

High-Impact Use Case Responses

Q.12: What applications or use cases might be the best fit or highest priority for achieving easily replicable solutions with maximum impact?

As stated earlier, transportation electrification is and will have a large impact on the grid, and emerging technologies are required to achieve resiliency in these areas. Based on the new rules in California, such as advanced clean fleets (ACF), the required rate of fleet electrification will result in significantly higher loads on the grid (especially in localized hotspots where goods movement activity is concentrated). Many areas of California were already under heavy stress in the summer of 2022, even in the absence of the ACF, and this demand is only expected to grow with coming regulations. Additionally, as the number of fleet charging stations in areas with a high potential of public safety power shutoffs (PSPS) events, fleets are at significant risk of power interruptions and disruption of critical business operations. Hence, Penske suggests that the CEC focus on solutions that can address resiliency of critical loads including those in the transportation and commercial sectors.