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New Hampshire VW Environmental Mitigation Trust
Direct Current Fast Charging Infrastructure
Request for Information

Deadline for Comments:
March 16, 2020

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New Hampshire Electric Vehicle Supply Equipment Grant Program
Request for Information

ChargePoint is pleased to provide written responses to the State of New Hampshire regarding the best use of funds stemming from the Volkswagen (VW) Settlement and the State's allocation from the Environmental Mitigation Trust. The Trust funds provide a significant opportunity for the State to mitigate the environmental harm VW diesel vehicles caused, as well as advance its sustainable transportation goals and produce long-term benefits to the State and its communities.

1 and 2: What costs should be eligible and what costs should be in ineligible? Why?

Eligible and ineligible expenses should align with the guidance provided in Appendix D, of the Partial Consent Decree. The Consent Decree states, "Each Beneficiary may use up to fifteen percent (15%) of its allocation of Trust Funds on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment for projects as specified below. Provided, however, that Trust Funds shall not be made available or used to purchase or rent real estate, other capital costs (e.g., construction of buildings, parking facilities, etc.) or general maintenance (i.e., maintenance other than of the Supply Equipment)."

The financial considerations for owning and operating DC fast chargers (DCFC) are dynamic. Factors such as EV penetration, capital and operating costs vary by site. The Consent Decree factored these dynamic considerations into its eligible and ineligible cost guidelines by allowing for both capital and operating costs as eligible expenses. Applicants should be able to request grant funding to support the costs they need the

most support with. Cost effectiveness should be factored into the program's scoring criteria to ensure the most cost-effective projects are selected for funding.

An example of this recommendation in practice is the State of Maine, whose approach to eligible and ineligible costs and cost effectiveness is consistent with the above recommendation. Today, Maine's corridor sites are nearly complete with six out of seven corridor locations open to EV drivers.

3. What level of cost share/match is recommended? Why?

Minimum cost share requirements should be aligned with the guidance provided in Appendix D, of the Partial Consent Decree.

> "1. Up to 100% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that will be available to the public at a Government Owned Property.
> 2. Up to 80% of the cost to purchase, install and maintain eligible light duty electric vehicle supply equipment that will be available to the public at a Non-Government Owned Property."

Factors such as EV penetration, capital and operating costs vary by site. The Consent Decree factored these dynamic considerations into its minimum cost share guidance. Cost effectiveness should be factored into the program's scoring criteria to ensure the most cost effective projects are selected for funding.

4. Please provide input on program structure:

a. Allow for multiple awards or have a winner-take-all approach?

ChargePoint recommends that New Hampshire structure its program to allow for multiple awards. This will diversify potential site hosts, which will decentralize investment risks and optimize DCFC siting.

During earlier stages of EV and EVSE market development, states typically required a winner-take-all approach for DCFC corridor grant programs. This program design was largely informed by the assumed absence of interest by independent site hosts in owning and operating DCFC. This lack of interest, or perception thereof, led to a

dependence on third-party owner operator business models placing the full responsibility for the program's success on one contractor.

In recent years, the DCFC landscape and best practices have evolved considerably. Private companies from numerous industries, such as fueling and convenience, hospitality, and retail, are investing in DCFC infrastructure. Third-party owner-operators are shying away from corridor deployments, which often present less-predictable economics, and instead focus their investments on the urban core, typically in conjunction with fleet partnerships.

ChargePoint, and many of our competitors, have effectively coordinated with multiple site hosts to independently own DC fast chargers under one grant agreement. This approach leverages existing business models by incorporating the provision of EV charging services as an amenity to a variety of given locations. It is essential to note that ongoing maintenance and operations agreements can be included in the terms and conditions of an award for all participants.

The following chart table identifies the growing trend of state DCFC corridor programs being designed by states to accommodate multiple awardees:

Multiple Awards	Winner Take All
Florida Idaho Iowa Louisiana Michigan Minnesota Nebraska New Jersey North Carolina Oklahoma Pennsylvania Utah Washington	Colorado Maine New Hampshire Vermont

Awarding projects on a site by site basis encourages participation by a diverse set of stakeholders, optimal siting, and decentralized risk. ChargePoint recommends against New Hampshire requiring a winner-take-all approach, which would significantly limit the state's options and inadvertently disincentivize private investment at individual locations statewide.

b. Assuming both DCFC and Level 2 charging will be required at each location, how many chargers of each type should be required at a minimum? Should the minimum differ by location in the state?

A minimum of two DC fast chargers should be required per site. Requiring the deployment of more than one DC fast charger provides drivers with the necessary confidence that they will be able to get a charger in the event one charger is occupied or one charger is out of service. It is a general best practice to host two or more DC fast chargers per site, especially for corridor applications.

Level 2 chargers should not be required but could be encouraged through evaluation criteria. Level 2 chargers are rarely used at corridor sites. Dedicating a parking space that is rarely used is a challenging proposition for any site host and even more challenging for rural site hosts with limited parking footprints. An optimal site for DC fast chargers should not be disqualified due to its inability to accommodate an underutilized Level 2 charger.

5. How many charging sites should be anticipated with a total budget of approximately $2 million?

Assuming the program requires two DC fast chargers per site, with a minimum 50 kW power rating per DC fast charger, and five years operation and maintenance requirement, the state should anticipate supporting 9 to 11 sites.

6. Is the goal of having at least one charger on each of the corridors identified on the attached map realistic?

Yes, we believe the goal of having at least one charging location on each of the identified corridors is realistic. We believe the program could support 9 to 11 sites assuming the program requires two DC fast chargers per site with a minimum 50 kW

power rating per DC fast charger, and five years operation and maintenance requirement.

7. How can the State design a solicitation that will ensure DCFC locations in the more rural parts of the state are included in project proposals?

While supporting capital costs are critical in supporting development in rural parts of the state, supporting operating costs may be more critical. With sporadic charging events and costly demand charges, it is incredibly difficult to develop sustainable DCFC infrastructure in rural communities. In absence of favorable utility rates, technologies that support DC fast charger operations such as battery storage should be eligible for grant funding. Supporting energy and demand charges with grant funding should also be considered. If the state can provide some level of support for operating costs, site hosts will be motivated to support development in rural communities.

8. What communications protocols should be allowed/required?

Communication requirements should be clearly defined without being overly prescriptive. New Hampshire's corridor RFP did a good job of this. The RFP stated that, "The EVSE must connect to a network via Wi-Fi, cellular or other connection using multiple carriers. The network must be configured to display real-time operational status on a smartphone application, either through a network-specific application or a third-party aggregator. Applicants must describe how network security concerns will be addressed and managed." These requirements are sufficient in meeting the state's goals and are aligned with all other Beneficiaries who have defined communication requirements short of specifying protocols. ChargePoint recommends including the same requirements in any future program.

9. What payment methods should be allowed/required?

New Hampshire should specify that the chargers support multiple payment options including the ability to pay by credit card. However, the State should not specify the required technology to process payments. Numerous Beneficiaries have taken this approach for their corridor programs.

Payment Technology Prescribed	Payment Technology Not-Prescribed
Colorado New Hampshire Vermont	Florida Idaho Iowa Louisiana Maine Michigan Minnesota Nebraska New Jersey North Carolina Oklahoma Pennsylvania Utah Washington

Only three Beneficiaries have prescribed the required payment technology, including Colorado, which ultimately amended its requirements to remove a specific requirement for how credit card payments are processed. Ensuring drivers have the ability to pay using multiple methods, including by credit card without prescribing the payment processing technology ensures driver's needs are met while encouraging the greatest amount of participation by suitable applicants.

10. What operations and maintenance standards should be required of hosts?

Maintaining reliable charging infrastructure is mission critical. All corridor programs should require a minimum 95% up time measured on an annual basis. This level of service is supported by commercially available extended warranty and maintenance offerings from multiple vendors. ChargePoint's extended warranty and maintenance offering, Assure guarantees 98% uptime on an annual basis for example.

Multiple corridor programs have measured uptime on a weekly basis which is not feasible in practice. Maintaining 95% uptime on a weekly basis means a charger cannot be out of order for longer than 8.4 hours in a week. This would require a full allotment

of all replaceable parts and skilled service technicians either onsite or within a short drive of each charging site. Aligning operations and maintenance requirements with commercially service products is highly recommended to ensure a reliable DCFC network is established and supported for years to come.

11. The entity named in the Contract must be the owner of the installed EVSE equipment for the duration of the Contract and will have the responsibility for ensuring continued operation of the equipment during the Contract period. Can you suggest potential ownership models for the EVSE funded through the RFP that would meet these criteria?

The state can ensure the entity named in the Contract is the owner of the installed EVSE equipment by allowing for site by site awards.

12. What do you consider to be an adequate length of time to complete a satisfactory proposal in response to an RFP?

An adequate length of time to complete a satisfactory proposal in response to an RFP is 45-60 days for site by site application. For winner take all applications a minimum of 90 days should be allotted.

13. What networking requirements (if any) should be included for EVSE funded using VW Environmental Mitigation Trust funds?

Networking requirements should be clearly defined without being overly prescriptive. New Hampshire's corridor RFP did a good job of this. The RFP stated that, "The EVSE must connect to a network via Wi-Fi, cellular or other connection using multiple carriers. The network must be configured to display real-time operational status on a smartphone application, either through a network-specific application or a third-party aggregator. Applicants must describe how network security concerns will be addressed and managed." These requirements are sufficient in meeting the state's goals and are aligned with all other Beneficiaries who have defined communication requirements short of specifying protocols.

14. What future-proofing requirements for EVSE at the selected sites should be considered? Please provide information on new charging technologies that should be considered, if appropriate.

Given the state's emphasis on rural electrification, future-proofing requirements should be minimized but encouraged. Many rural sites will not have the ability to accommodate more chargers or higher powered chargers in the future. A qualitative assessment of an applicant's proposed future proofing provisions such as oversizing a transformer should be taken into consideration but not be grounds for eligibility.

Conclusion

Thank you for your consideration of ChargePoint's responses. ChargePoint looks forward to being a resource to NHDES as it charts a course for Environmental Mitigation Trust funds to meet the needs of New Hampshire's communities.

Sincerely,

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