



FDOT NEVI RFI RESPONSE
INCHARGE ENERGY

June 28, 2022

This RFI is submitted on behalf of Morgan Auto in Tampa and Warren Henry Auto in Miami, two auto dealers who are pioneering their communities into the world of electric vehicles and clean transportation. We applaud the State of Florida for their work towards creating a clean transportation landscape that prioritizes innovation and forward-thinking. Thank you for your consideration on our comments.

Information Requested:

General

1. Please describe your organization's involvement and experience with DCFC infrastructure. What are your long-term EV plans? How many chargers and/or charging stations are you able to build, install, and/or maintain on an annual basis?

InCharge Energy, an EV infrastructure leader, brings innovative solutions to electrification. InCharge was formed in 2019, with the leadership and support of industry leaders who have over one hundred years of combined electric vehicle and charging experience, having deployed more than 10,000 charging stations. The world leader in eMobility, ABB, made a majority stake investment in InCharge in January of 2022. Our seasoned team has experience working with utilities, fleet management, OEMs, engineering and more. We provide scalable, turnkey, end-to-end commercial energy and infrastructure solutions, including planning, engineering, financing, installation, operations, and maintenance.

2. Where does your organization see the biggest opportunities for the utilization of NEVI funds? This could be in terms of innovative technology solutions, partnerships, and/or targeting geographic locations.

We see large opportunities for the utilization of NEVI funds towards workplace and fleet charging. Technological innovations include funding and support for Vehicle to Grid/building (V2G) charging capabilities. Additionally, providing funding for utility and power upgrades to sites will allow for a smoother transition for DCFC sites.

3. What are the biggest challenges or barriers that should be addressed to expedite reaching the goals of the NEVI program?

The largest challenges companies and communities face when electrifying is:

1. the high upfront cost of charging infrastructure; increased funding
2. Not having adequate power from the grid
3. The current state of supply chain volatility and product lead times

Site Location

4. Please describe what you believe makes an ideal DCFC location including amenities as well as any risk factors that should be considered. How would you rank the relative importance of these factors?



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An ideal DCFC location includes 24-hour driver support and services, efficient dispatch of both preventative and reactive maintenance. These services are paramount to ensure charger uptime and resiliency.

5. Please describe your process, including market research, land use requirements, and business development opportunities for determining a DCFC site location.

The process for Charging Infrastructure at a site involves comparing A) The Vehicle kWh per mile, B) daily routing, C) quantity of vehicles, D) dwell time, E) dwell locations, F) the existing Utility transformer size, G) The Existing Main Breaker/bus size, H) peak demand (kW) at the site and I) and time of the peak demand. We analyze this information to see if we can perform a large portion of the charging within the existing demand shoulders for the site but at off-peak times to reduce the need for infrastructure upgrades at the site. We also look for opportunities to reduce demand at the site through lighting retrofits, motor replacements or other major energy reduction opportunities. We incorporate this information into a site visit with an EV design consultant to look for available spare infrastructure, operational needs and potential charging locations at the site. This information is used to craft the optimum balance between infrastructure cost, operational efficiency improvements and personnel/vehicle best practices for charging.

Site considerations for DCFC sites include: proximity to site power and adequate capacity at site. Business considerations include allowance for amenities.

6. What do you think the DCFC site of the future looks like? Will location to amenities be as important or will micromobility be used to get to the amenities? What innovations/disrupters are coming?

InCharge Energy is currently expanding our service footprint in the west to self-perform engineering, construction, and maintenance work. We also are developing new products that are specifically designed for fleet applications that include high voltage and high-power split EV DC fast charging systems in addition to solutions that integrate with energy storage. Our In-Control software backend continues an aggressive development schedule to take on advanced features for load management and V2X functionality using OCPP and ISO15118. Finally, we are currently working with several clients for the implementation of financing models that include both Charging-as-a-Service (CaaS) and Fleets-as-a-Service (FaaS). By five years we anticipate that we will have the most advanced suite of hardware, software and financial services to meet the challenges of fleet electrification in the world.

Partnerships and Business Models

7. Please explain any previous partnerships regarding EV infrastructure your organization has had including which parties initiated the outreach and what, if any, contracting mechanisms were used. These should include public and private entities as well as utility owners.

InCharge Energy partners with local utilities, solar infrastructure providers, microgrid solutions providers, and EV infrastructure and development partners to deliver comprehensive projects that further clean energy goals. InCharge Energy is the preferred partner of many Medium and Heavy Duty vehicle OEMs and has a dealer network with major light-duty vehicle manufacturers.



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8. Describe what makes a successful business model and partnership. Also, please describe threats that can lead to a business and partnership's failure. These can be examples from current and/or previous partnerships.

At InCharge Energy, we value our partnerships and collaboration to create electric vehicle charging solutions that best fit customer needs and demands. We have a history of working with various types of partner organizations to execute and implement projects. A testament to our value of partnerships can be seen by our several won grants such as those through the EPA and CEC, where we have brought partners together to propel projects forward.

9. Please provide your organization's viewpoints on contracting methods for DCFC infrastructure, including leasing and/or revenue sharing agreements. Have you implemented any cost/revenue sharing models for the operation of DCFC EVSE? If yes, please share what you can about the terms of those partnerships.

InCharge provides a unique financing solution to our clients for their charging and infrastructure costs, Charging-as-a-Service (CaaS). In the Charging-as-a-Service model, InCharge owns the infrastructure, typically with a term between 7-10 years. This financing will include costs of chargers, installation, warranty, operation and maintenance. Financing a project transfers high capital expenditures to operational, eliminating capital outlay.

Payments through Charging-as-a-Service are either through a per-mile basis, per kWh basis, or monthly/annual payments. At the end of the lease, the fleet and InCharge will come to an agreement on ownership of infrastructure, where the fleet typically buys out the equipment at end of lease for a depreciated amount. Customized agreements are also possible, on a case-by-case basis. This financing solution is not just limited to charging infrastructure but has also been implemented towards the purchase of the Electric Vehicles/Buses/Trucks. There is an alternative to the CaaS option where vehicles are included in InCharge ownership, Fleet-as-a-Service. In this option the solution remains the same, but vehicle ownership is in the hands of InCharge, rather than the fleet.

10. Does Florida have the workforce required to operate and maintain DCFC EVSE charging sites? If not, please describe what you think is required to develop it.

Our InCharge Energy team has technicians in Florida that are readily available to install, operate, and maintain charging stations.

Equipment

11. On average, how long does it take to install a DCFC from start to finish? This includes site determination, design, permitting, site preparation, utilities, and installation.



12. Are you currently able to meet the requirements of Buy America for DCFC infrastructure projects? If not, please explain your plans to meet the requirements and any potential issues.

Yes, we are in the process of having our equipment and projects follow Buy America and American regulation and standards.

13. Are there any components required for DCFC infrastructure that are in short supply that could delay the goals of the NEVI program? Please describe what steps you have taken or what processes you have implemented to ensure the continuity of your supply chain.

The industry has experienced cost increases and lessened accessibility to raw materials, as well as supply chain volatility. Notably, raw materials and components needed for electrical equipment have seen price spikes of up to 40%, with general component costs increasing on average between 10-15% in 2021 alone. Equipment manufacturers are facing cost increases for materials, labor, available inventory, all of which have affected charger costs. In addition, labor/producer price for Electrical Contractors has increased by 13% in the past two years.

InCharge Energy can pivot to our proprietary products instead of the proposed equipment to counteract the abovementioned market factors. Our proprietary products have flexible lead times at a better value. We can suggest different hardware manufacturers to support project scopes. Additionally, with proper forecasting we will be able to predict market factors to have a reasonable project timeline. We manage and avoid supply chain disruptions through stringent forecasting.

We are working closely with our customers & stakeholders to establish a shipping schedule that is vetted and has a firm delivery window of three months and a fluid forecasted window of everything outside of it. If needed, we will place large orders from suppliers, especially for parts with long lead times.

14. Please describe how your organization mitigates cybersecurity vulnerabilities. Is this consistent with industry standards? If not, where are the differences? Do you follow national cybersecurity standards including National Institute of Standards and Technology (NIST) Cybersecurity Framework? Do you



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comply with Florida's 60GG-2 for ensuring the security of your infrastructure? What other technologies do you offer for an end-to-end secured operation?

InCharge Energy conforms with specific industry standard security frameworks such as the NIST Cybersecurity Framework and ISO 27001. We securely connect our chargers to our network with cellular SIM cards and 5G modems, ensuring that any local site outages do not affect the network connectivity of the chargers. Our security team have tested our networks thoroughly, and regularly release updates to the security of In-Control. Our team of developers and engineers in-house can integrate client security solutions.

Operation, Maintenance and Data Sharing

15. What are your current or planned fee structures (time-based, energy-based, power-based, etc.) and what payment mechanism do you accept? Please explain any issues you have encountered or identified.

InCharge Energy has several business models we currently employ.

- A) Straight CAPEX expenses with progress billing during the construction cycle,
- B) Operating leases,
- C) \$1 buy out leases,
- D) Monthly Charging-as-a-Service covering the infrastructure and operating expense for the site,
- E) Standard 12-60 month financing,
- F) Price per mile,
- G) Price per kWh, and
- H) Short term rentals from 1-12 months.

Our chargers can be equipped with payment processors, specifically with credit card and RFID capabilities.

16. Describe the typical maintenance for your organization's EVSE infrastructure as well as the maintenance schedule including any required hardware and software updates. Please include the typical lifecycle for your DCFC and what performance measurements are monitored.

InCharge offers comprehensive maintenance and management of charging infrastructure. Preventative maintenance includes full station inspection, performance testing, electrical measurements, cleaning, and more. Preventative maintenance capabilities are enhanced by use in tandem with In-Control software which provides detailed and ancillary information on charging systems. Reactive maintenance services are also offered, ensuring extensive service of equipment.



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Reactive Maintenance	YEARS FROM START-UP									
	1	2	3	4	5	6	7	8	9	10
Standard Services - (4 hours, 1 tech)										
Combo CCS Cable	I	I	I	I	R	I	I	I	I	R
CHAdEMO Cable	I	I	I	I	R	I	I	I	I	R
Digital Display Screen	I	I	I	I	R	I	I	I	I	R
Insert and Holder	I	I	I	I	R	I	I	I	I	R
Fan Power Module	I	I	I	I	R	I	I	I	I	R
Fan Cabinet	I	I	I	I	R	I	I	I	I	R
Internal Fuses	I	I	I	I	R	I	I	I	I	R
HMI Board	I	I	I	I	R	I	I	I	I	R
Power Supply	I	I	I	I	R	I	I	I	I	R
DC Outlet Contactor	I	I	I	I	R	I	I	I	I	R
Credit Card Reader Replacement	I	I	I	I	R	I	I	I	I	R
Advanced Services - (8 hours, 1 tech or 4 hours, 2 techs)										
Power Module	I	I	I	I	R	I	I	I	I	R
Cable Management Pulley System	I	I	I	I	R	I	I	I	I	R
Pedestal Pulley System	I	I	I	I	R	I	I	I	I	R
Like for Like Station Replacement	I	I	I	I	R	I	I	I	I	R

17. How would your EVSE share data to a FDOT sponsored central data repository? What type(s) of data can you provide?

Through InCharge Energy’s proprietary software, we are able to share data and develop reports on charger and energy usage. InCharge offers its own proprietary end-to-end charger management platform designed expressly for fleets, In-Control Software. In-Control manages charging stations access control, usage data, remote management, and network operations. Our software provides load management for fleet total cost of operations (TCO) and peak energy demand. In-Control is built for fleets with security and reliability paramount as well as designed for scalability of fleets, facilities, and vehicles. It is OCPP compatible for interoperability and is integrated into multiple EVSE brands, allowing a single solution for fleet facilities. In-Control is additionally integrated with service dispatching, warranty, and finance solutions to ensure an extensive delivery of services.

18. What should FDOT do to ensure the end-users of EVSE infrastructure have the most convenient and reliable charging experience? Please include how emergency evacuations and power outages should be addressed.

Energy resiliency and grid preparation is paramount. We can equip the site with auxiliary electrical equipment such as generators and battery energy storage systems to ensure maximum charger uptime and reduce grid dependency.

Strategies for Low Utilization

19. FDOT is looking to provide DCFC in rural and disadvantaged communities that may have a lower return on investment and is interested in how to make these projects more desirable to potential applications. What strategies can FDOT utilize to encourage deployment of DCFC EVSE into rural,



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underserved, or disadvantaged communities? When answering please include information on driving factors.

FDOT can deploy local, municipal, and state funding programs that provide grants and incentives for charging infrastructure for vehicles that must be charged and/or domiciled in rural, underserved, or disadvantaged communities. Additionally, the deployment of funds towards workforce development programs, driver training and community education programs will encourage the deployment. a. Guaranteed number of projects for economies of scale

20.To increase utilization rates to rural, underserved, or disadvantages communities what considerations or innovation solutions should be considered?

Charging solutions such as software and maintenance which increase charger reliability and uptime will contribute to increased utilization. Additionally, the use and further development of TOU rates and load management capabilities through software will allow for energy and ultimately cost savings. This will allow for charging to be accessible both in daily practice and in community finances.