CLEARSKY-OMEGA

Dealership System Configuration

Technical Narrative

Approach to Performing Services

The NEVI compliant DCFC system solution proposed by ClearSky comprises three essential components. At its core is the 'ClearSky Hub,' a 440 kWh Energy Storage System (ESS) with the potential to expand its capacity to 660 kWh in the future (see Figure 1-A). This Hub serves as the storage, management, and amplification unit for energy, enabling concurrent high-power output of up to 600 kW through four (4) 150 kW DCFC pedestals, now labeled as 'ClearSky Chargers' (refer to Fig. 2.1b). The suggested chargers are designed to handle up to 200 kW, accommodating any necessary power output increases over the project's duration and beyond. Once in operation, the system undergoes monitoring, control, and analysis through 'ClearSky Link' (see Fig. 2.1c), an intelligent energy management system (EMS). This system grants engineers, customer support, and operators full authority over the deployed system. ClearSky-Omega boasts an extensive array of data collection features, which can be translated into performance reports and uptime metrics, ensuring compliance with NEVI standards throughout the project's duration. In contrast to conventional direct-to-grid systems, our battery-integrated DCFC solution not only provides NEVI compliant charging capabilities but also substantially reduces operational costs and the need for extensive grid infrastructure upgrades.

A

CLEARSKY BESS

B

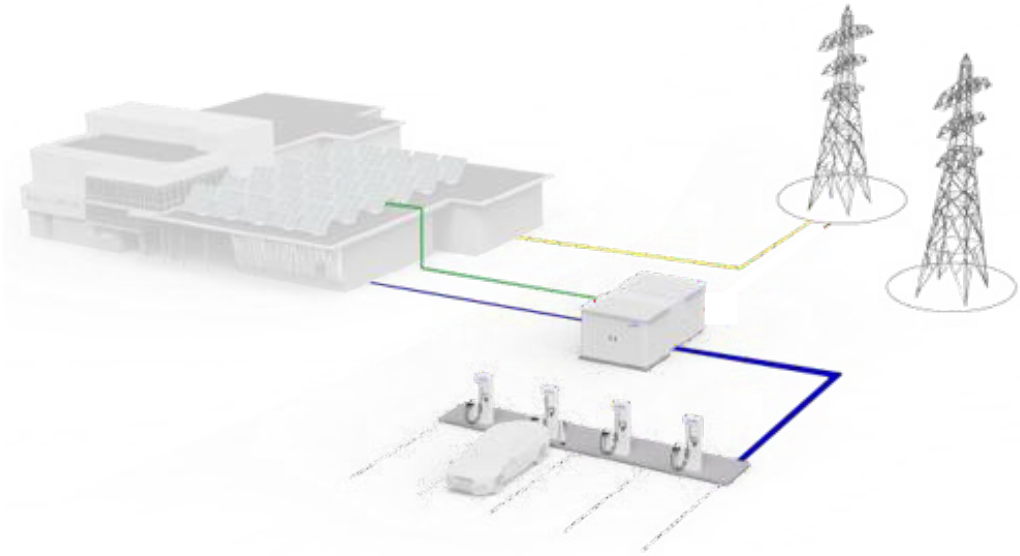
EVSE SYSTEM

C

CLEARSKY EMS

As a prominent player in the Automotive charging infrastructure sector, ClearSky-Omega introduces advanced technology that excels in charging capabilities, surpassing grid limitations. Our adaptable design guarantees future scalability, aligning seamlessly with the dynamic requirements of the market.

ClearSky's Electric Vehicle (EV) Charging Services offer a comprehensive range of hardware and software solutions, optimizing operational efficiency, monitoring, and maintenance. The integrated DCFC system (refer to Figure 02) ensures operational and maintenance flexibility, facilitating efficient troubleshooting and swift issue resolution. Moreover, the ClearSky-Omega Energy Management System (EMS) leverages energy storage capacity not only to simplify installation processes but also to alleviate the need for expensive and time-consuming upgrades to grid infrastructure. The incorporation of this behind-the-meter battery buffer significantly alleviates strain on the grid.



ClearSky's commitment to data intelligence is evident in our software architecture, providing valuable insights to enhance operations, enable proactive monitoring, and support business intelligence. Simultaneously, our Battery Integrated charging system reflects our innovative philosophy, enhancing edge-of-grid capacity with minimal disruption and facilitating grid capacity expansion with limited upgrades. This strategy is designed to streamline deployment schedules and reduce demand charges for the designated site.

Regarding collaboration, ClearSky is well-positioned to collaborate closely with all stakeholders, ensuring alignment with any State program vision for project execution. Our robust risk management procedures proactively address potential challenges. The proposed technical concepts, scheduling, and sequencing have been meticulously crafted to ensure the success of the project.

ClearSky's commitment to data intelligence is evident in our software architecture, providing valuable insights for improved operations, proactive monitoring, and business intelligence. Simultaneously, our Battery Integrated charging system embodies our innovative ethos, enhancing edge-of-grid capacity with minimal disruption and facilitating grid capacity expansion with limited upgrades. This approach is designed to streamline the deployment schedule and reduce demand charges for the designated site.

In the realm of collaboration, ClearSky is poised to collaborate closely with all stakeholders, ensuring alignment with any State program vision for project execution. Our risk management procedures are robust, ensuring proactive resolution of potential challenges. The proposed technical concepts, scheduling, and sequencing have been carefully devised to ensure the success of the project and EVSE specifications.

Pioneering in Automotive charging infrastructure data management, ClearSky has developed a virtual infrastructure (refer to Figure 03) that guarantees smooth data flow, secure storage, and accurate reporting. This is reinforced by our sophisticated backend software intelligence, enabling precise data processing and ensuring that the information communicated to the relevant State is both accurate and actionable.

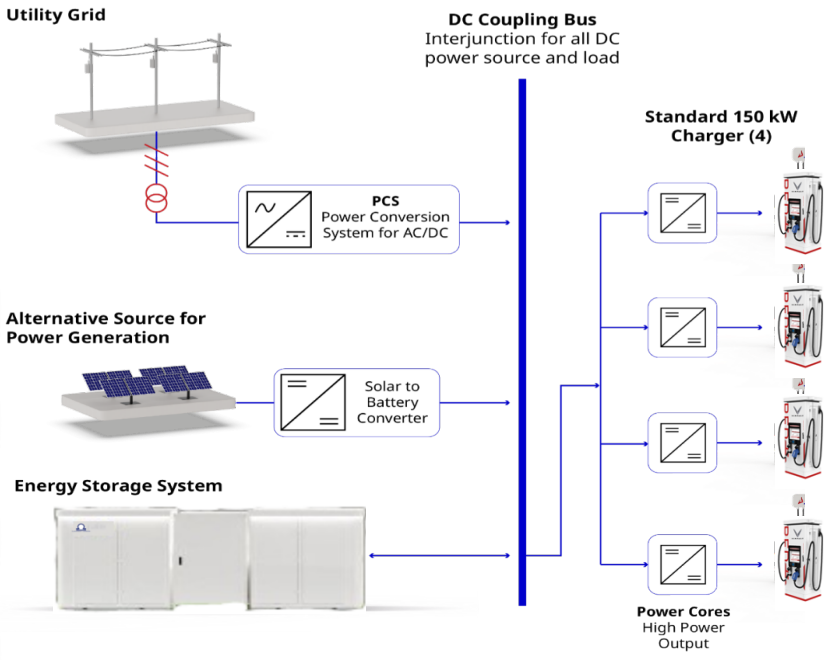
Furthermore, the microgrid controls of our system optimize energy distribution, and the information aggregation feature consolidates data from various sources, streamlining the reporting process and establishing ClearSky as a dependable energy management partner. To meet the specific requirements of the project, ClearSky has designed an infrastructure highlighting scalability and adaptability. Our robust data storage solutions ensure the secure

retention of extensive charging data. Furthermore, our automated reporting mechanisms can be customized to align with any State's unique data needs and formats. In essence, ClearSky's commitment to innovation, combined with adherence to industry standards, guarantees that our data management approach seamlessly aligns with the objectives of the State EVSE project.

Throughout the project, ClearSky aims to foster local economic growth and ensure inclusivity in our projects. Acknowledging the value of local expertise and the importance of community integration, we prioritize the use of local labor for the installation and maintenance of our EVSE. Additionally, we actively promote diversity and inclusion in all project phases, encouraging the participation of traditionally disadvantaged firms and recognizing the unique perspectives and skills they bring.

In terms of **Procurement, Design, and Construction**, ClearSky, as the Proposer, will engage in a subcontracting partnership with EV Structure, with all necessary installation and maintenance tasks being carried out by EVITP certified technicians (documentation provided in the ClearSky Administrative App). Together, we ensure 24/7/365 operations, reinforced by routine preventative maintenance, guaranteeing the infrastructure's longevity and reliability.

Regarding **interoperability**, our BESS and EVSE charging infrastructure adheres to OCPP 2.0, OCPI, and ISO 15118 standards for charger-to-EV communication. Moreover, we will install all essential traffic control devices and on-premises signs to ensure user safety and provide clear guidance. ClearSky is steadfast in its commitment to delivering timely and accurate data in the required format and schedule under the Automotive Formula Program. Our strong network connectivity guarantees EV drivers a seamless charging experience, complemented by the availability of our dedicated customer service team to address any issues.



Moreover, ClearSky's Automotive charging infrastructure is designed for resilience. In the event of power outages, the Hub ESS can sustain continued charging by utilizing its stored capacity. The durability of our stations is demonstrated by their ability to endure harsh climates in Alaska and withstand Hurricane Ian in Florida (refer to Figure 4).

Transparency is a key priority, and we provide real-time data on DCFC locations, pricing, availability, and accessibility through popular mapping platforms like Plug Share. Efficient payment management is integral to our operations, and we have implemented a streamlined system for managing payment collections at each DCFC port. ClearSky meets current Automotive qualifications and is fully compliant with all federal requirements.

Our battery-integrated solution distinguishes itself by circumventing extensive infrastructure upgrades, expediting the deployment process. The standard lead time for installing and commissioning the proposed Automotive system is approximately 20 weeks. We have forged strategic partnerships with both domestic and international suppliers, adopting a diversified sourcing strategy to address potential supply chain challenges. Prioritizing U.S.-based suppliers for steel and other infrastructure materials, and sourcing construction materials locally, further ensures timely deliveries. Our track record in meeting tight deployment schedules is evident through our past projects; for verification, we encourage you to contact the project references listed in our administrative proposal.

Concerning utilities, ClearSky proactively engages to secure the necessary grid input, with a capacity of up to 600 kW, to align with the standards and requirements set forth by the FHWA. This effort involves delivering up to 150 kW across four charging stations simultaneously. This will be achieved through the incorporation of the ClearSky Hub 440 kWh standalone ESS and the required utility infrastructure upgrades to alleviate grid limitations. The system topology diagram in Figure 5 illustrates our capability to achieve grid interconnection.

Approach to O&M

ClearSky's strategy for operating and maintaining the Automotive charging station facility for the entire Period of Performance, and beyond, is rooted in our commitment to delivering reliable and efficient services to our customers. From the initial operational date, we pledge to take ownership of, operate, and maintain the charging infrastructure to ensure optimal performance.

Our robust 24/7/365 customer support guarantees swift resolution of any issues through the effectiveness of ClearSky Link and the OCPP 2.0 service network, enabling complete remote system control, alerts, and diagnostics. This advanced technology empowers us to proactively monitor and maintain the charging stations, ensuring their longevity and guaranteeing > 98% uptime reliability over the full period of performance and beyond.

Ensuring the utmost security and operational efficiency of our Automotive DCFC sites is paramount to ClearSky. Physical site security is a collaborative effort between ClearSky and the Candidate site. During the construction phase, access to the site will be strictly limited to trained personnel possessing the necessary qualifications and expertise. Additionally, safety measures, such as the display of construction signage, will clearly delineate the work area and inform the public of ongoing construction activities. Once operational, we can employ security cameras dedicated to monitoring the station, supported by comprehensive area lighting around the proposed EVSE location, ensuring visibility and safety at all hours.

Concerning back-office support, ClearSky is establishing infrastructure to ensure seamless charging operations management, power management, and warranty management. Upon being awarded an Automotive site, our team will collaborate closely with both DOT and the Candidate site to finalize a service level agreement. This agreement will outline our commitment to both preventative and emergency maintenance, ensuring the longevity and reliability of the charging station. Additionally, we will provide a detailed maintenance schedule and clarify the specifics of our limited warranty, ensuring transparency and trust in our commitment to excellence in service and support.

Approach to pricing

ClearSky is unwavering in its commitment to delivering a transparent, fair, and cost-effective rate structure for our electric vehicle (EV) charging services and Battery Energy Storage systems (BESS). Aligned with federal regulations, our rate framework is determined based on the prevailing market rates within the state. We take into account various factors, including operational expenses, demand dynamics, utility rates, and regional pricing trends. To ensure

optimal utilization and accessibility, we may employ dynamic pricing strategies, such as peak-time surcharges. However, we also acknowledge the importance of affordability and may introduce promotional discounts to encourage and broaden the usage of electric vehicle supply equipment (EVSE) at the designated site.

Our payment infrastructure is user-centric, allowing customers to seamlessly conduct transactions using diverse payment methods, including credit/debit cards or mobile wallets. This ensures that everyone, regardless of their preferred payment method, enjoys equitable access to our services.

This inclusive approach is further strengthened by our dedicated customer support, available through phone, web, and in-person channels, ensuring that any inquiries or issues are promptly addressed.

Transparency is a fundamental aspect of our billing practices. Customers will receive clear and detailed billing statements accessible through email. This guarantees clarity regarding service costs, potential additional fees, and provides a platform for the swift resolution of any billing concerns. ClearSky is committed to ensuring long-term affordability, and while our pricing remains competitive, we offer assurances against significant future price hikes.

Approach to Data

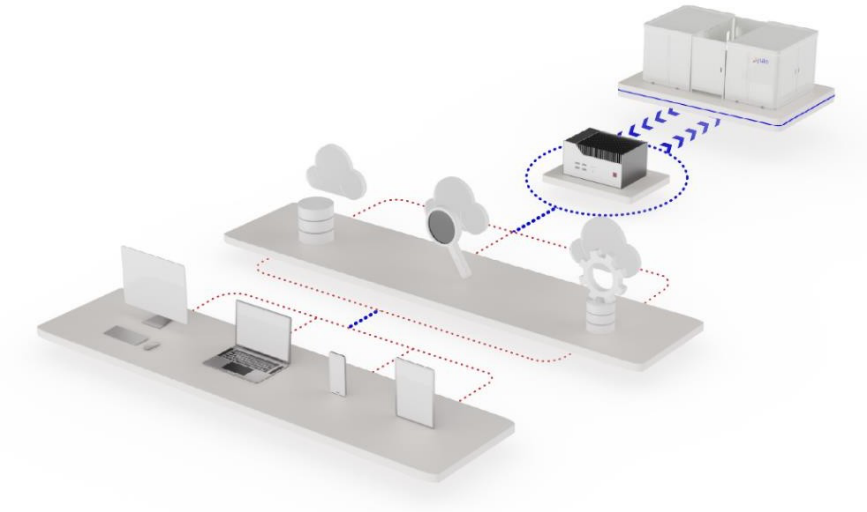
ClearSky is dedicated to upholding robust processes and procedures for data sharing responsibilities while addressing critical concerns related to cybersecurity, data safety, and privacy, in accordance with the NEVI requirements.

Our approach to data protection involves a two-tier strategy. On-site, we implement edge computing with an industrial secure Ethernet gateway provided by Cradlepoint, restricting connections to only white-listed users. To secure data transactions, we employ DHCP and reverse tunneling to deter targeted attacks, simultaneously implementing industry-standard TLS 1.3 encryption during data transmission.

For cloud storage, ClearSky relies on Amazon Web Services (AWS) as our Platform as a Solution (PaaS) provider. AWS provides a comprehensive suite of security measures, encompassing data encryption, network security, identity and access management, threat detection and response, as well as compliance with industry standards and regulations. This ensures the utmost cybersecurity for all parties involved.

Site/Study/ BESS & EVSE Information

ClearSky ensures that the proposed DCFC station, as detailed in your electrification study, along with the station location outlined in the preliminary site schematic, fully complies with NEVI requirements. This information is available to support and engage in a NEPA review, with the ClearSky engineering and compliance team ready to provide additional information upon request.



Our Electric Vehicle Supply Equipment (EVSE) and Battery Energy Storage Sysytem (BESS) site selection prioritizes proximity to available power to minimize site construction costs, ADA requirements, and optimal vehicle accessibility. This determination is based on our ergonomics and UX site interaction and reach studies, utilizing current market EV data.

We are actively evaluating the site's utility service and will coordinate with service providers for any necessary upgrades. Our cost proposal reflects internal utility cost estimates derived from our extensive experience with similar DCFC installations. Open to feedback, ClearSky-Omega is committed to ensuring a seamless and efficient project implementation.

Future Proof Design

The NEVI compliant system being proposed by ClearSky is designed to be modular. While the initial deployment will feature an energy storage capacity of 440 kWh, we've ensured that the proposed enclosure can seamlessly accommodate a field expansion up to 660 kWh. This built-in flexibility ensures that as demand grows, we can increase energy capacity without the need for significant infrastructural changes.

Moreover, ClearSky's chargers are not just designed for today's needs but also tomorrow's possibilities. While they will initially be set to current market standards, they possess the inherent capability to deliver up to 350 kW each. This ensures that as vehicle charging technologies evolve and the need for faster charging rates becomes paramount, our infrastructure will be ready to meet those demands without extensive overhauls.