



Government of Bermuda
Ministry of Transport
Department of Public Transportation

Addenda
For
Electric Bus Charging Facility

Procurement No.: **DPT2021-02 Electric Bus Charging Facility**

Issued: **3 August 2021**

Submission Deadline: **Monday August 09, 2021 03:00:00 PM AST**

Addenda No, **3**

Addenda Type: **Questions and Responses**

The following addendum supersedes information contained in the solicitation document issued for this procurement to the extent referenced. This Addendum forms part of the solicitation documents and will be subject to all of the conditions set out in the contract conditions.

Questions and Responses to Questions

Question 1:	The Supplemental Information of the Addenda #1, the addition of a Battery Energy Storage System (BESS), but without specifying the function or functions that it must provide and thereby required sizing. Could you advise if there is a BESS size in terms of minimum power and energy to feature?
Answer 1:	The minimum sizing of the BESS has not been determined. With clarification provided on the relationship between the PV system and the power requirements of the EV Charging Stations, the BESS size should be designed and proposed by the proponent. It is anticipated that a maximum of twenty (20) charging stations would operate simultaneously, as managed by the OEM's charger management system.

Question 2:	What will be the function of the BESS in connection with the PV system and the grid (ramp rate control, frequency regulation, reactive power provision)? And what function in relation to the EV charging stations?
Answer 2:	The BESS system is intended to store the power solely from the PV system. The BESS is intended to optimize the maximum grid demand required for electric bus charging. i.e. peak shaving.

Question 3:	Is there an expected daily load profile that will be required from the EV-buses to be met by the BESS and for how much years should that remain the target for the BESS (perhaps for 10 years per battery warranty)? This guidance will be relevant for the proposal of BESS adequate sizing.
Answer 3:	Refer to Annex E – Xiamen Electric Charging Pedestal Information where the total EV bus charging capacity and warrantee information is provided.

Question 4:	Does the proponent need to install a consolidated control and Monitoring Device Manager/Platform for the BESS, EV charging and PV system, or each system should have its own?
Answer 4:	Yes, a management control system will be required to manage the PV System, BESS and connection to the GRID and be integrated with the Fleet charging management system. Refer to Addendum # 1, Supplemental Information: Conceptual intent Diagram

Question 5:	Is there more information or guidance that could be shared in regard of communication and monitoring features/options for the Charging Pedestals already provided by the Bus Manufacturer
Answer 5:	Please refer to http://www.sse-international.com/

Question 6:	<p>Answer 8 of Add#2 says “...battery solutions based on the Solar PV Development and the total number of charging pedestals...”</p> <p>Based on 30 x charging pedestals of 60 kW it would mean 1,800 kW of BESS power capacity, but no guidance of the energy (kWh) required. The BESS energy sizing should come from the load (buses) to serve during nighttime, and we would need to assume how many buses and with a certain state of charge would be connected to be fully or partially charged every night. Every bidder will approach differently, resulting in wide range of sizing and likely pricing.</p>
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Answer 6:	Refer to Annex E – Xiamen Electric Charging Pedestal Information where the total EV bus charging capacity is indicated. Each bus has 180kWh battery energy. Each charger is 60kW power rating. It is anticipated that a maximum of twenty (20) charging stations would operate simultaneously, as managed by the OEM's charger management system.
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Question 7:	What is the utility service capacity that is providing for the site?
Answer 7:	Refer to Addendum # 1, Supplemental Information: Conceptual intent Diagram. The conceptual design capacity of the EV charging infrastructure is 1,500 kVA. The anticipated maximum demand of 20 buses charging simultaneously is 1,200kW.

Question 8:	What is the expected size or electrical standard requirement for step down transformer 4160/380?
Answer 8:	The anticipated transformer size is (2) x 750kVA for redundancy.

Question 9:	What is the size of utility room or equipment space requirements for the switchgear
Answer 9:	To be determined by proponents

Question 10:	What are the requirements between the conductors, transformer, switchgear and the first piece of equipment downstream from the switchgear?
Answer 10:	Refer to Addendum # 1, Supplemental Information: Conceptual intent Diagram

End of Addenda No, 3