Nigeria Electrification Project

DEVELOPMENT OF SOLAR HYBRID POWER SYSTEMS FOR UNIVERSITIES AND TEACHING HOSPITALS

Initial Selection Document (ISD)
Addendum No. 1

Employer: Rural Electrification Agency (REA)

Project: Nigeria Electrification Project (NEP)

Contract title: Development of Solar Hybrid Power Systems for Universities and Teaching Hospitals

Country: Nigeria

Credit No.: 62910

ISD No: REA-NEP/GO/IS/RFP/105/20A-G

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Only one (1) section of the document is affected and modified accordingly. These include:

Section VII - Scope of Employer's Requirements

i. Description of the Plant Design, Supply, Installation, Operation and Maintenance

The details of the modifications are as shown in the enclosed table.

Section	Current Text	Amended Text
Section VII – Scope of Employer's Requirements- Description of the Plant Design, Supply, Installation, Operation and Maintenance	**Description of the Plant Design, Supply, Installation, Operation and Maintenance** **1.** Background The World Bank has provided financial support to the Nigerian Rural Electrification Agency (REA) through the Federal Ministry of Power, Works and Housing to finance Phase II of the EEP, focused on seven (7) universities and two (2) teaching hospitals ("Beneficiary Institutions") under the Nigeria Electrification Project (NEP). The Bid covers Engineering, Procurement, and Construction (EPC) contracts of approx. total capacity of 38 MW Solar Hybrid Power Plants, rehabilitation of existing upstream distribution infrastructure, streetlights and a renewable energy workshop/training centre (WTC) for the Beneficiary Institutions ("the Projects"). In addition, Operations and Maintenance (O&M) of these Projects, for a duration yet to be determined, will be included into the EPC contracts, which are expected to be concluded, at the earliest, in the fourth quarter of 2020. It is anticipated that contracts with successful bidders would be signed immediately and the implementation of the Projects would commence thereafter. The Project scope includes:	**Description of the Plant Design, Supply, Installation, Operation and Maintenance** 1. Background The World Bank has provided financial support to the Nigerian Rural Electrification Agency (REA) through the Federal Ministry of Power, Works and Housing to finance Phase II of the EEP, focused on seven (7) universities and two (2) teaching hospitals ("Beneficiary Institutions") under the Nigeria Electrification Project (NEP). The Bid covers Engineering, Procurement, and Construction (EPC) contracts of approx. total capacity of 38 MW Solar Hybrid Power Plants, rehabilitation of existing upstream distribution infrastructure, streetlights and a renewable energy workshop/training centre (WTC) for the Beneficiary Institutions ("the Projects"). In addition, the Bid covers the Operation and Maintenance (O&M) of these Projects, for an exact duration yet to be determined. The installation, long-term operation and maintenance of these Projects by the EPC and O&M contractor/service provider will be expected to be carried out in accordance with a detailed Sustainability Plan, which is currently under finalization by the REA. The contract(s) for the selected EPC and O&M contractor/service provider for these systems are expected to be concluded, at the earliest, in the first quarter of 2021. It is anticipated that contracts with successful bidders would be signed immediately and the implementation of the Projects would commence thereafter. The Project scope includes: 1. Provision of reliable and sustainable electricity supply. 2. Upgrade of Distribution network facilities at 11kV to safely evacuate the generated power. 3. Reactivation and installation of additional streetlights for the proper illumination of the environment of the Beneficiary Institutions. 4. Provision of Fully Outfitted electro-mechanical Workshop and Training

	1. Provide reliable & sustainable electricity supply 2. Upgrade of Distribution network facilities to safely evacuate the generated power. 3. To reactivate and install streetlights for the proper lightning of the University environment. 4. Provision of Fully Outfitted Workshop and Training Centre for capacity building of students on renewable energy systems. The summarized scope of works expected to be carried-out in every University include: 6. Supply and installation of 7,000 Solar Photo-Voltaic (PV) Modules (330Wp or higher capacity) and the associated ground mounted MMS (Module Mounting Structures); 7. Supply and installation of Pyranometers and mini weather stations along with Data Loggers; 8. Supply and installation of Energy Meters; 9. Supply and Installation of 1MW PV Inverter with EMS (Energy Management System) 10. Supply and Installation of 1MW Power Converters (PCS/ Battery Converters) 11. Supply and installation of 1,500KVA PV Inverter Transformers; 12. Supply and installation of 1,500KVA PCS Transformers; 13. Supply and installation of MV Panel with Dual Bus and Couplers 14. Construction and installation of Low	Centre for capacity building of students on renewable energy systems. The embedded scope of works within the Project scope that is expected to be carried-out at each Beneficiary Institution includes: 1. Conduct energy demand audit revalidation and ensure that the proposed plant capacities are adequate to meet the present load requirement and future load growth according to international best practices. 2. Supply and installation of Pyranometers and mini weather stations along with Data Loggers; 3. Supply and installation of high efficiency Solar Photo-Voltaic (PV) Modules and the associated ground mounted MMS (Module Mounting Structures) that can withstand the atmospheric and weather conditions for the given soil type in the related part of Nigeria where the plant is located; 4. Supply and Installation of MW Scale PV Inverter with EMS (Energy Management System). 5. Supply and Installation of MW Scale Power Converters (PCS/ Battery Converters) 6. Supply and installation of appropriate and suitable PV Inverter Transformers; 7. Supply and installation of appropriate and suitable PCS Transformers; 8. Supply and installation of Medium Voltage (MV) Panel with Dual Bus and Couplers at the interconnection point to allow for integration of multiple power sources on the distribution network. 9. Construction and installation of Low Voltage Panels where needed under the upgrade of distribution network facilities; 10. Supply and installation of suitably selected Diesel Generators along with the associated storage and DG Totalizing Panel; 11. Design, Supply and installation of appropriately sized MWh Battery Energy Storage Systems with BMS (Battery Management System); 12. Supply and installation of Fire Fighting Equipment; 13. Design and installation of a Master Control Room (MCR) for a hybrid

	Voltage Panels; 15. Supply and installation of 1.0MVA Diesel Generators (Cumulative) along with the associated DG Panel; 16. Design, Supply and installation of 9MWh Battery Energy Storage Systems (Cumulative) with BMS (Battery Management System); 17. Supply and installation of Fire Fighting Equipment; 18. Design and installation of a Master Control Room (MCR) for a hybrid solar plant 19. Commissioning of Solar Hybrid Power Plants; and 20. One (1) year Operation and Maintenance of Solar or Solar Hybrid, Power Plants. Overview of Initial Selection Process Applicant may propose to bid for more that one lot but may not be awarded contracts for more than two (2) lots.	solar plant environment. 14. Supply and installation of water dispensing system for PV cleaning or an equivalent system. 15. Supply and installation of Closed-Circuit Television (CCTV) system for plant security and monitoring. 16. Integration and Commissioning of Solar Hybrid Power Plants to supply power to the entire Beneficiary Institution; 17. Supply and installation of Advanced Metering Infrastructure (AMI) with approved smart energy metering to facilitate energy regulation, downstream power management and (pre-) payment functionality; 18. Long-term Operation and Maintenance of the Solar Hybrid, Power Plants and ancillary systems/equipment (e.g. at a minimum 10-15 years). 1. Implement the Sustainability plans/measures developed by REA to ensure that the Solar Hybrid Power Plants developed are operated and maintained in a sustainable manner over a period of more than 15 years. **Overview of Initial Selection Process** Applicant may propose to bid for more than one lot, but may not be awarded contracts for more than two (2) lots.
Section VII – Scope of Employer's Requirements E&S Workflow for Component 3	**No introductory paragraph to the E&S Workflow**	Based on the E&S assessment, the key Environmental and Social (E&S) risks associated with the above activities include; Loss of Livelihood, Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) risks and impact, managing labour and working conditions, protection of the environment, security of the site, community health and safety, management of safety of hazardous materials, resource efficiency and pollution prevention and management, biodiversity conservation and sustainable management of living natural resources. The key impact due to the implementation of the proposed interventions

		are associated mainly to land acquisition, labour and working conditions, occupational health and safety, Waste management. The applicable safeguards Instruments for addressing these risks are the Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP)/ Livelihood Restoration Plan (LRP). The NEP has therefore prepared an ESIA/ESMPs and a Livelihood Restoration Plan (LRP) for the Projects, which will be included as part of the agreements for the EPC contracts. Contractors will be required to submit targeted instruments as specified in the ESIA and participate in the implementation of the LRP. The colour coded workflow below details the E&S responsibilities of contractors and the REA.