Clarification and Amendment No.-1

Clarification and Amendment on the Tender Document of "Construction of 50MWp (DC) Solar Photovoltaic Grid Connected Power Plant at Rangunia, Chattagram, Bangladesh on Turn Key Basis." (Design, Engineering, Manufacturing, Supply, Installation, Testing & Commissioning and 2 (Two) Years Warranty Period)

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
01.	Section - 2. Tender Data Sheet ITT 13.1(b) Volume 2 of 2 (Part A) Page: 47-49	**Tenders will only be considered .....** **1. Solar Power Plant (EPC) Experience** The Tenderer shall..... **Similar Nature means:** For the purpose of this requirement, "Similar Nature" shall mean the design, supply, installation, testing, and commissioning of a Ground mounted **Grid-Connected Solar Photovoltaic Power plant with a minimum capacity of 30MWp (DC)/24 MW (AC)**. The minimum value of the Contract shall be **202.50 Crore BDT or Equivalent USD 16.48 million**. Partial completion	Stringent Minimum Contract Value for Solar EPC Experience (ITT 13.1(b) – Clause 1, Current requirement: for "Similar Nature" is: - Minimum capacity: 30MWp (DC) - Minimum contract value: 202.50 Crore BDT or USD 16.48 million Delete the minimum contract value criterion entirely and rely solely on the minimum capacity (30MWp DC) requirement, as project capacity is the most direct indicator of relevant experience.	As per tender document
02.	Section - 2. Tender Data Sheet ITT 13.1(b) Volume 2 of 2 (Part A) Page: 47-49	**Tenders will only be considered .....** **1. Solar Power Plant (EPC) Experience** The Tenderer shall have successfully completed, as an EPC Contractor, at least **one (01) contract** of similar nature and complexity to the proposed Works within the last **Ten (10) years** prior to the Tender Submission Deadline. The contract shall have been in **successful commercial operation for a minimum period of two (02) years**. **Similar Nature means:** For the purpose of....	Mandatory Two-Year Commercial Operation Period (ITT 13.1(b) – Clause 1 Current requirement: The contract "shall have been in successful commercial operation for a minimum period of two (02) years" after completion. Amendment the two-year commercial operation requirement entirely. Accept any solar PV plant that has achieved Commercial Operation Date (COD) and successful commissioning, regardless of when that occurred.	As per tender document
03.	Section - 2. Tender Data Sheet ITT 13.1(b) Volume 2 of 2 (Part A) Page: 47-49	**Tenders will only be considered .....** **.....** **3. Dam/Dyke Construction Experience** The Tenderer shall have successfully completed, either as a Civil Contractor or subcontractor, at least **one (01) contract** for the construction of **dam/dyke works of not less than 2000.00m in length** along a riverbank or seashore, with a **minimum height of 3m above existing ground level**, within the last **five (05) years** prior to the Tender Submission Deadline. The Tenderer----- **The experience of a specialized Subcontractor.....**	Request for Re-evaluation of the Dam/Dyke Construction Experience Current Requirement: The Tenderer must have completed a dam/dyke construction contract of at least 2000m in length and 3m in height within the last five (5) years. We request that this criterion be to construct embankment of Road or Bridge	As per tender document
04.	Section - 2. Tender Data Sheet	The minimum qualification requirements of Leading Partner, other Partner(s) and requirements by summation of a JV shall be	We request that for the core "Solar Power Plant (EPC) Experience," the JV partners be allowed to combine their resources. For example, one	As per tender document

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
	ITT 17.2 Volume 2 of 2 (Part A) Page: 50	as follows: The Leading Partner must demonstrate 100% of the Solar EPC experience (30MWp (DC)/24 MW (AC)) & 100% of the financial requirements (202.50 Crore BDT or Equivalent USD 16.48 million) and minimum requirement not applicable for other partner	partner could have completed a 3 MWp project and another a 27 MWp project, demonstrating the required cumulative capacity of 30MWp. The current "100%" requirement for the Leading Partner is overly rigid for a project of this size.	
05.	Volume 2 of 2 (Part A) Section 4.1 Page no: 161-162	Technical Documentation	Field suitability studies (including flood risk studies, other limitation studies, etc.): The red line of the site area is missing, the site conditions (topography of the site area, surrounding river conditions, etc.) and hydro-meteorological data are not available for compilation.	The following documents are available on BPDB' s website(www.bpdb.gov.bd) for reference only: Annexure-1. Topographic Survey Report, Annexure-2: Soil Investigation Report
06.	Volume 2 of 2 (Part A),	Drawing	Schematic diagram of the grid access point: Need clarification on the content of this drawing? No information about access to the substation was found in the tender documents. It is necessary to provide relevant information about the proposed substation (relative position map to the photovoltaic field area, floor plan, electrical primary and electrical secondary system diagram).	Single Line Diagram is given on Tender Document Volume 2 of 2 (Part A), Technical Specification Details is given on Tender Document Volume 2 of 2 (Part A), **1.13.17 Power Evacuation**
07.	Volume 2 of 2 (Part A), Section 4.1 Page no: 161-162	Technical Documentation	Preliminary layout of the substation: The absence of CAD drawings of the site red line, the investigation of the site topography, and the proposed location of the substation involved in substation site selection.	The following documents are available on BPDB' s website(www.bpdb.gov.bd) for reference only: Annexure-3. Topographic Survey (CAD),
08.	Volume 2 of 2 (Part A) Section 4.1 Page no: 161-162	Technical Documentation	Civil engineering documents (water management system, including calculations, drawings, etc.): There is a lack of hydro-meteorological data and the conditions for conducting calculations are not available	As per Tender Document Hydro-meteorological data can be collected from Bangladesh Water Development Board (BWDB).
09.	Volume 2 of 2 (Part A) Section 4.1 Page no: 161-162	Technical Documentation	Civil engineering documents (water system drawings showing elevation, drainage and related elements): There is a lack of topographic mapping data for the site, and on-site elevation measurement is required to determine the elevation.	As a Turnkey Work, Power Plant Design (including water system drawing) is in the scope of the Tenderer. The following documents are available on BPDB' s website(www.bpdb.gov.bd) for reference only: Annexure-1. Topographic Survey Report, Annexure-3. Topographic Survey (CAD),
10.	Volume 2 of 2 (Part A), Section 4.1 Page no: 161-162	Technical Documentation	Support structure drawings and calculation books: The project has not yet carried out geological exploration work, and it is impossible to determine the characteristics of the strata and the bearing capacity characteristic values, so it is impossible to carry out the calculation of the photovoltaic foundation form and support structure.	The following documents are available on BPDB' s website(www.bpdb.gov.bd) for reference only: Annexure-2: Sub-Soil Investigation Annexure-3. Topographic Survey (CAD), Moreover, Bidder may consider design criteria described in Tender Document Volume 2 of 2 (Part A). Detailed Design & Drawing will be submitted by the Tenderer after the contract doing detailed site survey, soil test as per Employers Requirement Section 6, Tender Document Volume 2 of 2 (Part A)
11.	Volume 2 of 2 (Part A) Section 1.14.17	Steel Structures	Wind load (What wind speed does the support structure need to be able to withstand):	As described in Section **1.14.17 Steel Structures** Volume 2 of 2 (Part A)

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
	Page: 125		Please clarify the basis for wind resistance. This wind speed is at the top level for resisting extreme weather events, and the wind resistance requirements are extremely strict.	
12.	Volume 2 of 2 (Part A) Section 1.6.7 Page: 16	Inter-row Spacing and Tilt angle for PV Mounting Structures	Photovoltaic bracket tilt angle: The tender documents stipulate a fixed bracket with an inclination of 23°. Can the inclination Angle be adjusted according to the site conditions?	Tilt angle is flexible (South facing, 18° to 22°) as described in **Section 1.6.7 Inter-row Spacing and Tilt angle for PV Mounting Structures**
13.	--	--	Preliminary documents such as temporary land use permits, felling permits, grid access permits, and crossing road/river permits: . It is suggested to clarify whether the above-mentioned documents have been processed and whether the unprocessed documents are the responsibility of the owner or the contractor? [The tender documents stipulate that the cost of grid connection shall be borne by the contractor]	As per tender document
14.	--	--	Information on the hydrological and tidal stations of the Karnaphuli River near the project area	As per tender document Hydro-meteorological data may be collected from the Bangladesh Water Development Board (BWDB) by the Bidder at its own responsibility.
15.	--	--	Current conditions and design data of embankments and revetments around Karnaphuli River and Isakhali Canal project area (the key is the scouring depth data of the river where the photovoltaic project is located, which is closely related to the scale of the flood control project of this project)	As per tender document The following documents are available on BPDB' s website (www.bpdb.gov.bd) for reference only: Annexure-1. Topographic Survey Report, Annexure-2: Soil Investigation Report, Annexure-3. Topographic Survey (CAD)
16.	--	--	Design reports and drawings related to the flood control project during the pre-feasibility study, preliminary design and other preparatory work of this project: There is a lack of topographic mapping data for the site, and on-site elevation measurement is required to determine the elevation.	The following documents are available on BPDB' s website (www.bpdb.gov.bd) for reference only: Annexure-1. Topographic Survey Report, Annexure-2: Soil Investigation Report, Annexure-3. Topographic Survey (CAD)
17.	--	--	The flood control standards and specifications, hydrological design specifications, and design specifications for embankment and river course improvement projects adopted in Bangladesh.	As per tender document
18.	--	--	1:1000 topographic map of the project area.	The following documents are available on BPDB' s website (www.bpdb.gov.bd) for reference only: Annexure-3. Topographic Survey (CAD)
19.	--	--	1 Tender Date sheet: Pls provide the excel file and word file which can saving the time	The following documents are available on BPDB' s website (www.bpdb.gov.bd) for reference only: Annexure-4: Volume 1 of 2: Commercial and Contract Part Annexure-5: Volume 2 of 2 (Part-A): Employer's Requirements Annexure-6: Volume 2 of 2 (Part-B): Technical Particulars (Schedule and Data Sheet)

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
20.	Volume 1 of 2. ITT Clause 35.1 (d).	Tender Validity	ITT32.2: The tender valid is 150days, so the bid security shall cover validity of bids plus 28days?	Yes, as per ITT Clause 35.1 (d).
21.	Volume 1 of 2. TDS (ITT 18.4), PCC (GCC 16.1)	Subcontractor	3. ITT18.4: "The nominated subcontractor named shall execute the following specific components of the proposed works," can you share the nominated subcontractors?	As per TDS (ITT 18.4), GCC 16.1 and Appendix 5. List of Major Items of Plant and Services and List of Approved Subcontractors
22.	Volume 2 of 2 (Part A). Section 1.3.1, Page-8--9	Site Overview	The specific address of the project is recommended to provide the coordinate point.	Specific address is specified in **Section 1.3.1 Site Overview** of the Tender Document
23.	Volume 2 of 2 (Part A), Section 1.3.17, Page-95	Power Evacuation	Does this project include external line works? If so, please provide the length of the external lines.	As described in **Section 1.3.17 Power Evacuation** of the Tender Document
24.	Volume 2 of 2 (Part A), Section 1.3.17, Page-95	Power Evacuation	Is land appropriation necessary for the power line from solar plant to interconnecting sub-station?	Not required
25.	Volume 2 of 2 (Part A) Section 1.6.7 Page: 22-23	Module Mounting Structure	The Tenderer is advised to submit his offer for fixed tracking system of module mounting structures along with guaranteed energy output from the solar system. The question is: In the BOQ list, the design is based on the fixed mounting racks. Should the price for this tracking rack be quoted separately for this item, or should it be included in the quotation and two quotations be provided?	This project will be built with a fixed tilt (south facing) system PV module mounting structure. Guaranteed energy output (MWh) shall be given by the Tenderer for this fixed tilt (zero tracking) mounting structure.
26.	Volume 2 of 2 (Part A)	--	Please clarify whether products manufactured in China under international OEM brands (e.g., European brand supplied through its China entity) are acceptable. In such cases, the SCADA system would be procured from the manufacturer's local subsidiary in China.	As per tender document
27.	Volume 2 of 2 (Part A)	--	For Rangunia 50MWp project, the ongoing bay modification works at the 132/33 kV substation, the design team need the substation drawings. Also, we need topographical (TOPO) file in DWG format or other electronically editable versions.	Single Line Diagram is given on Tender Document Volume 2 of 2 (Part A)
28.	--	--	If awarded the tender, is it necessary to register a local company in Bangladesh?	Not required to register a local company in Bangladesh
29.	--	--	Is this project eligible for tax exemption by the Government of Bangladesh?	This project is NOT eligible for tax exemption
30.	Volume 1 of 2. PCC (GCC 38.1)		How is the confirmation of the project design scheme conducted? (Does it require official seal verification by local design firm?)	As per GCC 38.1 (a), Appendix 7. List of Documents for Approval or Review and other relevant requirement of tender document
31.	--	--	Has the local government settled all land use matters involved in the project?	The land is owned by BPDB
32.	Volume 1 of 2.	--	Are there any certification requirements for bid document translation? Certified by China Council for the Promotion of International Trade or embassy.	All documentary evidence shall be submitted in the English language; where the original documents are in another language, **a certified/notarized English translation shall be provided.**
33.	Volume 2 of 2 (Part A)	--	Handover Conditions: Are the 149.069 acres of expropriated land clear and free of encumbrances? Are there any buildings, trees, or pipelines requiring demolition? What is the timeline for land	As per tender document

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
			handover, and will the finished surface elevation at the time of handover be at the original terrain level or partially filled?	
34.	Volume 2 of 2 (Part A)	--	As per our calculation, the annual Net Energy Output of the 50MWp Solar Photovoltaic Grid Connected Power Plant fails to meet the tender requirements. Please verify the settlement result.	The Bidder shall comply with the Functional Guarantee requirements stipulated in the Tender Document and install 50 MWp or higher capacity, as required by the design, to achieve the required Annual Energy Output.
35.	Volume 2 of 2 (Part A)	--	Shall the third-party inspection be selected from the 7 Laboratories/ Institutions in Volume One or the 43 Laboratories/ Institutions in Volume Two?	As per tender document
36.	Volume 1 of 2. TDS (ITT 27.4)	--	Is RMB permitted to be used as the foreign currency in the bid price quotation?	Bidder may quote the bid price as per TDS (ITT 27.4) of the Tender Document
37.	Volume 1 of 2. TDS (ITT 18.4)	--	The SCADA and HMI systems may adopt Siemens, ABB, Schneider Electric or equivalent standard. The protection system may adopt Alstom, ABB, Siemens or equivalent standard products. Is there a list or specific technical requirements for equivalent standard alternatives?	As per tender document
38.	Volume 1 of 2. ITT 17 and TDS (ITT 17.1)	--	Can the non-judicial stamp duty paid under the joint venture agreement be settled by generating an electronic stamp certificate, which is then printed and attached to the agreement?	As per ITT 17 and TDS (ITT 17.1) of the Tender Document
39.	Volume 1 of 2. TDS (ITT 23.2 (s))	--	Is it required that each page of the tender be signed by the authorized representative?	Yes, as per ITT 23.2(s) of the Tender Document
40.	Section - 2. Tender Data Sheet ITT 13.1(b) Volume 2 of 2 (Part A) Page: 47-49	**Tenders will only be considered .....** **1. Solar Power Plant (EPC) Experience** The Tenderer shall have successfully completed, as an EPC Contractor, at least **one (01) contract** of similar nature and complexity to the proposed Works within the last **Ten (10) years** prior to the Tender Submission Deadline. The contract shall have been in **successful commercial operation for a minimum period of two (02) years**. **Similar Nature means:** For the purpose of this requirement, "Similar Nature" shall mean the design, supply, installation, testing, and commissioning of a Ground mounted **Grid-Connected Solar Photovoltaic Power plant with a minimum capacity of 30MWp (DC)/24 MW (AC)**. The minimum value of the Contract shall be **202.50 Crore BDT or Equivalent USD 16.48 million**. Partial completion	Proposed Amendment- The Tenderer has successfully completed, as an EPC Contractor, at least one (1) contract of similar nature and complexity of proposed works within the last ten (10) years prior to the Tender submission deadline. The Contract shall have been successful commercial operation for a minimum period of two (2) years. Similar Nature means: For the purpose of this requirement, "Similar Nature" shall mean the design, supply, installation, testing and commissioning of a Conventional/Fossil fuel Power Plant/Ground-mounted Grid connected Solar Photovoltaic Power Plant with a minimum capacity of MW (DC)/.....MW AC. (ii)..... The letter shall contain at least the information of the i) Exact location of the Conventional/Fossil fuel Power Plant or Solar Power System ii) Capacity of the Conventional/Fossil fuel Power Plant or PV Plant iii) each Engine or PV module capacity & model iv) each Alternator or inverter capacity & model.....	As per tender document
41.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	SCADA System with SCADA Software/HMI including Central SCADA Server, Integration (with Power Grid Company/NLDC) Equipment and Data Logging Devices (PLC, RTU etc.).	Please specify the communication protocol type (IEC 60870-5-104 / IEC 61850 / DNP3) and version number for the connection with NLDC, and whether it accepts the transfer through an OPC gateway?	The RTU/Industrial Gateway shall be compatible with IEC 61850 for connection interface at station level and IEC 60870-5-104 protocol for connection interface with NLDC for SCADA integration.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
				The RTU/Industrial Gateway for SCADA integration with NLDC shall be 02 (two) in number and shall be configured as Master and Hot Standby or one shall report to NLDC (with two communication terminal servers simultaneously through VLAN Network) and another shall report to Backup NLDC (through Routed Network) at the same time each having 02 (two) front-end servers.
42.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	SCADA System: The monitored systems shall include monitor strings, grid tied inverters, installed weather station and shall comply with the Procuring Entity's requirements.	Please specify the communication interface protocols for strings, inverters, and weather stations (Modbus TCP/RTU? Sun Spec?)	The RTU/Industrial Gateway shall be compatible with IEC 61850 for connection interface at station level and IEC 60870-5-104 protocol for connection interface with NLDC for SCADA integration.
43.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	The Contractor shall be fully responsible for the design, supply, installation, testing, commissioning, configuration, integration, and modification of all hardware and software required to provide SCADA/EMS, tele-control, and tele-metering facilities for full integration of the Power Station/Substation with NLDC. This shall include all necessary extensions and modifications to existing station automation systems and to NLDC Main and Backup Master Stations.	The "all hardware and software" range is too broad. Specific software and hardware must be provided.	As per Design Approval.
44.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	The Contractor shall supply and install all cabling, interfaces, communication equipment, and any additional hardware or software required for complete NLDC integration. Any works, equipment, software, or services not explicitly specified but required for full, reliable, and compliant NLDC integration including database, display, and system modifications at both Main and Backup Master Stations—shall be deemed included in the Contractor's scope without additional cost to the Procuring Entity.	The "any works, equipment, additional hardware and software" range is too broad. It is necessary to clarify.	As per Design Approval.
45.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	IEC60870-5-101/IEC60870-5-104-Telecontrol protocols for serial and TCP/IP-based SCADA communication with control centers (NLDC).	Please confirm whether NLDC uses IEC 60870-5-104 (TCP/IP) or -101 (serial port)? Is it acceptable to transfer through an OPC gateway?	The RTU/Industrial Gateway shall be compatible with IEC 61850 for connection interface at station level and IEC 60870-5-104 protocol for connection interface with NLDC for SCADA integration.
46.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	IEC 60870-5-101 /IEC60870-5-104 Tele-control protocols for serial and TCP/IP-based SCADA communication with control centers (NLDC). .... center data exchange (where IEC 61724-1/2/3 PV system performance monitoring and data quality (where applicable)	Please clarify whether the aforementioned IEC standards are requirements that must be followed in the design process or whether a third-party certification report is needed?	The listed IEC/IEEE standards in the Tender Document are mandatory design, engineering, manufacturing, communication, cybersecurity, interoperability, testing, and performance compliance standards for the PCMS and SCADA system. Third-party certification reports are not mandatory unless specifically required by NLDC, PGB PLC.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
47.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Hundreds of attribute/variable/tag	"Please provide a system network architecture diagram, clearly stating: 1) The number of SCADA clients; 2) The detailed allocation of 'hundreds of attribute/variable/tag' including DI/DO/AI/AO/communication attribute/variable/tag." 3) The number and location of servers. If the number of servers and the network architecture diagram cannot be provided, we will design the network architecture during the design phase and give suggestions on the number of servers.	The RTU/Industrial Gateway for SCADA integration with NLDC shall be 02 (two) in number and shall be configured as Master and Hot Standby or one shall report to NLDC (with two communication terminal servers simultaneously through VLAN Network) and another shall report to Backup NLDC (through Routed Network) at the same time each having 02 (two) front-end servers. The RTU/Industrial Gateway shall be configured according to provided signal list from NLDC as per approved SLD of the new station, communication parameter, IP address and station address
48.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Intelligent Electronic Devices (IEDs) Protection relays Programmable Logic Controllers (PLCs) Remote Terminal Units (RTUs) Energy meters, sensors, and transducers	Energy meters, sensors, and transducers need to be verified. Brands, protocols, and versions.	As per tender document
49.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	voltage current and frequent, active power, reactive power, apparent power, power factor and energy	Are all these analog quantities complete? Have they all been included in the IO attribute/variable/tag?	The RTU/Industrial Gateway shall be configured according to provided signal list from NLDC as per approved SLD of the new station, communication parameter, IP address and station address
50.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Status of circuit breakers, isolators, switches, transformers, inverters and auxiliary systems Single Line Diagrams (SLD) Process and equipment mimic diagrams Real-time values, status indications, and color-coded alarms	Are all these digital quantities complete? Have they all been included in the IO attribute/variable/tag? Graph complexity: Does the single-line diagram require automatic topological coloring (automatically deriving the full network color based on the charged state)? This requires additional logic and is not a basic function. Source of drawings: Is there an option to import CAD base drawings/P&ID original drawings, or will we have to redraw them ourselves? Color standards: Does the color code follow the owner's specified standard (such as IEC 60617, enterprise norms)?	All electrical, operational, alarm, status, protection, event, metering, and performance parameters necessary for safe, reliable, and compliant operation of the plant shall be included within the Contractor's scope. The SCADA graphical interfaces including SLDs, mimic diagrams, alarm pages, reports, trends, dashboards, and visualization logic shall be developed by the Contractor during detailed engineering and approved by the Employer/Employer's Engineer. CAD drawings, SLDs, and available engineering documents shall be provided by the Employer where available. The Contractor shall prepare, modify, update, and finalize all SCADA/PCMS graphical displays and engineering drawings as required. Protection functions including overcurrent, differential, distance, earth fault, transformer protection, breaker failure, and interlocking logic shall remain independent of SCADA communication systems. Failure of SCADA communication shall not affect protection trip functionality.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
				Operational interlocks may be implemented through PLC/IED hard logic, SCADA supervisory logic, or both, depending on the system design and operational philosophy approved by the Employer. Automatic topology coloring, advanced visualization logic, alarm hierarchy, dynamic display functions, and intelligent visualization features may be implemented by the Contractor where required for reliable operation and NLDC compliance.
51.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	2.1The SCADA system shall enable remote supervisory control of plant equipment from the control room and/or remote-control center, including: Opening and closing of circuit breakers and isolators Start/stop and control of plant equipment and auxiliaries Control of active and reactive power with in defined operating limits 2.2 All control commands shall be subject to: User access authorization Command validation and confirmation Interlocking and safety logic to prevent mal-operation	Can be achieved	
52.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	3.1The SCADA system shall provide a comprehensive alarm management system to detect, prioritize, and display abnormal operating conditions, faults, and limit violations. 3.2 Alarms shall be: Time-stamped with milli second resolution Categorized by priority acknowledged, logged, and archived 3.3The system shall support Sequence of Events (SOE) recording for post-disturbance analysis and fault investigation.	Millisecond-level time reference source: Does "millisecond resolution" refer to the time recorded by the SCADA system or the SOE time of the underlying devices (IED/PLC)? If it is the former, it is necessary to confirm whether second-level resolution is accepted; if it is the latter, it is necessary to clarify the device's time synchronization scheme. System-wide time synchronization: Do all IEDs, PLCs, RTUs, and SCADA servers adopt unified GPS/Beidou time synchronization? What are the time synchronization accuracy requirements? (Usually, SOE requires ±1ms, and IRIG-B or PTP protocol is needed) SOE record storage: How are the storage requirements for SOE data volume (extremely large millisecond-level events) and capacity? Is a separate SOE server configured?	Realtime Data Acquisition if the Inverter allows. GPS-based synchronized time synchronization system shall be provided for all SCADA, RTU, IED, PLC, Gateway, SOE, and protection devices. Millisecond-resolution SOE recording shall be supported where applicable.
53.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	4.1 The SCADA system shall include ahistorical database for long-term storage of operational data, events, and alarms. 4.2The system shall provide trending, analysis, and data retrieval functions for: Performance assessment Fault analysis and root cause investigation Equipment condition monitoring	Storage capacity and retention period - How many years for "long-term storage"? Data sampling frequency? These factors directly affect server configuration and storage capacity calculation. The disk space capacity of the hardware involved in the configuration.	Historical database storage duration, sampling intervals, reporting requirements, redundancy level, server sizing, RAID configuration, and archive capacity shall be proposed by the Contractor during detailed engineering considering long-term operation requirements and future expansion.
54.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	information display and fault indication rip	Can be achieved	
55.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	The SCADA system shall implement operational interlocks and permissive logic as required for safe plant operation. Protective functions shall remain independent and shall not become promised by the SCADA system.	Where is the interlock implemented? Is the operation interlock handled by the SCADA software layer, or by the PLC/IED hard logic, or by both? Scope of protection independence "Protection functions" specifically refer to what? Over current, instantaneous trip, differential? These should not normally go through the SCADA channel.	SCADA/PCMS servers, operator stations, historian servers, gateways, firewalls, communication equipment, engineering workstations, and storage systems shall be industrial-grade and suitable for continuous utility-scale power plant operation.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
			Fallback in the event of SCADA failure When the SCADA communication is interrupted, are the interlocks between local operation and protection still effective? Please clarify whether the protection trip circuit is completely independent of the SCADA communication network?	
56.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	6.1The SCADA system shall measure, calculate, and record: Gross generation, net export/import energy, auxiliary consumption Plant availability and operating hours 6.2 The system shall compute key performance indicators (KPIs) including: Plant efficiency and losses, Capacity factor and availability, Performance Ratio(PR), where applicable	The SCADA software can only achieve basic management. The EMS part requires the implementation of energy management software.	As per Detailed Design Approval. EPC shall provide modeling parameters for EMS
57.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	7.1 The SCADA system shall be capable of exchanging real-time operational data with the National/Regional Load Dispatch Center (NLDC/RLDC) through standard communication protocols. 7.2 The system shall support: Active and reactive power control Frequency and voltage regulation Ramp rate control and grid code compliance	AGC/AVC/Ramp Rate control requires closed-loop regulation algorithms, which should be realized by EMS or the unit DCS. SCADA only serves as an instruction transmission channel. Please clarify whether the above control functions are within the scope of this SCADA contract or are handled by other systems?"	AGC, AVC, reactive power control, ramp-rate control, voltage regulation, and grid code compliance functions shall be included within the SCADA/EMS/Plant Controller scope as required for NLDC and Grid Code compliance.
58.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	8.1 The SCADA system shall automatically generate standard and customizable reports including: Daily, monthly and annual generation reports Alarm and event logs Availability and outage reports 8.2Reports shall be exportable in standard formats (e.g.,PDF,CSV,Excel).	AVEVA report implementation	As per Tender Document.
59.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	9.1 The SCADA system shall provide role-based access control with multi-level user privileges. 9.2 The system shall include: User authentication and password management Audit trails for operator actions Secure communication and network segregation	Network isolation is not a function of SCADA software; it is a function of the network architecture.	As per Tender Document.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
60.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	10.1 The SCADA system shall support secure remote monitoring and diagnostics for operation and maintenance purposes.	Security is not inherent in the software itself. Remote range "Remote" refers to the internal local area network within the factory (such as from the control room to the local station), or through the wide area network via the internet (such as from the headquarters/manufacturer remotely)? The security requirements for these two scenarios are quite different. Access method Taking a VPN dedicated line, or using the public internet with encryption? Or dial-up/4G? Operational authority Are remote personnel only responsible for monitoring and diagnosis, or can they also issue control commands? Generally, critical control is prohibited for remote access. Network security regulations Is the country where the project is located (Southeast Asia) prohibiting or restricting cross-border remote access to the power monitoring system?	The RTU/Industrial Gateway for SCADA integration with NLDC shall be 02 (two) in number and shall be configured as Master and Hot Standby or one shall report to NLDC (with two communication terminal server simultaneously through VLAN Network) and another shall report to Backup NLDC (through Routed Network) at the same time each having 02 (two) front-end servers through OPGW.
61.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	10.2 The system shall facilitate predictive and preventive maintenance to minimize plant downtime and optimize life cycle performance.	SCADA can achieve basic functions such as data collection, trend display, and timed reminders. Predictive analysis (using AI algorithms) requires integration with AVEVA APM or a third-party platform. Please specify the specific depth requirements for 'predictive maintenance'	Prediction based on Weather Report, Weather Station Data, Sensors output etc. AVEVA APM is okay in this case if can be integrated with the existing system.
62.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	11.Reliability and Availability 11.1 The SCADA system architecture shall be modular, scalable, and redundant, ensuring high availability and fault tolerance. 11.2 Failure of any single component shall not result in total system failure.	Redundancy scope "Any single component" refers to full redundancy of servers, networks, and communications, or partial redundancy? Full redundancy is very costly. Switching time How long does the fault switching require? Seconds? Milliseconds? Affects the architecture design. Does the current system's compatibility and redundant architecture match that of the existing old system? The old system might not support dual channels.	Full redundancy is required
63.	--	--	"Please clarify whether the historical database will use SQL Server Standard (requiring an authorization) or SQL Server Express (free, with a 10GB limit). If the data volume is large or long-term storage is needed, it is recommended to use the Standard version. Is the authorization fee listed separately?"	As per Detailed Design Approval and Standard Practice.
64.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	2. System Security The SCADA shall be designed in accordance to IEC61850 or equivalent Standard. For security reason shall log-in and log-out events shall be logged in the event list. All user changes and modifications to the system as well as parameter and program modifications shall be logged with the exact time and operators' assignment in the event list too. It shall be possible to print this information. 3.Performance and Reliability	Service life: 25 years. The software cannot guarantee support for 25 years. Free upgrades: Major version upgrades and hardware replacements are not free. Spares: 25 years. Does this refer to hardware?	As per Tender Document.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
		All equipment shall be of high quality and reliability. The overall system availability of the SCADA shall be 99% or higher. Loss of monitoring data shall be avoided by means of redundant hard disk drives or RAIDs and an appropriate automatically operating back up technology for removable media. All equipment shall be protected against cyber-attacks and shall be certified by CE signs for operational safety. The SCADA-System shall have a minimum life time of 25years.....		
65.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	All stations shall be connected to the SCADA system and shall be made available in the SCADA to download collected weather data. The meteorological measurement station is connected to SCADA system via 485 cable.	"Please confirm the communication protocol of the meteorological station (Modbus RTU? Special protocol?) and the register address table. If it is a private protocol, a protocol conversion gateway is required."	Modbus RTU. Kipp & Zonen, RainWise, or equivalent weather stations with built-in protocol compatibility for gateway input may be used.
66.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	--	"Please clarify the requirements for Web client access: 1) The number of concurrent accesses; 2) The access scope (local area	As per Detailed Design Approval.
.67.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Please have the customer confirm the specifications of the server.	"Please provide the server configuration list in the tender documents. We will calculate and provide suggestions on the recommended configuration and the number of servers based on the attribute/variable/tag value scale, redundancy requirements, and the retention period of historical data."	The RTU/Industrial Gateway shall be configured according to provided signal list from NLDC as per approved SLD of the new station, communication parameter, IP address and station address.
68.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Are the SCADA screens, alarms, and reports required to be in the local language?	Please confirm.	No, should be in English.
69.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	For systems that need to be integrated into the SCADA software, provide the system name, architecture form, functions, and version.	Please confirm.	The SCADA/EMS system of NLDC is based on "e-terra platform" developed by AREVA T & D (Now owned by GE).
70.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	The specific scope of "Necessary integration"	Is the integration with the existing SAS, SCADA, and NLDC a data layer connection, or does it involve physical layer construction? Or is it a matter of embedding the interface? Please provide the brand, version, and protocol of the existing systems.	The Integration of proposed RTU/Industrial Gateway for data communication with existing NLDC SCADA/EMS system at NLDC, Bangladesh is the scope of Contractor. Necessary modification in the hardware and software along with database and display at NLDC master station and backup station to accommodate all the new system extended with this contract are also in the scope of work.
71.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Responsibility division of PCMS	Is PCMS integrated with SCADA? Brand, communication protocol, architecture	As per Tender Document
72.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Existing SCADA system information	Please provide the existing SCADA brands, versions, system architecture diagrams, IP planning, historical data compatibility requirements.	The SCADA/EMS system of NLDC is based on "e-terra platform" developed by AREVA T & D (Now owned by GE).

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
73.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	NLDC interface specification	Please provide the communication protocol standards (IEC 104/61850/DNP3), protocol versions, port numbers, and redundancy link requirements with the two upper-level control centers.	The RTU/Industrial Gateway for SCADA integration with NLDC shall be 02 (two) in number and shall be configured as Master and Hot Standby or one shall report to NLDC (with two communication terminal server simultaneously through VLAN Network) and another shall report to Backup NLDC (through Routed Network) at the same time each having 02 (two) front-end servers.
74.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	The roles of the equipment need to be clearly defined.	Hardware configuration list (i7/16GB/RAID5/dual network ports) for SCADA servers, operator stations, or historical archive servers? Different roles configuration, there are significant differences	For SCADA servers you have to give the latest version of intel core i7. For operator stations, or historical archive servers you can use the 1 step previous version of core i7.
75.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Industrial grade vs Commercial grade	Are the SCADA devices installed in the air conditioning control room? If they need to be placed in the high-voltage room of the substation or outdoors, please specify the IP level, wide temperature range (-40°C to +70°C), and EMC certification standards (IEC 61850-3/IEEE 1613).	Yes. Industrial Grade, Air conditioning control Room.
76.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	RAID 5 application and specifications	Is RAID5 used for redundant system disks or for archiving historical data? What is the total capacity of the hard drives, the type (SSD/HDD), the hardware RAID card or the software RAID?	As per Detailed Design Approval.
77.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Document language and format	Is the document only in English, or is a local language version required? Is a DITA/XML structured document required, or is Word/PDF sufficient?	Should be English.
78.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Depth of operation manual	Is it for the operation duty personnel (step-by-step operation card) or the maintenance engineers (technical reference manual)?	Both for Operation and Maintenance Personnel.
79.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Security communication implementation layer	"Secure communication" refers to encryption at the communication layer (such as IPSec/SSL VPN) or at the application layer (such as IEC 62351)?	The Contractor shall provide complete cybersecurity architecture including firewalls, secure remote access, VPN/encrypted communication, user authentication, audit trails, antivirus protection, and network segregation in compliance with IEC 62443 and IEC 62351.
80.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	Dual dispatch center relationship	Are the two upper-level control centers operating simultaneously and in parallel, or is there a primary and backup system with failover functionality? Are the data attribute/variable/tag tables the same? How are the remote-control permissions divided?	The two upper-level control centers operating simultaneously and in parallel. The data attribute/variable/tag tables are the same.
81.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	--	What are the number of attribute/variable/tag in the real-time historical database, and which attribute/variable/tag need to be stored in the real-time historical database?	The RTU/Industrial Gateway shall be configured according to provided signal list from NLDC as per approved SLD of the new station, communication parameter, IP address and station address.
82.	Volume 2 of 2 (Part A), **1.13.10 SCADA System**	--	How many attribute/variable/tag in the reports need to be included?	The RTU/Industrial Gateway shall be configured according to provided signal list from NLDC as per approved SLD of the new station, communication parameter, IP address and station address.
83.	Volume 1 of 2. PCC (GCC 7.1)	The following documents forming the Contract shall be interpreted in the following order of precedence, namely:	--	The following documents forming the Contract shall be interpreted in the following order of precedence, namely:

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
		a. The signed Contract Agreement (Form PG5A-10) on non- judicial stamp; b. Performance Security c. Power of Attorney d. Final Price Schedule e. Vetting from Different Ministries. f. Minutes of Pre-contract discussion meeting (s) if any, g. Letter of Acceptance of "Notification of Award" by Contractor. h. the Notification of Award (PG5A-9); i. Approval of GOB. j. All correspondences between BPDB and the Contractor. k. Tender Document & Addenda (if any); l. Financial Proposal of Contractor; m. Technical Proposal of Contractor.		a. The signed Contract Agreement (Form PG5A-10) on non-judicial stamp; b. Performance Security c. Power of Attorney d. Final Price Schedule e. Minutes of Pre-contract discussion meeting (s) if any, f. Letter of Acceptance of "Notification of Award" by Contractor. g. the Notification of Award (PG5A-9); i. Approval of GOB. h. All correspondences between BPDB and the Contractor. i. Tender Document & Addenda (if any); j. Financial Proposal of Contractor; m. Technical Proposal of Contractor.
84.	Contract Agreement (Form PG5A-10)	THIS AGREEMENT ------ 2.The documents forming the Contract shall be interpreted in the following order of priority: a. The signed Contract Agreement (Form PG5A-10) on non- judicial stamp; b. Performance Security c. Power of Attorney d. Final Price Schedule e. Vetting from Different Ministries. f. Minutes of Pre-contract discussion meeting (s) if any, g. Letter of Acceptance of "Notification of Award" by Contractor. h. the Notification of Award (PG5A-9); i. Approval of GOB. j. All correspondences between BPDB and the Contractor. k. Tender Document & Addenda (if any); l. Financial Proposal of Contractor; m. Technical Proposal of Contractor. 3. In consideration..... ..... this Agreement to be executed in accordance with the laws of Bangladesh on the day, month and year first written above.	--	THIS AGREEMENT ------ 2.The documents forming the Contract shall be interpreted in the following order of priority: a. The signed Contract Agreement (Form PG5A-10) on non-judicial stamp; b. Performance Security c. Power of Attorney d. Final Price Schedule e. Minutes of Pre-contract discussion meeting (s) if any, f. Letter of Acceptance of "Notification of Award" by Contractor. g. the Notification of Award (PG5A-9); h. Approval of GOB. i. All correspondences between BPDB and the Contractor. j. Tender Document & Addenda (if any); k. Financial Proposal of Contractor; l. Technical Proposal of Contractor. 3. In consideration..... ..... this Agreement to be executed in accordance with the laws of Bangladesh on the day, month and year first written above.

SL No	Tender Document Reference	Description in Tender Document	Tenderer's Query	BPDB's Clarification/Amendment on Tender Document
85.	Volume 2 of 2 (Part A), **1.3 PROJECT OVERVIEW**	[30] The Facility is expected to be commissioned for Operational Acceptance within 360 (three sixty) days from the Effective Date (as specified in the TDS/PCC).	--	[30] The Facility is expected to be commissioned for Operational Acceptance within 540 (five hundred forty) days from the Effective Date (as specified in the TDS/PCC).
86.	Volume 2 of 2 (Part A), **1.13.3 Power Transformer**	[253] Transformers of 33kV±2.5% ±5%/LV, Dyn11, 50 Hz, Resin encapsulated	--	[253] Transformers of 33kV±2.5% ±5%/LV, Dyn11, 50 Hz