CENTRAL EXECUTING UNIT
MINISTRY OF FINANCE

Project: *Belize Reliant and Resilient Energy Systems (BRRES) Project*
Contract title: *Design, Supply, Installation, Testing, Commissioning and 3-Year Operations & Maintenance of Four (4) Grid-Scale Battery Energy Storage Systems*

Pre-bid Clarification #4
RFB No: *BZ-MFEDI -CEU-539302-CW-RFB*
November 4, 2026

No.	Clarification Requested	Response
1	May bid proceed through evaluation without an in-person site visit, relying on the available site information and circulated meeting and visit minutes?	Yes. Attendance at the site visits is not mandatory, and non-attendance is not a ground for rejection. Bidders may rely on the site information provided in the Bidding Documents (in particular Appendices B and D) and on the minutes of the pre-bid meeting and site visits, which are shared with all Bidders. In accordance with ITB 7 and the Conditions of Contract, Bidders remain responsible for examining and verifying all site data and conditions relevant to their Bids.
2	Are the proposed visits informational, or are bidders expected to undertake additional engineering, surveys or technical assessments before award?	The site visits are informational. Bidders are not required to undertake engineering, surveys or technical assessments before contract award. Detailed surveys, investigations and engineering are part of the Contractor's scope after award (see the response to Item 7).
3	Are any travel, engineering or inspection expenses covered or reimbursed by the Employer, or must bidders bear these costs entirely?	All costs associated with travel (including site visits), engineering, and inspections shall be borne entirely by the respective bidder. The Employer shall not reimburse or otherwise cover any such costs.
4	Are the site visits scheduled for October 21–22 visits limited to an informational walkthrough, or is substantive engineering, testing, surveying or electrical assessment expected before award?	The site visits of 21–22 October 2026 were limited to an informational walkthrough. No engineering, testing, surveying or electrical assessment was expected or permitted before award. Any intrusive investigation at the sites before award requires the prior written approval of the Employer and BEL.
5	What specific technical work or deliverables, if any, must bidders complete during or following these visits?	None. Bidders are not required to complete any technical work or deliverables during or following the site visits. The information obtained may be used by Bidders in preparing their Bids.
6	Who bears the associated travel, engineering and inspection costs? Is any reimbursement or separately paid authorization available for substantive work requested before award?	All costs associated with travel (including site visits), engineering, inspections and works shall be borne entirely by the respective bidder prior to award of the contract. The Employer shall not reimburse or otherwise cover any such costs.
7	Can detailed investigations and engineering be undertaken after contract	Yes. Detailed investigations and engineering shall be undertaken after contract award in accordance with

	award under the agreed scope and payment schedule?	Paragraph 1.2, Scope of Works – Full Turnkey Responsibility, of Section VII – Employer's Requirements by the Contractor. The associated services shall be paid for under terms of payment of Schedule No. 3 – Design Services of the Contract.
8	Please identify the contract provisions governing the first payment, its triggering milestone, required documentation and payment timeframe, including whether the contractor must initially finance engineering, mobilization and equipment procurement.	Please refer to Appendix 1 (Terms and Procedures of Payment) to the Contract Agreement and the associated clauses of the GCC / PCC, which define the advance payment and the subsequent payment milestones, the required documentation and the payment timeframe.
9	**Recognition of EPC Experience from a Previous Joint Venture Reference: Section III, Clauses 4.2(a) and 4.2(b) – Specific Experience** A proposed member of our bidding joint venture previously participated in a grid-forming BESS EPC project as a member of an EPC joint venture. The previous EPC joint venture operated under an integrated management and coordinated implementation structure. The member actively participated in the principal stages of EPC delivery, including overall project management, design and engineering coordination, system integration, equipment supply, installation, testing, commissioning, and grid-interconnection coordination, and assumed corresponding management and implementation responsibilities. We acknowledge that the qualifying contract value is determined by that member's share under Footnote 5 of Clause 4.2(a); we are not seeking clarification of the contract-value rule. Please clarify whether the technical and project-management experience of a member of a previous EPC joint venture may be recognized based on its documented participation throughout the EPC project and its actual management and implementation responsibilities across the overall project. What criteria would the Employer apply when	Please refer to Section III – Evaluation and Qualification Criteria, Factor 4 Experience, Clause 4.2(b) – Specific Experience. The evaluation will be carried out on this basis. The supporting documentation shall be submitted using Section IV – Bidding Forms, Form EXP-4.2(b): Specific Experience in Key Activities.

	assessing the EPC experience of a member that participated in multiple key stages and undertook overall coordination and management responsibilities? Please also specify the supporting documents required.	
10	**Recognition of a Completed Phase of a Multi-Phase BESS EPC Contract Reference: Section III, Clause 4.2(a) – Specific Experience** A proposed bidding joint venture member participated in a large BESS EPC contract implemented in two phases. Phase I has been completed and entered commercial operation. The contract value attributable to that member for the completed Phase I exceeds USD 40 million. Provided that Phase I independently meets the grid-forming BESS requirements, minimum 10 MW/40 MWh capacity, relevant contract value and completion criteria, may the completed Phase I be accepted as a qualifying reference under Clause 4.2(a)? If not, please clarify whether the requirement for at least 80% substantial completion is measured against the entire two-phase EPC contract, or whether an independently completed, operational phase with an identifiable scope and attributable contract value may be assessed separately.	Please refer to Section III – Evaluation and Qualification Criteria, Clause 4.2(a) – Specific Experience. The reference will be evaluated against the stated requirements, including the minimum contract value, similarity criteria, and the requirement for at least 80% substantial completion. The assessment of whether Phase I may be considered separately will be based on the requirements of the Bidding Documents and the documented scope, contract value, and completion status of the relevant contract as submitted by the Bidder.
11	**O&M Experience for Solar PV Plants with Integrated BESS Reference: Section III, Clause 4.2(b), Key Activity IV – Operations and Maintenance.** Our company has O&M experience for two 30 MW solar PV plants, each incorporating a 10 MW/15 MWh BESS. The combined annual contract value of the two O&M contracts exceeds USD 1.2 million.	Please refer to Section III – Evaluation and Qualification Criteria, Clause 4.2(b), Key Activity IV. The Bidder must demonstrate at least one O&M contract for a utility-scale BESS with a minimum annual contract value of USD 400,000, performed over at least three (3) consecutive years. The values of separate contracts cannot be combined to meet the minimum annual contract value requirement. Where a contract covers both PV and BESS facilities, the BESS-specific O&M scope and its associated annual value must be clearly demonstrated.

	We note the requirement for at least one utility-scale BESS O&M contract with an annual value of at least USD 400,000, performed for at least three consecutive years. Please clarify: • Whether O&M experience for BESS integrated with utility-scale solar PV facilities is accepted as utility-scale BESS O&M experience; • Whether two O&M contracts performed concurrently by the same bidder may be aggregated to meet the annual contract-value threshold; and • Where O&M contracts cover both PV and BESS facilities, whether the BESS-specific scope and associated annual value must be separately demonstrated.	
12	**Staffing Requirements and Centralized O&M for Four BESS Sites Reference: Separate BESS Operations and Maintenance Requirements Document - O&M Personnel Provision** The separate O&M requirements document indicates an allocation of eight (8) O&M personnel for a BESS station. As the project comprises four (4) separate BESS sites, please confirm whether the Employer requires eight (8) dedicated personnel at each site, i.e., thirty-two (32) personnel in total. Given modern BESS monitoring and automation capabilities, we wish to explore a centralized O&M model: a central control and maintenance base at one designated BESS site, with continuous remote monitoring of all four sites, alarm management, remote diagnostics, regular on-site inspections, planned maintenance, and standby emergency response teams for the other sites. Please clarify:	The Bidding Documents do not prescribe a fixed number of O&M personnel per site. The figure of eight (8) refers to the number of Employer (BEL) personnel per site per training event under Appendix E, Clause 5.4, and not to the Contractor's O&M staffing. The Contractor shall determine the O&M organization needed to meet all requirements of Appendix E, in particular the Availability guarantee (≥ 97.5 % per site) and the on-site response and restoration times for each site (Critical: on-site ≤ 2 hours; Major: ≤ 4 hours; Minor: ≤ 8 hours), including San Pedro. A centralized O&M model with 24/7 remote monitoring and mobile teams is acceptable, provided these requirements are met at every site. The proposed O&M organization and staffing shall be described in the Bid.

	• Whether the eight-person requirement is mandatory for each site or can be optimized across the four sites; • Whether a central O&M base at one site, supported by modern remote monitoring and scheduled/on-call services for the other three sites, is acceptable; • Whether 24-hour physical staffing is required at every site, or 24-hour centralized monitoring with defined response times may be accepted; and • If centralized O&M is permitted, the minimum site attendance, staffing, response time, safety, and serviceavailability standards that must be met. Any proposed centralized arrangement would be designed to comply fully with operational safety, cybersecurity, grid coordination, emergency response, and contractual performance requirements.	
13	List of local notary offices that are recognized by the government and the bidding committee	Bidders may refer to the Judiciary of Belize webpage for the list of Notaries Public in Belize, available at: https://www.belizejudiciary.org/notaries-public/
14	**2.2 Climatic and Environmental Design Parameters Outdoor enclosures, containers, and any equipment mounted outside an enclosure: lP65minimum. Outdoor enclosures and exposed equipment shall hold lSO 9227 salt-mistcertification. Indoor enclosures:lP54 minimum** All supplied energy storage equipment is fully integrated inside 20ft containers. The metal container enclosure and battery compartment achieve IP65 protection rating. However, the energy storage system is equipped with air conditioning /liquid cooling units. Air inlet and outlet openings are arranged on the container for dehumidification and heat dissipation. Air circulation will	The requirement of Section VII, Clause 2.2 remains unchanged: outdoor enclosures, containers and equipment mounted outside an enclosure shall be rated IP65 as a minimum and shall hold ISO 9227 salt-mist certification. Air inlet and outlet openings of HVAC or cooling units shall be designed so that the enclosure as installed maintains the specified protection level (for example by closed-loop cooling, filtered and protected openings or equivalent measures), and the Bidder shall demonstrate compliance with type-test certificates. Enclosures not meeting this requirement will be treated as a deviation.

	introduce dust, so the complete energy storage container system cannot achieve full IP6X dust protection. For outdoor energy storage container products with active air conditioning or liquid cooling, air exchange inside the cabinet is mandatory to meet the C5-M corrosion protection class. The presence of ventilation openings means liquid cooling units also have air vents and cannot completely block dust ingress. Containerized BESS products in the industry generally adopt IP54 protection rating. The complete BESS container system in this proposal is rated IP55. High-performance dust filter screens are installed at air inlets and outlets. Regular maintenance of filter screens will block dust and corrosive particulates from entering the container to satisfy long-term operation under C5-M corrosive environment.	
15	**4.1 General System Requirements Minimum N+1 redundancy required for: liquid cooling systems, HVAC (PCS and control rooms), UPS for critical controVprotection, and communication links.** All supplied 20ft integrated BESS containers are standardized products. The internal cabin space, piping layout and equipment arrangement are fixed designs. There is no spare space inside the container to add parallel redundant liquid cooling units, HVAC units or UPS modules. Therefore, hardware-level N+1 redundancy cannot be implemented inside the container. The communication link supports N+1 physical dual routing redundancy. Equivalent risk mitigation measures are proposed as follows:	The requirement for minimum N+1 redundancy (Section VII, Clause 4.1) remains unchanged. It applies to the liquid-cooling systems, the HVAC serving PCS and control rooms, the UPS for critical control and protection, and the communication links. N+1 redundancy may be achieved within each unit (for example redundant pumps, compressors or fans) or at system level, provided that the failure of any single cooling, HVAC or UPS component does not reduce the available power or energy of the site below the specified rated values. Monitoring and early warning are required in addition to, and not instead of, the specified redundancy. The Bidder shall describe how N+1 redundancy is achieved in its Bid.

	1. Continuous monitoring of operating parameters for liquid cooling, HVAC and UPS equipment with multi-level early warning functions. 2. Alerts will be triggered once equipment anomalies are detected. Operation and maintenance personnel can attend site or perform remote repair before parameters hit protection thresholds. 3. Sufficient spare parts will be provided to enable rapid component replacement and ensure continuous, safe and stable system operation.	
16	**4.2 Grid-Forming Mode (Primary) Fault Ride-Through Requirement:Compliant with lEEE 1547-2018 and lEEE 2800-2022 (LVR T/HVRT)** The point of interconnection (POI) of this project is medium voltage ≤35kV, which falls within the distribution system level. IEEE 2800-2022 applies to inverter-based resources (IBRs) interconnected to transmission/sub-transmission systems at voltage levels ≥69kV. Based on both the voltage level and scope of the standard, IEEE 2800-2022 is not applicable to this BESS project. Our PCS holds formal certification and complete test reports for IEEE 1547-2018, and can fully satisfy its LVRT/HVRT low and high voltage ride-through requirements. If insists on mandatory compliance with IEEE 2800-2022 for this project, we will carry out a dedicated performance assessment on our 200kWPCS to verify its LVRT/HVRT capability and all associated technical performance requirements.	The requirement remains unchanged. The BESS shall meet the fault ride-through and related performance requirements of IEEE 1547-2018 and IEEE 2800-2022 as specified in Section VII, Clause 4.2, as these define the performance expected of the BESS as a grid-forming resource supporting the Belize transmission system, irrespective of the connection voltage. Compliance shall be demonstrated by type-test reports and certificates and, where certificates do not cover a requirement, by study and test reports carried out by the Contractor and approved by the Project Manager.
17	**8.2 Component Warranties Battery Systems**	The ten (10) year battery system warranty (Section VII, Clause 8.2) comprises both (i) the performance warranty, i.e. retention of at least 80 % of rated energy capacity at

	Warranty Period : 10 years from Substantial Completion ; Coverage: Performance warranty: ≥ 80% ofrated energy capacity retained atEnd of Warranty. Annual calendar degradation after Year 1 s 2.0% at average cell temperature of 77°F+2°F. A full-discharge capacity test shall be performed at Substantial Completion. Ongoing periodic capacity testing during the warranty period shall be addressed under the Operations & Maintenance arrangements. For other components, the warranty scope covers full replacement or repair in case of hardware failure. The battery system warranty clause only specifies capacity performance warranty requirements (we can meet ≥80% SOH at the end of the 10-year warranty period). We hereby request clarification: Is the 10-year warranty for the battery system limited solely to performance warranty (≥80% rated capacity at the end of warranty period), excluding full replacement or repair for hardware failures? If hardware failures are also covered by full replacement or repair, what is the required warranty duration for such hardware coverage? Our standard hardware warranty for battery systems is 3 years.	the end of the warranty period and annual calendar degradation after Year 1 not exceeding 2.0 % at an average cell temperature of 77 °F ± 2 °F, and (ii) the product warranty, i.e. repair or replacement of defective battery cells, modules, racks and BMS components due to defects in design, materials or workmanship. Warranty periods for other components are as stated in Clause 8.2.
18	**8.3 Battery Augmentation Plan Timing Requirement: Recommended window between Year 6 and Year 7 from Substantial Completion** For the capacity expansion scheduled in Year 6 or Year 7, please clarify whether the requirement to restore the rated capacity applies to the four independent BESS power stations. What considerations form the basis for setting the capacity restoration timeline in Year 6–7? According to our	Please refer to the response to Item 13 of Clarification No. 3. Only an Augmentation Plan with a priced proposal for evaluation is required with the Bid; augmentation works are not part of the Contract. The Year 6–7 window is a recommendation for planning purposes. The Augmentation Plan shall be prepared for each of the four independent sites, based on the Bidder's own degradation curve; if the Bidder's degradation curve shows that augmentation is not needed in that window, the Bidder shall state so and propose the appropriate timing.

	estimation, the remaining capacity will still exceed 84% of the rated capacity, approximately 156 MWh, by the end of Year 7.	
19	**Contract Schedule** Neither PCC 8 nor Appendix 4 to the Contract Agreement specifies the Time for Completion. Please specify the overall Time for Completion from the Effective Date, the required timeframes for Operational Acceptance/COD of each Site, and whether the four Sites may be completed and placed into commercial operation in phases. Please also identify any other mandatory milestones.	Please refer to the response to Item 2 of Clarification No. 2.
20	**Site Boundaries and Land Information** Please provide confirmed KMZ/KML and CAD boundary files for the four BESS Sites, identifying the coordinate system, boundary points, buildable areas, existing underground and overhead utilities, easements, and reserved access corridors. Please also confirm whether the areas shown in Appendix B constitute the final legal Site areas to be made available to the Contractor.	The available site boundary information (KMZ / CAD, with the coordinate system) for the four sites will be provided to all Bidders by Addendum, together with the relevant land records, subject to availability. The areas shown in Appendix B are indicative; the final site areas to be made available to the Contractor will be confirmed in the Addendum. Existing underground and overhead utilities shall be verified by the Contractor's surveys.
21	**Site Area Adequacy** Appendix B indicates that the available area at each Site is approximately 0.28 to 0.45 acres. Please confirm that the available land is sufficient to accommodate the specified BESS capacity, PCS/MVS equipment, medium-voltage equipment, fire separation distances, internal roads, lifting and maintenance areas, drainage facilities, and future battery augmentation. If not, please identify any additional land that the Employer will provide.	The Contractor shall verify the adequacy of the available site area to accommodate all required equipment, safety and fire separation distances, access roads, drainage, maintenance and lifting areas, and provisions for future augmentation, based on its own design and arrangement. The Bidder shall submit a preliminary site layout for each site with its Bid. The final site areas will be confirmed by Addendum (see the response to Item 20).
22	**Manufacturer's Authorization** Please clarify the scope of equipment for which Manufacturer's	The Bidder shall submit Manufacturer's Authorizations for Plant, equipment, or components that it offers to supply and/or install but did not manufacture or otherwise produce

	Authorizations must be submitted at the bidding stage. For packaged systems such as BESS containers and integrated PCS/MVS units, please confirm that a single authorization may be issued by the respective manufacturer or system integrator. For other equipment such as EMS/SCADA, cables, protection equipment, and DC systems, please clarify whether separate Manufacturer's Authorizations are required. If authorizations are required for any additional equipment, please provide a definitive list.	and/or install, in accordance with the requirements of the Bidding Documents. For packaged or integrated systems, a single Manufacturer's Authorization may be accepted provided it clearly covers the relevant Plant, equipment, and components. As specified in Section III, Clause 1.4, the minimum manufacturer qualification criteria apply to the following items: Battery Cells / Modules; Power Conversion System (PCS) / Inverters; Battery Management System (BMS); and Fire Detection and Suppression System. The authorization requirement also applies, as applicable, to other Plant, equipment, or components included in the Bidder's proposed supply and installation, in accordance with the general requirements of Section III, Clause 1.4. These may include Thermal Management Systems; Fire Protection and Explosion Mitigation Systems; MV Switchgear, Transformers and Protection Relays; and SCADA, EMS and Control Systems.
23	**BoQ and Price Schedules** Schedules 1 to 4 in Section IV do not include predefined equipment items or quantities. Please confirm whether the Bidder is required to prepare its own detailed BoQ and complete the Price Schedules accordingly, and whether equipment, design, installation, commissioning, and civil works costs must be presented separately for each of the four Sites.	Bidders shall price the design, supply, installation, testing, and commissioning of all four BESS facilities on a single-responsibility basis, ensuring that the total Bid price covers the full scope of obligations under the Bidding Documents. Bidders shall complete Schedules Nos. 1–4 in Section IV in accordance with ITB 17.
24	**Equipment Technical Parameters and Selection Principles** The bidding documents do not specify detailed technical parameters for transformers, switchgear/RMUs, DC systems, protection equipment, communication equipment, and certain other systems. Please confirm that the Bidder may design and select such equipment based on the applicable standards, Site conditions, BEL interface requirements, and overall performance guarantees. If BEL has any mandatory technical standards or minimum parameter requirements for	Yes. Where detailed parameters are not specified in the Bidding Documents, the Bidder shall design and select the transformers, MV switchgear / RMUs, DC systems, protection, communication and other equipment in accordance with the Employer's Requirements, the specified standards, the site conditions, the Belize Grid Code and the performance guarantees, and shall state the proposed parameters in its Bid. Where BEL technical requirements apply at the interface with BEL's substation, they will be made available to all Bidders by Addendum.

	such equipment, please provide them as a common basis for bidding.	
25	**Permanent Auxiliary Power** Supply Please clarify the source of permanent auxiliary power for each BESS Site. Please confirm whether BEL will provide a dedicated auxiliary power supply interface at the substation with a defined voltage, capacity, and reliability. If BEL will not provide such an interface, please confirm whether the Contractor may derive auxiliary power from the BESS medium-voltage collector system through a dedicated station-service transformer or use an auxiliary transformer, auxiliary winding, or low-voltage supply interface incorporated into the PCS/MVS. Please also define the supply and installation responsibilities for the station-service transformer, medium-voltage switchgear, low-voltage distribution boards, cables, metering, and backup power systems.	BEL will not provide a dedicated auxiliary power supply interface. The permanent auxiliary power supply for each site is part of the Contractor's scope and shall be derived from the BESS medium-voltage system, through a dedicated station-service transformer or an auxiliary transformer / winding / LV interface integrated in the PCS or MV skid, as proposed in the Contractor's design. The Contractor shall design, supply and install the complete auxiliary system, including station-service transformer, MV switching, LV distribution boards, cables, metering and UPS / backup supply. Auxiliary energy consumption is included in the RTE and usable-capacity determination (see Item 44).
26	**Auxiliary Power During Black Start** Please confirm whether the BESS must be capable of using its own DC power supply, UPS, or auxiliary inverter to start the BMS, PCS, EMS/SCADA, protection, communication, and circuit-breaker operating systems when both the BEL grid and the Site AC bus are de-energized, after which the PCS would establish an AC supply for the liquid-cooling system and other auxiliary loads. If a separate emergency generator or an external starting supply from BEL is also required, please specify its capacity, backup duration, and supply responsibility.	Yes. For black start, the BESS shall be self-starting: the BMS, PCS, EMS / SCADA, protection, communication and circuit-breaker operating systems shall be powered from the BESS's own DC supply / UPS, so that the PCS can establish the AC supply for the cooling system and other auxiliary loads without any external supply. The UPS / DC supply shall be sized to complete the black-start sequence and to maintain control, protection and communication functions. A separate emergency generator or external starting supply from BEL is not required, unless needed by the Contractor's design, in which case it shall be included in the Contractor's scope.
27	**Construction and Commissioning Power** Please clarify who will provide the temporary power and charge/discharge energy required for construction, pre-commissioning, SAT, capacity testing, RTE testing, and the 168-hour	Temporary power for construction is the Contractor's responsibility, including all associated costs. The energy required for charging and discharging the BESS during commissioning, SAT, capacity and RTE testing and the 168-hour Reliability Run will be made available by BEL through the grid, subject to BEL's operational scheduling, and will not be charged to the

	Reliability Run. Please also confirm whether the associated energy charges, demand charges, and network losses will be borne by the Employer or the Contractor.	Contractor. The Contractor shall coordinate the test programme with BEL in advance.
28	**Basic POI Parameters** Please provide the single-line diagram, nominal voltage, maximum short-circuit level, grounding arrangement, and basic parameters of the BEL incoming feeder bay at the POI for each Site, as the basis for equipment selection and pricing.	The available single-line diagrams and the basic data of the BEL incoming feeder bays at each site (nominal voltage – 22 kV at Westlake and Dangriga, 34.5 kV at Buena Vista and San Pedro – short-circuit levels and grounding arrangement) will be provided to all Bidders by Addendum.
29	**POI Circuit-Breaker Control Interface** Please clarify whether the POI circuit breaker will be controlled by BEL or the Contractor, and define the supply responsibilities for the equipment and functions required for tripping, synchronism checking, interlocking, and closing during islanding and resynchronization.	The POI circuit breaker in the BEL incoming feeder bay is BEL equipment and is operated by BEL through its SCADA. The Contractor shall provide, on the BESS side, the BESS main MV circuit breaker(s) with the protection, synchronism-check, interlocking and control functions required for islanding and resynchronisation, and all interface panels, cabling and signals (trip, close permissive, status and intertrip) up to the BEL interface point. The islanding and resynchronisation logic shall be designed by the Contractor and coordinated with, and approved by, BEL.
30	**Medium-Voltage Collector System** Please confirm whether the Contractor may connect multiple PCS/integrated MVS units to a Site 22 kV or 34.5 kV RMU or medium-voltage bus and then connect the combined output to the BEL incoming feeder bay through a single or double cable circuit, provided that protection selectivity, equipment isolation, and availability requirements are satisfied.	Yes, provided that protection selectivity, equipment isolation for maintenance, the Availability guarantee and all other requirements of the Employer's Requirements are satisfied. The Bidder shall describe the proposed MV collector arrangement and the number and rating of the cable circuits to the BEL incoming feeder bay in its Bid.
31	**Arrangement of Secondary Systems** Please confirm whether the EMS/SCADA, protection, communication, UPS, fire-control, and auxiliary low-voltage distribution equipment may be installed together in a factory-prefabricated technical enclosure, or whether the Contractor must construct a permanent conventional building.	Factory-prefabricated technical enclosures are acceptable for the EMS / SCADA, protection, communication, UPS, fire-control and auxiliary LV distribution equipment, subject to compliance with the project specifications (including the protection, climatic and hurricane requirements), applicable codes and standards, and the Employer's approval. A permanent conventional building is not required. Permanent site facilities shall be as specified in the Employer's Requirements.
32	**Black-Start and Islanded-Operation Scope**	Please refer to the response to Item 11 of Clarification No. 3. Within five (5) minutes from the black-start command, the BESS shall establish stable islanded operation at rated

	Please define the load scope and maximum load to be restored during black-start and islanded operation at each Site, and confirm whether the on-site functional test will use actual BEL loads or a Contractor-supplied test load bank.	voltage and frequency and be capable of supplying up to its full rated load (Section VII, Clause 5.6). Loads are picked up in steps according to the Contractor's proposed sequence. As a minimum, load steps of 50 % and 100 % of rated power shall be demonstrated. Actual BEL feeder loads will be used where BEL can make them available; otherwise the Contractor shall provide temporary load banks.
33	**IP Protection Rating** The bidding documents require all outdoor containers and outdoor equipment to have a minimum IP65 rating, whereas standard battery and PCS containers are typically rated IP55. Please confirm whether complete containers rated IP55 will be acceptable and will not constitute a material deviation, provided that they satisfy the specified salt-mist and corrosion-protection requirements.	Please refer to the response to Item 14. The IP65 requirement remains unchanged; complete containers rated IP55 do not meet the requirement and will be treated as a deviation.
36	**Liquid-Cooling and HVAC Redundancy.** The bidding documents require N+1 redundancy for liquid-cooling systems and for the HVAC systems serving PCS and control rooms. However, standard battery and PCS containers typically incorporate a single manufacturer-standard thermal-management system. Please confirm whether a manufacturer-standard configuration will be acceptable where modular isolation limits a single thermal-management failure to the affected container and the overall availability guarantee is maintained. Please also confirm whether the N+1 requirement applies only to the HVAC system serving a separate control room.	Please refer to the response to Item 15. A manufacturer-standard configuration with a single thermal-management system per container is acceptable only if the N+1 requirement is met, i.e. the failure of any single cooling or HVAC component does not reduce the available power or energy of the site below the specified rated values. The N+1 requirement applies to the liquid-cooling and thermal-management systems of the battery and PCS enclosures and to the HVAC of control rooms, not only to a separate control room.
37	**UL 9540A Documentation Requirements** Please specify the UL 9540A test levels for which documentation must be submitted with the Bid, including cell-level, module-level, unit/container-level, and installation-level testing. Please also confirm whether incomplete	Evidence of UL 9540A testing compliance at cell, module and unit level for the offered battery product shall be submitted with the Bid (Section III, Clause 1.4, minimum manufacturer criteria). Installation-level evaluation and the complete UL 9540A test reports shall be submitted before FAT of the battery containers, in accordance with the list of documents for approval in the Employer's Requirements. A Bid without evidence of UL 9540A

	test documentation would render the Bid materially non-responsive or whether complete reports may be submitted before FAT of the battery containers.	compliance for the offered product will not meet the minimum manufacturer criteria.
38	**PCS Capability and High-Temperature Derating** Section 4.2 requires the PCS to provide reactive power at the POI equivalent in Mvar to ±100% of the specified rated AC power in MW, but it does not state whether this capability is required at zero active-power output or simultaneously with rated active-power output. Please clarify the required P-Q capability. In addition, Section 2.2 states that no derating is permitted below 113°F (45°C), whereas Section 4.2 requires output at 45°C to be no less than 90% of rated power. Please confirm whether 100% rated power must be maintained at 45°C or whether derating to 90% is permitted.	P-Q capability: the PCS shall provide reactive power of ±100 % of the specified rated AC power, expressed in Mvar, at the POI across 0.90–1.10 pu voltage, with full four-quadrant capability (Section VII, Clauses 4.2 and 5.7). The full reactive power range shall be available when the BESS is not exchanging active power; at other operating points reactive power shall be available within the PCS capability curve, which shall at least satisfy the Belize Grid Code. The Bidder shall submit the P-Q capability curves at the POI with its Bid. Temperature derating: please refer to the response to Item 10 of Clarification No. 3. No derating is permitted below 113 °F (45 °C); 100 % of the specified rated AC power shall be available at the POI up to 113 °F (45 °C). Clause 4.2 will be aligned by Addendum.
39	**Digital Twin and Data System** Please clarify whether the Digital Twin and historical data system must be deployed locally or in the cloud. Please also confirm which Party will bear the costs of software licences, servers, data backup, and technical support from handover until expiry of the 10-year warranty period, particularly after completion of the three-year O&M term.	The Digital Twin and historian shall be hosted locally (on site or at BEL premises), with all data owned by the Employer (Section VII, Clause 1.2). A cloud-hosted component may be proposed, subject to the IEC 62443 SL-3 cybersecurity requirements and the Employer's approval. All software licences, servers, data backup and technical support shall be included in the Contract Price up to the end of the three-year O&M term. Licences shall be perpetual for the Employer's use. Any recurring costs after the O&M term (e.g. support or update subscriptions) shall be stated in the Bid for consideration in the life-cycle cost evaluation.
40	**Scope of N+1 Communication Redundancy** Please clarify whether the N+1 communication-link requirement applies only to the internal Site communication network or requires two independent external communication links between each Site and BEL. If external primary and backup links are required, please define the BEL connection points and the responsibility for initial installation costs and ongoing communication charges.	The N+1 requirement applies to the site communication network and to the communication link between each BESS site and BEL's SCADA. The Contractor shall provide two physically separate communication routes from each BESS site up to BEL's communication interface at the adjacent BEL substation. Onward communication from the substation to BEL's control centre is provided by BEL. Initial installation costs are the Contractor's; ongoing communication charges for any public network services used by the Contractor during the O&M term are included in the O&M price.

41	**Water-Based Fire Protection System** The Technical Specification expressly requires clean-agent fire suppression, multi-gas detection, and explosion venting but does not define any water-based fire-protection requirements. Please confirm whether fire-water tanks, fire pumps, hydrants, sprinklers, or external container-cooling water connections are required. If required, please provide the design flow, required duration, and available water-supply conditions.	Water-based fire-protection systems (fire-water tanks, pumps, hydrants, sprinklers or external cooling connections) are not specified as a requirement. The fire-protection requirements shall comply with the project specifications (clean-agent suppression, multi-gas detection, explosion venting, 2-hour fire-rated separation) and the applicable codes and standards, including NFPA 855. Any additional water-based fire-protection system shall be provided by the Contractor if required by its approved fire-safety design or by the relevant authorities (National Fire Service).
42	**Performance Guarantee Thresholds** Section 5 requires an RTE of at least 88.0%, Availability of at least 97.5%, and 100% BOL usable capacity, whereas Appendix 8 identifies minimum levels of 85%, 95%, and 95%, respectively. Please clarify whether a Bid offering guarantees below the Section 5 requirements will be considered non-responsive or may be accepted subject to an evaluation adjustment.	The values in Section VII, Clause 5 are the norms of the functional guarantees, and the values in Appendix 8 are the minimum acceptable levels. In accordance with Section III (functional guarantees), a Bid offering guarantees below the minimum acceptable levels will be considered non-responsive. A Bid offering guarantees below the norm but at or above the minimum acceptable level will be evaluated with an adjustment of US$ 300,000 per percentage point added to the Bid price, prorated for fractions of a percentage point.
43	**RTE and Capacity Test Stages** Please confirm whether the RTE and BOL usable-capacity tests conducted during SAT will also constitute the performance guarantee tests for Substantial Completion and Operational Acceptance, or whether these tests must be repeated during SAT, the 168-hour Reliability Run, and/or at Substantial Completion.	The RTE and usable-capacity tests carried out in accordance with the approved test procedures and witnessed by the Project Manager after completion of the 168-hour Reliability Run constitute the Guarantee Tests for Operational Acceptance. Tests carried out during SAT serve to verify readiness and need not be repeated as Guarantee Tests if they are performed after the Reliability Run under the approved procedure; otherwise the Guarantee Tests shall be carried out as required by the Conditions of Contract.
44	**RTE and Capacity Measurement Boundary** Please confirm that both RTE and usable capacity will be measured based on net energy at the POI and that the calculation will include the consumption of all auxiliary systems, including liquid cooling, HVAC, fire protection, lighting, control, and communication systems. If any auxiliary supply does not	Yes. Please refer to the responses to Items 8 and 9 of Clarification No. 3. RTE and usable capacity are measured as net energy at the POI and include the consumption of all auxiliary systems, including liquid cooling, HVAC, fire protection, lighting, control and communication systems. Where any auxiliary load is supplied without passing through the POI meter, its consumption shall be separately metered with revenue-class metering and added to the charging energy (RTE) or deducted from the discharged energy (usable capacity).

	pass through the POI meter, please specify how the corresponding auxiliary energy consumption will be accounted for.	
45	**RTE Test Evaluation Method** Please specify the starting and ending SOC, the rest period between cycles, and whether the RTE guarantee will be assessed against each of the three complete charge/discharge cycles individually or against the average of the three cycles. Please also confirm whether a test interrupted for reasons attributable to BEL or the Employer may be resumed or rescheduled.	Each cycle shall consist of a full charge to 100 % SOC and a full discharge at rated AC power at the POI to the minimum allowable SOC specified, in accordance with IEC 62933-2-1. The rest periods between charge and discharge and between cycles shall be as defined in the Contractor's test procedure approved by the Project Manager and shall not exceed one (1) hour. The RTE guarantee is assessed against the average of the three (3) complete consecutive cycles. A test interrupted for reasons attributable to BEL or the Employer will be resumed or rescheduled without penalty to the Contractor.
46	**RTE Guarantee Period** The bidding documents specify an RTE guarantee of not less than 88.0% but do not clearly define its applicable duration. Please confirm whether this guarantee applies only to SAT and Operational Acceptance or must also be maintained during the three-year O&M term, the 10-year battery warranty period, or the 15-year design life. If the RTE is subject to a continuing guarantee, please provide the applicable annual minimum values, testing frequency, and consequences of non-compliance.	The RTE guarantee of not less than 88.0 % is a functional guarantee verified by the Guarantee Tests for Operational Acceptance at each site, with liquidated damages as specified in Appendix 8. During the three-year O&M term, RTE is verified annually under the O&M Contract (Appendix E) as a performance indicator. The RTE guarantee does not extend over the ten-year battery warranty or the fifteen-year design life; capacity during the warranty period is governed by the battery capacity warranty.
47	**Availability Calculation** Please provide the complete Availability calculation formula and clarify whether derated operation, external grid outages, BEL equipment failures, curtailment, absence of dispatch instructions, outages attributable to the Employer, planned maintenance, communication failures, and SOC limitations will be treated as unavailable time.	Availability is calculated per site and period as: Availability (%) = (Period Hours – Equivalent Unavailable Hours) / (Period Hours – Excused Hours) × 100. A site is Available when it can deliver or absorb its full specified rated AC power at the POI in the dispatched mode within the guaranteed response times, with all safety, protection and thermal-management systems functional (Section VII, Clause 5). Derated operation counts as partially unavailable: Equivalent Unavailable Hours = hours × (1 – available MW / rated MW). Failures of communication systems within the Contractor's scope count as unavailable time. Excused Hours are: BEL grid outages and BEL equipment failures; curtailment or absence of dispatch instructions; outages attributable to the Employer or BEL; Force Majeure; and planned maintenance approved by the Employer up to the limit in Appendix E (80 hours per site per year). SOC limitations resulting from the Employer's

		dispatch are not unavailability; SOC limitations caused by the BESS itself are.
48	**Performance Liquidated Damages** Please clarify the formulas and calculation bases for the capacity, RTE, and Availability liquidated damages. In particular, please confirm whether "annual throughput" under the RTE provision refers to design throughput or actual throughput, and specify the number of days represented by "per day" under the Availability provision. Please also confirm whether the same event may result in both EPC performance liquidated damages and O&M Availability deductions.	Availability liquidated damages shall be calculated for each day the measured Availability falls below the guaranteed level, based on the applicable shortfall and the rate specified in Appendix 8, Clause 4.1, subject to the minimum level in Clause 4.3 and the aggregate liability cap in Clause 4.4.
49	**Battery Augmentation Method** The bidding documents require augmentation in Year 6 or Year 7 to restore the rated usable capacity but do not specify the required implementation method. Please confirm whether augmentation must be achieved by adding modules within the original battery containers, replacing existing modules, adding separate battery containers, or allowing the Bidder to propose the most technically and economically appropriate solution. If additional containers are proposed, please clarify whether the current EPC scope must include reserved land, foundations, cable routes, and electrical interfaces for future augmentation.	Please refer to the response to Item 13 of Clarification No. 3. Augmentation works are not part of the Contract scope. The Bidder may propose the most technically and economically appropriate augmentation method in its Augmentation Plan (adding modules, replacing modules or adding containers). The original design shall include the provisions needed for the proposed method, such as reserved space within the site, foundation and cable-route provisions and spare electrical capacity, as described in the Augmentation Plan.
50	**Battery Augmentation Price** The bidding documents require a priced augmentation proposal for Year 6 or Year 7 but also state that any future augmentation will be procured at the prevailing market rates at that time. Please clarify whether the augmentation price submitted with the Bid will be used solely for LCC evaluation or will constitute a binding future contract price, and specify the year in which the augmentation cost will be included in the LCC calculation.	Please refer to the response to Item 13 of Clarification No. 3. The augmentation price submitted with the Bid is used for the life-cycle cost evaluation only and does not constitute a binding future contract price. The augmentation cost will be included in the LCC calculation in the year proposed in the Bidder's Augmentation Plan.

51	**O&M Arrangements for Earlier-Commissioned Sites** If the Sites achieve COD in phases, please clarify the O&M responsibility and payment arrangement for each earlier-commissioned Site from its own COD until the COD of the last Site. Please confirm whether the cost for this interim period must be included in the EPC price, included in the three-year O&M price, or paid separately by the Employer.	The three (3) year Operations and Maintenance (O&M) services form part of the overall scope of works. However, in accordance with the Employer's Requirements, the pricing and payment of the 3-year O&M services shall be under a separate contract funded by Belize Electricity Ltd. The Contractor shall be paid a fixed monthly O&M Fee as set out in the accepted Bid Price Schedule for the full three (3) year Contract Term across all four (4) Sites.
52	**Annual O&M Performance Testing** Section 5.3 of Appendix E requires annual capacity testing and RTE verification, whereas Section 5.3.1 specifies full-discharge capacity tests only in Contract Years 1 and 3. Please clarify the required capacity-testing and RTE-verification methods for Contract Year 2 and confirm whether complete on-site charge/discharge cycle testing is required.	In Contract Year 2, RTE verification and capacity assessment shall be carried out using the operational data from the revenue metering at the POI and the BMS state-of-health data, analysed through the Digital Twin, in accordance with the O&M procedures approved by the Employer. A complete on-site full charge/discharge test in Contract Year 2 is required only if one of the triggers in Appendix E, Clause 5.3.1 applies. Full-discharge capacity tests are required at the end of Contract Years 1 and 3.
53	**Spare Parts Scope and Pricing** The bidding documents separately refer to Commissioning and Critical Start-up Spares included in the EPC Contract, the Schedule 6 Recommended Spare Parts, a separate detailed three-year spare-parts list, and spare parts under the O&M Contract. Please clarify the scope, purchase and delivery obligations, and pricing treatment for each category, and confirm that the same spare parts will not be counted more than once in the EPC price, Schedule 6, the three-year O&M price, or the LCC evaluation.	The Bidder shall clearly distinguish Commissioning and Critical Start-up Spares included in the EPC Contract Price, Schedule 6 – Recommended Spare Parts, the detailed three-year spare-parts list, and spare parts included in the O&M Contract Price. For each category, the Bidder shall specify the scope, quantities, supply and delivery obligations, and pricing treatment. The Bidder shall provide a reconciliation confirming that no spare parts are charged or counted more than once in the EPC Contract Price, O&M Contract Price, or Life Cycle Cost (LCC) evaluation.
54	**Temporary Laydown and Storage** Please confirm whether the Contractor may use areas within each permanent Site free of charge for equipment unloading and temporary laydown. If the Site area is insufficient, please confirm whether all costs and responsibilities for off-site storage, site preparation,	The Contractor may use the available areas within each permanent site for unloading and temporary laydown free of charge, subject to space availability and the Employer's approval. Any off-site storage and associated costs, including site preparation, security and secondary transportation, shall be borne by the Contractor.

	security, and secondary transportation will be borne by the Contractor.	
55	**San Pedro Transport Window** Appendix D states that the "Night-Time Transport Window" for heavy equipment in San Pedro is from 2:00 a.m. to 5:00 p.m. Please confirm whether the correct permitted window is from 2:00 a.m. to 5:00 a.m.	The Contractor shall confirm the permitted night-time transport window for heavy equipment with the San Pedro Town Council (Traffic Department) and plan all transport accordingly. All restrictions and conditions imposed by the Town Council shall be complied with at the Contractor's cost.
56	**Environmental and Noise Requirements** Please provide the environmental and social studies currently available to the Employer and the applicable Site-boundary noise limits for each Site. Please also identify any mandatory design or construction restrictions arising from the proximity of the San Pedro Site to the Iguana Sanctuary, the fuel station, and other sensitive receptors.	All environmental, social, health and safety requirements applicable to the Works are set out in Section VII – Employer's Requirements, in particular: Section 10.0 – Environmental, Social, Health and Safety (ESHS); and the Environmental and Social (ES) requirements section that follows the complete technical specifications. These requirements supplement the General Conditions of Contract and are based on the World Bank Environmental and Social Framework (ESF). Bidders may refer to the ESF at: https://www.worldbank.org/en/projects-operations/environmental-and-social-framework The Contractor shall comply with all applicable laws of Belize and shall prepare and implement the site-specific Contractor's Environmental and Social Management Plan (C-ESMP) in accordance with the requirements already contained in the Bidding Documents, the laws of Belize, and the ESF. The Contractor is responsible for verifying site conditions and for identifying and managing all environmental and social risks and impacts associated with the Works. No additional environmental and social studies are required to be issued by the Employer prior to Bid submission.
57	**Schedule for BEL Interface Works** Please confirm when the BEL incoming feeder bay, protection system, and communication interfaces are expected to be ready for energization and commissioning. If delays to BEL's works prevent or delay the Contractor's commissioning or performance testing, please confirm whether the Contractor will be entitled to a corresponding extension of time and reimbursement of the resulting additional costs.	The BEL incoming feeder bays, protection and communication interfaces at the substations remain within BEL's responsibility and are not part of the Contract. BEL will plan these works to be ready for energisation and commissioning in line with the Contractor's approved programme, and the interface dates will be coordinated through the Project Manager after contract award. If delays in BEL's works, for which the Employer is responsible, prevent or delay the Contractor's commissioning or performance testing, the Contractor will be entitled to an extension of the Time for Completion and to the reimbursement of reasonable additional costs, in accordance with the Conditions of Contract.

58	**Responsibility for Import-Clearance Delays** Provided that the Contractor has submitted complete customs-clearance documentation on time, please clarify which Party will bear any port storage charges, container demurrage, or vessel demurrage resulting from delays in the Employer's import licensing or customs-clearance procedures, or from government approval delays. Please also confirm that the Contractor will be entitled to a corresponding extension of time.	In accordance with Appendix D, the Employer is the importer of record and carries out the import customs formalities. Provided the Contractor has submitted complete and correct customs-clearance documentation in good time, port storage charges, container demurrage and vessel demurrage resulting from delays in the Employer's import licensing or customs-clearance procedures, or in government approvals for which the Employer is responsible, will be borne by the Employer, and the Contractor will be entitled to a corresponding extension of time (GCC 21.4). Delays and costs resulting from incomplete or late documentation by the Contractor are the Contractor's responsibility.