

**FREQUENTLY
ASKED QUESTIONS**

Frequently Asked Question Related to Technical Specifications			
Sl. No.	Tender Specification	Frequently Asked Questions	End customer reply
1		As per Tender documents, NTPC provided Typical Layout For BESS plant 50 MW/100 MWh and 100 MW/200 MWh only. Kindly provide the Typical Layout for BESS along with Substation area for stage wise all Seven Stations.	Typical layout drawings have been provided for reference. Illustrating the required facilities for standard BESS capacities. The available area for each station is indicated in the tender documents. Based on these inputs, the bidder shall prepare and develop detailed layout drawings specific to each station location.
2		Please confirm auxiliary power supply for BESS (during charging) and illumination system will be provided by NTPC at metering Point.	Auxiliary power supply arrangement for the BESS for charging, Discharging and idling periods including illumination shall be arranged by the bidder from the electrical system of the BESS as indicated in tender SLD. No supply shall be provided by NTPC from electrical system of the host thermal power plant except for AC and DC supply of EHV switchyard bays (if applicable) under the BESS project.
3	Construction power supply for the installation BESS system and associated construction activities for each project shall be arranged independently by the contractor. 16. CONSTRUCTION POWER a) Bidder shall make its own arrangement for construction power for entire area of work in its scope. b) All necessary statutory requirements for charging construction power bidder's network shall be in the bidder's scope. c) All temporary cabling/wiring/switching arrangements must comply with local regulations and will be subject to Employer's inspection and approval before connection to supply.	Please clarify whether construction power will be provided by NTPC or to be arranged by the bidder.	Construction power to be arranged by Bidder and shall not be provided by NTPC. Please refer Clause No. 2.01.00 (16), Sub-Section II, Section VI, Part-A of Technical specifications.
4	LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB VENDOR APPROVAL	To add another item category as follows: Fire protection system (UL Listed Aerosol) Proposed Sub Vendor : FirePro Country : Cyprus Reason: The sub-vendor approval list should also include the name and country for the Fire Protection System (UL Listed Aerosol) category, as specified for all accessories.	Item categorization and vendor list shall be finalized during detail engineering after award of contract.
5		Please do mention that are we have to use Single core Cable or Multi core cable in 33kV Power Evacuation	33kV Cables from IDT to pooling switchgear and from Pooling switchgear to BESS Tie transformer/Owners switchgear (as applicable) shall be Single core cables considering the Single phase/Earth fault current requirements.
6	Same size and same make of PCS is recommended for the whole plant.	The PCS transformer block size and PCS rating shall be determined based on the available land plot area and the DC capacity. Flexibility shall be maintained in the selection of PCS transformer block sizes to prevent excessive length and avoid over-sizing	Bidders proposal is accepted. Different rating of IDT (PCS transformer) may be considered as per design requirement, however all relevant clauses of technical specifications including provision of additional spare transformer shall be applicable for ALL ratings of IDT selected.
7	Earthing system network/earthmat shall be interconnected mesh of mild steel rods buried inground in the plant. All areas under contractor scope of supply shall be interconnected together by minimum two parallel conductors.	1. The bidder confirms that the earth strip will be provided based on the actual fault current. 2. For the ICR block earthing design, the system fault current with the device operating time has been considered as 25 kA for 250 ms. Kindly confirm if this is acceptable	Technical Specification to be complied
8	The HRSR shall collect, store and process system data from MMIPIS database. The data shall be saved online and automatically transferred to nonerasable long term storage media once in every 30 Days periodically for longterm storage	MMIPIS Database. Please clear what is MMIPIS	MMIPIS: Man-Machine Interface and Plant Information System

9	HMIPIIS HARDWARE The HMIPIIS as specified shall be based on latest state-of-the-art Workstations and Servers and technology suitable for industrial application & power plant environment.	What is HMIPIIS	HMIPIIS: Human-Machine Interface and Plant Information System
10		Please specify the size of storage area if any or can we assume it with industrial standards of 150 open fence.	Construction stores (covered) & open stores are temporary facilities . Bidder to refer clause 2.00.00 of Part A,Sub-Section IIA, , Section VI of Technical Specification
11		Pls specify the size of switch yard or can we assume it according to the industrial standards.	Size of switchyard shall be as per number of bays, CEA technical standards for construction and Sub-Section B-11A, Part B, Section VI of Technical Specification
12		Please specify the size of car parking. or how many car parking we have to provide. car parking roof will be solar or Normal shed. ?	Car parking is not scope of the Bidder
13		Please share the kmz file. or the BESS area coordinates.	The identified BESS locations are situated within existing NTPC plant premises. The grid references with local coordinates are clearly marked in the GLP document included in the tender drawings.
14	Peripheral drains by side of plinth protection around building shall have perforated precast RCC covers of minimum 50mm thickness with provision of openable steel grating cover at about 4.0m interval. In areas where vehicular loads would be coming precast RCC covers of suitable thickness without perforations and designed for the vehicular loading shall be provided	Kindly allow to the earthen drain or PCC trapezoidal drain with chicken mesh that will help bidder to optimize the cost	The proposal is not acceptable. Technical Specification to be complied
15	The RCC precast/cast in situ reinforced concrete columns and footing shall be minimum 1500mm below finished formation level with suitable foundation designed for horizontal and vertical loads. The precast reinforced concrete panels/ cast in situ RCC panels shall be at least 600mm below formation level. The RCC precast concrete columns/ cast in situ RCC panels of minimum size 300mmX350mm shall be provided with two grooves of minimum size 115mmX50mm, so as to receive Precast Concrete RCC panels spanning from column to column with minimum width of 600mm and minimum thickness of 100mm as filler wall. The grade of concrete for all precast/cast in situ work shall be of M30 grade conforming to IS 456.	Kindly verify whether the periphery boundary will be chain link or pre cast	If the BESS is located outside the plant boundary, a precast boundary wall shall be constructed around it as per the applicable technical specifications. However, if the BESS is situated within the plant boundary, it shall be enclosed with chain link fencing.
16		please specify the fire wall locations and width	Shall be finalized during detail engineering based on the GA of transformer and as per Statutory requirement
17	Bidder shall provide Complete sewerage system including Sewage Treatment Plant' for facilities within the BESS area. Bidder shall provide 'Decentralized Sewage Treatment' units. The capacity of the Decentralized Sewage Treatment' unit should be as per the design requirements, subject to minimum combined capacity of 10 Cum/day.	Kindly specify whether we are required to construct a Sewage Treatment Plant (STP) , or if a septic tank system would be sufficient for the project.	Bidder has to provide packaged Sewage Treatment Plant as per Technical Specification.
18		Kindly provide with the RFP of fire protection system.	Requirements of Fire Detection & Protection System are already specified in Part-A and Part-B of Technical Specification.
19		Kindly confirm whether a water treatment system is required for this project.	Water treatment System is not included in bidder's scope of work.
20		Kindly Confirm Local Content % for Invertees.	Bidder to comply with requirements of technical specifications as indicated in clause 18.00.00 of Part C, section VI of the technical specifications
21		Kindly clarify whether Black Start capability is a mandatory requirement for the BESS project. If yes, please provide the technical and operational expectations regarding the implementation, including modes of operation, system integration, and any applicable standards or guidelines to be followed	Black start capability is mandatory function requirement. Requirements have been covered in sub section A-01. Part B section VI of the technical specifications

22		<p>Please confirm whether type testing is mandatory for the Battery Energy Storage System (BESS) and Power Conversion System (PCS). If mandatory, kindly specify the applicable standards, the required type tests, and the validity period of test reports as per NTPC guidelines</p>	<p>1. Requirement of Type testing shall be as per Clause 2.02.06 and Clause 7.01.00 of Sub Section-II, Part A, Section VI of the technical specifications. Further, it shall be the responsibility of the Contractor to substantiate the compliance for CEA Regulations as applicable.</p> <p>2. Type testing shall be as per standards identified in the relevant chapters of the BESS system under Section VI, Part-A and Part-B of the Technical Specifications, or other applicable and latest revisions of relevant IEC/IS standards.</p> <p>3. Validity of Type Test reports shall be as per Clause 2.02.06 of Sub Section-II, Part A, Section VI of the technical specifications</p>
23		<p>Please confirm the NTPC pre-approved vendor list specifically for the IDT transformer. If such a list exists, we request access to the most recent version to ensure compliance during planning and procurement</p>	<p>The sub-vendor for the IDT transformer may be proposed by the successful bidder during detailed engineering after finalisation of required rating, subject to meeting the technical specification requirement, sub-QR clearance and successful type testing, as applicable. The proposed sub-vendor shall be assessed as per NTPC standard procedures.</p>
24		<p>Kindly confirm if there is a mandatory list of spare parts for the Battery Energy Storage System (BESS), Power Conversion System (PCS), and Energy Management System (EMS). If such a list is available, please share the document or guidelines to ensure accurate estimation and procurement</p>	<p>No specific mandatory spares list for these items has been provided in specifications; however, bidder is advised to maintain sufficient spare of all system/equipment under BESS to support the bidder in satisfactorily fulfilling its obligations as specified under Functional Guarantees during trial run and CAMC periods.</p>
25		<p>Please confirm whether the LV switchgear control system is required to be integrated with the Energy Management System (EMS). If integration is mandatory, kindly provide details regarding the interface requirements, communication protocols, and any specific functionalities that need to be supported</p>	<p>The integration of EMS/SCADA with LV Switchgear shall be as per Clause no. 1.07.00 (iv) of Sub-Section A-04, Part B, Section VI of the Technical Specifications.</p> <p>Any additional integration of the LV system with EMS/SCADA as required for the safe and reliable operation of the BESS system shall also be included in the bidder's scope.</p> <p>Please refer Clause 2.01.00 (10), Sub-Section-II, Part-A of Technical Specification. Further details shall be finalized during detailed engineering.</p>
26		<p>We seek clarification on the provenness criteria mentioned in the tender specification. Specifically, are we required to disclose the details of the OEMs involved in the scope of supply? Additionally, please confirm if any supporting documentation must be submitted along with the bid to validate the OEM's provenness record</p>	<p>For all equipments indicated in the provenness criteria, necessary documents have to be shared with the employer in the format placed as Attachment 3K placed in the tender documents by the successful bidder during detailed engineering.</p>
27		<p>We request confirmation of the exact metering point for auxiliary power measurement. This will help us ensure accurate planning and compliance with the metering scheme specified in the tender. Clarification on whether the metering is to be done in the specific location</p>	<p>Bidder shall draw auxiliary power from electrical system of BESS as indicated in the tender STD. At all such drawl points, metering arrangement is required to be provided by bidder to measure the total auxiliary power consumed by BESS.</p>

28		Kindly confirm whether the auxiliary power for the BESS (Battery Energy Storage System) project will be provided through a separate dedicated source or if it needs to be drawn from the same Point of Interconnection (POI) where the BESS is being integrated. Additionally, please clarify whether the RTE (Round Trip Efficiency) should be calculated considering the auxiliary power supplied separately, or from the POI supply. Furthermore, we request confirmation of the exact metering point for auxiliary power that will be used for RTE calculation in the BESS project. Please confirm the communication details for the BESS plant EMS to AGC of NTPC	Bidder shall draw auxiliary power from electrical system of BESS as indicated in the tender SLD. At all such drawl points, metering arrangement is required to be provided by bidder to measure the total auxiliary power consumed by BESS. RTE specified in the documents is inclusive of BESS auxiliary power requirement. Communication media from AGC to EMS may be hardwired/OFC and shall be decided during detailed engineering stage as per technical feasibility.
29		Please provide confirmation and detailed specifications regarding the communication interface required between the BESS plant's EMS (Energy Management System) and the AGC (Automatic Generation Control) system of NTPC. This includes communication protocol, data points, communication medium (fiber, Ethernet, etc.), and any cybersecurity requirements, if applicable	Please refer Clause 2.01.00 (6), Sub-Section-II, Part-A of Technical Specification. Further details (if any) shall be finalized during detailed engineering. Latest Cyber security guidelines of GoI and as notified by CEA/NLDC shall be applicable
30		Please confirm whether the firefighting system for the new BESS installation can be integrated with the existing firefighting system at the substation, or if a completely independent firefighting arrangement is required for the BESS infrastructure	No integration with existing fire detection & protection system is envisaged. A completely independent firefighting arrangement is required for the BESS infrastructure as per specification. Bidder to comply with specification requirements.
31		Kindly Provide Point of interconnection for each Thermal Power Stations	Point of interconnection at each project are already indicated in technical specifications
32	General Notes: i) Each of the Liquidated damages specified above shall be independent and these liquidated damages shall be levied concurrently as applicable.	Bidder requests NTPC to review and relax the imposition of LDs duet RTE, Availability and Capacity degradation and these are interrelated performance factors. Deterioration of 1 factor itself affects the achievement of other factors. Eg. Availability itself shall impact the RTE. In such scenario, imposition of LDs concurrently is resulting in double penalisation of the contractor. Bidder request NTPC to review and relax the said Clause.	Liquidated damages have been considered in line with the losses occurring to owner incase BESS system does not meet the requisite performance guarantees during the operation period. Accordingly, bidder to comply with the technical specification requirements.
33	The minimum quantities of CCTV cameras shall be 15 of which 5 cameras shall be of PTZ type. The exact location shall be finalized at site during detail engineering/commissioning. The CCTV system shall be integrated with EMS system.	CCTV camera's will be provided as per site requirement. Since all the projects are within site premises, customer may accept the same.	Specification requirement is clear. Bidder to comply with the Technical Specification.
34	The CAMC scope covers all equipment up to and including 33 kV pooling switchgear including but not limited to the battery system, Battery Management System (BMS), Energy Management System (EMS) and SCADA, Power Plant Controller (PPC), Power Conditioning System (PCS), inverter duty transformers, protection and communication systems, auxiliary power systems, UPS/SA systems, monitoring & control systems, temperature scanning systems, fire detection & protection systems, HVAC/battery cooling systems, and all associated materials and accessories necessary for trouble-free operation.	Bidder understanding is during CAMC period i.e after pg test completion - "After 33kV pooling HT Switchgear". i.e Switchyard and related equipments/ accessories" - Operation and maintenance is in NTPC scope. (BESS TIE transformers CAMC for a period of 60 months from Date of Commercial operation of the BESS project is in Bidder scope is understood) If any issues in Switchyard and related equipments/ accessories - accordingly suitable compensation in RTE, availability, Energy calculations will be provided by NTPC. Customer may confirm.	Confirmed
35		Bidder understanding is - "if the schedule planned for one cycle in any particular day, accordingly DCI, SGI, ADI II be taken for one cycle". Customer may confirm.	Confirmed

36	Right of way and way leave clearance shall be arranged by the Owner.	Bidder understanding is entire plant including switchyard is within NTPC premises, ROW and related works is no included in bidder scope.	Confirmed
37		Owner/Customer may confirm.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. bidder is expected to assess and provision cable lengths based on site conditions.
38		Customer is requested to provide minimum EHV cable size requirement for all the Projects location.	EHV cable sizes shall be finalized during detail engineering
39		Bidder understanding is BESS Switchyard CRP panels SAS panels, related components will be placed in already existing NTPC switchyard control room.	BESS Switchyard CRP panels SAS panels, related components will be placed in AC kiosk detail specifications for which are indicated in sub section B11A part B section VI of the technical specifications.
40		Customer may confirm.	Confirmed
		Bidder understanding is control supply for BESS Switchyard CRP panels SAS panels, related components will be tapped from already existing NTPC switchyard control room control supply.	
41		Customer may confirm.	Confirmed
		Bidder understanding is PSSE/E, PSCAD studies scope in limited till 33/132/220/400KV POI (bidder scope of supply, I&C).	
42		Customer may confirm.	Confirmed
		Bidder understanding is during CAMC all renewals are in customer scope.	Bidder's understanding is not correct.
43		Customer may confirm.	Bidder may please refer Clause 1.07.00 of SUB SECTION I-B, Part-A and Clause 6.00.00 of Sub Section E-04, Part-B, Section VI of Technical Specifications.
		Bidder understanding is UPS Batteries shall be either Ni-Cd type or Stationary Lead Acid Plants high discharge type.	Confirmed
44		Customer may confirm.	Design, Drawings and detailed engineering are in Bidder's scope.
		Main Control room model Drawings, Fencing other civil related drawings may be provided by customer.	
		Customer may provide the minimum Losses Breakdown	
45		<p>S no Losses breakdown Equipment min</p> <p>Losses</p> <p>1 DC cables (batteries to PCS)</p> <p>1a. PCS</p> <p>2 MV transformer (PCU V/33kV)</p> <p>3 LV AC cable between PCS and MV Transformer</p> <p>4 MV cables and MV switchgear (33kV)</p> <p>5 Main power transformers (400KV/220KV/132KV /33KV)</p> <p>6 400KV/220KV/132KV Cable upto POI metering point</p> <p>7 Aux. DC/AC load for BoS equipment</p> <p>8 Feeder Bay Equipments</p> <p>9 lighting load etc.</p>	Losses breakdown shall be as per bidders design but shall be suitable to demonstrate the performance guarantee of RTE at POI
46	<p>SUB SECTION II</p> <p>SCOPE OF SUPPLY AND SERVICES</p> <p>1.01.25 All preventive and annual maintenance activities, up to and including the 33 kV pooling switchgear, shall be in the Contractor's scope for the entire Performance Guarantee (PG) Test period (Year-1). Thereafter, Comprehensive AMC (CAMC) for a further period of eleven (11) years shall also be in the Contractor's scope. The scope of CAMC shall be as defined elsewhere in the technical specifications.</p>	<p>Mentioned PG test period of 1 year is too huge & 5% payment is linked to PG test. Therefore it is requested to minimize the PG test period to say 1 month.</p> <p>Also requested to make a provision of release of payment at PG test via BG mechanism.</p>	The proposal is not acceptable. Technical Specification to be complied

47	viii. Storm water drain in BESS area and connecting the same with existing Nearby drain.	Please share the existing Flood assessment report, ground water assessment and Hydrology report for our reference during Prebid engineering.	Detail Hydrology survey report is not available. However, Storm water drains of BESS area to be connected to nearest owner's drainage system.
48	General	Bidder is requested to provide contour drawing for the project.	The bidder shall be responsible for assessing the groundwater table and acquiring any supplementary geotechnical data necessary for the foundation system, beyond what is provided in the Geotechnical Chapter of the Technical Specifications
49	General	We understand in our scope only drainage design inside the proposed PV plant is to be considered with the exception of the connecting the outfall to the owner's main drain. Capacity check of the Owners drain is not in our scope.	Topography survey is in scope of the bidder
50	General	Please confirm if any ground improvement is required at the site.	Bidder's Understanding is correct
51	General	Please clarify which type of fencing is considered. As in technical specification both chain link fencing and pre cast fencing is given.	Bidder to refer site specific SOIL DATA AND FOUNDATION SYSTEM chapter of Technical Specification for better clarity.
52	General	While carrying out construction activities below ground level, if we meet any obstruction e.g. presence of any drainage pipe / water or fire pipeline, any leftover foundation concrete, live wire etc., the owner shall arrange to remove the same & we shall be freed by the owner from any such obstruction for conducting our works. Please confirm	If the BESS is located outside the plant boundary, a precast boundary wall shall be constructed around it as per the applicable technical specifications. However, if the BESS is situated within the plant boundary, it shall be enclosed with chain link fencing.
53	General	We request kindly to provide the locations and invert level of drain outfall in-order to plan the drain layout & design with respect to the requirements.	Bidder's Understanding is not correct. Bidder to refer point v, clause 1.00.00 of Subsection IIA of Part A of Technical Specification
54	General	We presume that area provided for each unit in the tender document is 100% usable. No any hindrances available at site. Please confirm.	Details are to be worked out during detailed engineering. Further, bidder is advised to visit the site for better understanding of the quantum of civil work required before bidding.
55	General	Please mark the exact location of switchyard where new bay need to be installed.	Bidder to refer S.No. V of Cl. 1.00.00 of Sub Section-IIA, Part-A of Technical Specifications.
56	General	Equipment associate with new switchyard bay (CRP, SAS, Battery, and charger etc). Please confirm: whether we can install at owner's control room or we need to install at bidder's s control room.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities.
57	PROVENNESS CRITERIA Different Systems	Kindly clarify whether the Indian Subsidiary of a Foreign entity meeting the provenness criteria eligible under this provenness criteria.	BESS Switchyard CRP panels SAS panels , related components will be placed in AC kiosk detail specifications for which are indicated in sub section11A part B section VI of the technical specifications.
58	BESS Implementation at NTPC thermal stations, interconnection with the existing thermal power facilities as defined in the Technical Specifications and Comprehensive Annual Maintenance Contract (CAMC) of the BESS system for a period of 11 years from the date of successful completion of Performance Guarantee (PG) Test. The BESS shall comprise of Battery System, Battery Management System (BMS), Energy Management System (EMS) and SCADA, Power Conversion System (PCS), Inverter Duty Transformer (IDT), 33 kV pooling switchgear, Protection system, Communication System, HT & LT System, Auxiliary power system, Fire Fighting, remote control and monitoring, and all other associated materials and accessories necessary for trouble free operation and maintenance of the BESS system	1. Kindly confirm weather any boundary wall , land development, ROW etc is in the scope of the bidder or not. 2. Kindly confirm the soil report is required during the execution.	The understanding is correct. 1.Bidder's to refer the clause no 1.00.00 of technical specification,Section-VI,Part-A,Sub Section Ii-A Scope of Supply and Services - Civil. Area marked for BESS is with NTPC. 2.Bidder's to refer the clause no 1.00.00 of technical specification,Section-VI,Part-A,Sub Section IB Project Information Appendix-9

59		Kindly confirm the estimated or required length of XLPE cable from the BESS system to the Point of interconnection (POI) for each site. Additionally, please clarify whether NTPC will provide the final cable routing and termination details during detailed engineering or if the bidder is expected to assess and provision cable lengths based on site conditions.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders are requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
60		Do we need to consider a Diesel Genset for Aux power to BESS yard, in case of total blackout at site, backup power for the startup of the plant is required.	Black start capability has been specified as a functional requirement for BESS. As such No DG set has been considered.
61		Do we need to consider a separate feeder from POG for auxiliary supply or it will be provided by NTPC, please clarify.	Auxiliary supply for BESS shall be drawn from electrical system of BESS and NO separate supply shall be provided by NTPC
62	the Contractor is required to ensure year-wise minimum dispatchable energy (MWh) at the Point of interconnection, considering battery degradation. Table-2 outlines the minimum dispatchable energy percentages from Year-1 to Year-12. It is also mentioned that replenishment or augmentation of the BESS system shall be strictly carried out only at the start of the respective CAMC year.	Kindly confirm the estimated or required length of XLPE cable from the BESS system to the Point of interconnection (POI) for each site. Additionally, please clarify whether NTPC will provide the final cable routing and termination details during detailed engineering or if the bidder is expected to assess and provision cable lengths based on site conditions.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders are requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
63	A dedicated building shall be provided to house the 33 kV pooling switchgear.	Please share distance from BESS allocated area to Control Room to calculate all cable for EMS and auxiliary supply cable for all the given sites	BESS control room housing EMS and Auxiliary supply system is proposed to be located in BESS block. Layout to be developed by bidder during detailed engineering
64		Kindly confirm the estimated or required length of XLPE cable from the BESS system to the Point of interconnection (POI) for each site. Additionally, please clarify whether NTPC will provide the final cable routing and termination details during detailed engineering or if the bidder is expected to assess and provision cable lengths based on site conditions.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders are requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
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66		Do we need to consider a separate feeder from POG for auxiliary supply or it will be provided by NTPC, please clarify.	Auxiliary supply for BESS shall be drawn from electrical system of BESS and NO separate supply shall be provided by NTPC
67		Kindly confirm the estimated or required length of XLPE cable from the BESS system to the Point of interconnection (POI) for each site. Additionally, please clarify whether NTPC will provide the final cable routing and termination details during detailed engineering or if the bidder is expected to assess and provision cable lengths based on site conditions.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders are requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
68	A dedicated building shall be provided to house the 33 kV pooling switchgear.	Please share distance from BESS allocated area to Control Room to calculate all cable for EMS and auxiliary supply cable for all the given sites	BESS control room housing EMS and Auxiliary supply system is proposed to be located in BESS block. Layout to be developed by bidder during detailed engineering
69	GEO-TECHNICAL INVESTIGATION AND CONTOUR SURVEY.	The bidder requests a geotechnical survey and contour survey for all locations.	1)Geotechnical and Foundation data is available in Part A of Technical Specification. Any additional data required other than data provided, is in Bidder scope.
70	Type of cable trench and length	"As discussed in the meeting, the cable trench is to be considered as an RCC underground trench from the BESS to the switchyard. The bidder would like to highlight that, as observed during the site visit, certain locations pose challenges such as coal storage areas and railway crossings. Therefore, the bidder kindly requests clarification on these issues.	2)Topography Survey is in Bidder's scope. Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidder is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
71	Space for constructing	Please confirm if space is available for the extension of bays and the BESS.	Bidders are requested to assess the space availability and requirement related to EHV switchyard extension after taking into account all existing Bays. Bidder is expected to assess and provision based on site conditions.
72	Reactive power response from wind power plant & Dynamically varying reactive power: STATCOM & SVC emulate the dynamically varying reactance at the point of measurement.	For each Location STATCOM & SVC and harmonic Filter rating MVAR and Qty need to be mentioned, Since it was high cost equipment	This is the extract of CERC approved procedure. Only the items applicable to BESS are to be furnished by the bidder based on system studies and statutory requirements.
73	Modelling of Solar Power Plant:	Need to elaborate the (To be used along with REGCA1 and REPCA1)	This is the extract of CERC approved procedure. Only the items applicable to BESS are to be furnished based on system studies and statutory requirements

74	Wind Power Plant (WPP): A typical Wind Power Plant has a Wind Turbine Generator (WTG) as a source of electrical power.	Need to elaborate the Types of WTGs based on construction:	This is the extract of CERC approved procedure. Only the items applicable to BESS are to be furnished Based on system studies and statutory requirements
75	Please clarify the Aux. Power Consumption Charging through grid for NTPC scope and bidder will provide the infrastructures	Metering will measure at 33KV side or 415V Side	Auxiliary supply for BESS shall be drawn from electrical system of BESS and NO separate supply shall be provided by NTPC. Metering shall be at 33KV side
76	For each CAMC Year, the benchmark ("start-of-year") capacity shall be the measured capacity of the respective BESS plant at the end of the immediately preceding year	Bidder requests the following modification in the clause 'For each CAMC Year, the benchmark ("start-of-year") capacity shall be the as per the capacity of the respective BESS plant as specified in Table 2 of SUB SECTION II SCOPE OF SUPPLY AND SERVICES'	The proposal is not acceptable. Technical Specification to be complied
77	The PG Test shall conclude after completion of one (1) year from its commencement.	Bidder request that the PG test shall be conducted for 1month	The proposal is not acceptable. Technical Specification to be complied
78	All the foundation shall be designed as per highest rating Transformer in case different capacity transformer are offered.	Bidder propose foundation shall be based on actual transformer rating offered. Kindly accept.	Bidder to comply with specification requirements.
79	The battery shall be sized considering a minimum electrolyte temperature of 15 deg along with temperature correction factors as per relevant standard.	Bidder understand the minimum ambient temperature of the particular location shall be considered for sizing. Please clarify	Bidder to comply with specification requirements.
80	General	Bidder understand that battery bank for battery charger and UPS can be placed on outdoor RCC platform with suitable container and air flow arrangement under shed. Kindly confirm your acceptance for the same.	The proposal is not acceptable. Technical Specification to be complied
81	The Maximum Overall Voltage Drop: As per relevant clause in chapter 2-A, Part - A, Subsection 2.	Kindly confirm the power losses to be maintain between the central inverter to 33KV evacuation point.	Losses breakdown shall be as per bidders design but shall be suitable to demonstrate the performance guarantee of RTE at Pol
82	Communication Standard for Numerical relays-IEC 61850	Bidder propose relay with RS-485 protocol for 33KV HT switchgear feeders. Kindly confirm the same	Bidder to comply with specification requirements.
83	-	Kindly confirm the scope & location of metering point. Kindly provide the scope and location of ABT Meters	Metering point for BESS is at Pol. Scope related to supply of meters and metering systems shall be as indicated in Tender specifications
84	All control panels associated with BESS and associated system shall be installed in the new BESS control room building. Operator Workstations (OWS) and Engineering Workstations (EWS) shall be provided in the BESS control room building. Additionally, OWS shall also be provided in Central Control Room (CCR).	Kindly confirm Central control room and common control room both are same for better understanding	Bidders understanding is not correct. Additional OWS is to be provided in Central Control Room (CCR) of thermal plant
85	Inverter Transformer shall have copper/Aluminum Shield winding between LV & HV windings	Bidder wishes to propose aluminium Shield winding between LV & HV windings	Bidder to comply with specification requirements.
86	-	Bidder Request to provide the KMZ file With Route details. Kindly mention the path of cable corridors if any	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. Bidder is expected to assess and provision cable lengths based on site conditions.
87	The switchgear(s) shall be suitably rated to handle the total BESS capacity and configured with the required number of feeders based on the system requirements and as indicated in tender SLD's.	Bidder wishes to consider HT Switchgear with maximum power limit of 30MW or more according to BESS Capacity	Bidder to comply with specification requirements and select HT switchgear rating as indicated in tender SLD/Functional requirement.
88	-	Kindly confirm the System fault current	Fault level for EHV system is indicated in Tender SLD. Fault level for MV and LT BESS systems shall be as per subsection B0 part B section VI of technical specifications
89	Battery cycle life - > 4,000 at 20-80% SOC	The two clauses seem to contradict each other. A cycle life of 4,000 over a 12-year period implies roughly one cycle per day of operation. Employer to provide clarification on this matter.	Appendix-7 is the First Time Charging procedure specified by NLDCL. Actual equipment shall meet functional requirement of Part A and Part B of Technical Specification.
90	1.05.00 Same size and same make of PCS is recommended for the whole plant.	The bidder proposes the quantity of Power Conversion Systems (PCS) based on the number of battery containers necessary to achieve the required energy discharge capacity, ensuring that the specified C-rate is maintained throughout operation.	Bidders proposal is accepted
91	b. The PCS enclosure protection class shall IP 54 or better protection. For outdoor solution (Other than containerized), the electronic card compartment shall have IP 65 or better protection.	employer to provide clarification on the specific requirements for the canopy and platform associated with the PCS, including any design specifications, dimensions, and installation guidelines.	Design requirement for Civil structure and foundation is mentioned in part B, Subsection C of Technical Specification. Development of General Arrangement (GA) in Bidder's scope of work and same shall be finalized during detail engineering

92	General	Employer to provide clarification on the specified operating temperature range for the PCs. This information is essential for accurately determining the appropriate nameplate capacity of the BESS plant.	For operating temperature range of PCs, please refer Clause no. 3.01.00 (12) of Sub Section A-03, Part B of Section VI of technical specifications
93	Bidder shall also provide NIPPS (complete in all respect) for Tie Transformer and PCS/Inverter Duty Transformer (as applicable as per statutory requirement), details of the same as specified elsewhere.	Bidder understand that Nitrogen Injection Fire Prevention & Extinguishing System (NIPFES) shall be provided only for all oil filled transformers/reactors of rating 10MVA/10MVR & above. For all other transformer bidder consider only portable fire extinguisher. Kindly confirm.	Bidder's understanding is correct.
94	Complete Electrical system, mechanical systems/auxiliaries including Fire detection & protection system, HVAC system and C&I system as required for the successful completion of the proposed BESS system and its integration with the existing system shall be in the scope of the contractor.	Bidder request to provide the full name of C & I System.	Full name of C & I System is "Control & Instrumentation System".
95	The complete fire detection and protection systems shall be as per the guidelines/codes/standards / rules of TAC/ NFPA / IS: 3034 / OISD , etc.	Bidder proposes to consider High Velocity Water Spray system only for the power transformer of capacity 220kV and above. Kindly confirm.	High Velocity Water (HVV) Spray system is not envisaged for any transformer in the scope of the Bidder. However, Nitrogen Injection Fire Prevention & Extinguishing System (NIPFES) shall be provided for all oil filled transformers/reactors of rating 10MVA/10MVR & above as per specification.
96	For areas where A/C load is of the order of 5-25TR, ductable split/package A/C shall be provided. Smaller areas which may require air conditioning up to 5 TR rating shall be served with Hi-wall Split/Cassette air conditioner units as per requirement.	Bidder proposes to provide combination of two or more Hi-wall Split/Cassette air conditioner units where A/C load is upto 10 TR and ductable split/package A/C unit for load more than 10 TR. Kindly confirm if this alternative arrangement is acceptable.	Bidder to comply with specification requirements.
97	General	Kindly share the following files of the mentioned project sites: 1. Topography survey report(AutoCAD file) 2. Detail geotechnical report 3. Detail Hydrology survey report.	1) Topography survey is scope of bidder 2) Available Geotechnical data is provided in Technical Specification. Any other data required, other than provided in document, is in scope of Bidder. 3)Detail Hydrology survey report is not available. However, Storm water drains of BESS area to be connected to nearest owner's drainage system.
98	Construction stores (covered) & open stores as per his requirement.	Kindly confirm whether there is requirement of permanent storage shed for the O&M phase. If yes, provide the type of structure, area and detail technical specification required for the Permanent storage shed.	Construction stores (covered) & open stores are temporary facilities . Bidder to refer clause 2.00.00 of Part A, Sub-Section IIA, , Section VI of Technical Specification
99	Area Paving in and around BESS facilities/ structure to be provided as per Technical Specifications and Layout.	Bidder understands that the area paving mentioned is the internal road inside the BESS area. If yes, kindly provide the width of carriage way and shoulder for the internal road.	Bidder to refer Typical Layout of BESS plant of PART E- Tender drawing, for Internal road/ heavy duty paving width.
100	The DCS shall have the following minimum features:i. Redundant communication controllers shall be provided to handle the communication between I/O Modules (including remote I/O) and PLCs and between PLCs and operator workstation.	Bidder understand and proposes to consider the followinga. Redundant PLC at BESS Control room Building.b. Non- Redundant PLC RIO/RTU at each Power distribution Room. c. Hot swappable IO modules for BESS Control room Building d. Hot swappable IO modules at each Power distribution Room. Kindly provide your acceptance for the same.	Bidder's proposal is not acceptable. Bidder to comply with the technical specification requirements.
101	i. The HRSRS shall collect, store and process system data from MMIPIS data base. The data shall be saved online on hard disk and automatically transferred to non-erasable long term storage media once in every 30 Days periodically for long term storage.	Bidder understands that the historian system to be considered for this requirement is the same system in which the historical data has to be stored. Kindly confirm that bidders understanding is correct.	Bidder's understanding is correct.
102	For cameras to be located in remote areas where the UPS power supply cannot be extended due to voltage drop etc., then such cameras can be grouped and fed from mini- UPS. Individual mini-UPS shall be provided for the cameras which cannot be grouped. The contractor shall also provide local power distribution boxes as required for sub-distribution of supply from these mini-UPS to cameras.	Cameras in remote location will be getting power through POE cable. Hence separate mini UPS not required for cameras. Kindly confirm the same.	Specification requirement is clear. Bidder to comply the technical specification.

103	<ul style="list-style-type: none"> Contractor shall make earth resistivity measurements at site (based on four electrode method) and design the earthing grid as per IEEE: 80 (Latest edition). Complete earthing grid of present scope of bays (inclusive of supply of 40mm dia MS rod and GI flat) for earthing of all switchyard equipment, antitweed, and PCC, Gravel filling as required and its connection to earthing grid. The Earth pit as per IS 3043 as required. For extension / addition of bays in existing switchyard only antitweed and gravel filling to be provided. • Bidder's scope shall also include the complete interconnection of Earth grid with existing Earth grid of existing switchyard/thermal plant. 	Bidder requests owner to provide the following information for the proposed BESS bay extension at all proposed locations: Existing substation earth resistivity value, including any soil test reports. Existing earth grid design layout, including conductor sizing, grid spacing, depth, and connection details to major equipment and structures	Available drawings shall be shared with successful bidder during detail engineering
104	<ul style="list-style-type: none"> Complete Direct Stroke Lightning Protection using Lightning Mast and/or shield wire and its connection to earth mat as required. 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Existing DSLP layout with design details etc.	Available drawings shall be shared with successful bidder during detail engineering
105	<ul style="list-style-type: none"> Supply and laying Armoured Power and control cables, Armoured FO Cables, screen cables, cabling (including inter and intra panel), cabling between Contractor supplied equipment and existing owner equipment Etc. and from present scope of panels to existing panels to complete the system is in the scope of Bidder. Cable trenches, cable support angles, cable trays and accessories as necessary for cable erection such as glands, lugs, clamps for cables, ferrules, cable ties, Hume pipe etc. cable route markers for buried cable trench are also included in the scope. 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Detailed route length of the cable.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. bidder is expected to assess and provision cable lengths based on site conditions.
106	<ul style="list-style-type: none"> The scope of work shall also include construction of the new cable trenches required for cable laying of present scope of bays and its interconnection with existing cable trenches etc. 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Existing cable routing layout details along with existing cable trench layout and section details etc.	Available drawings shall be shared with successful bidder during detail engineering
107	<ul style="list-style-type: none"> Intermediate gantries 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension: Existing substation gantry details, including structural drawings, material specifications, height, span, and load-bearing capacity .Confirmation on the suitability of existing gantries for accommodating the bay extension at all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
108	<ul style="list-style-type: none"> Indoor, outdoor Lighting and its accessories. Lightning Mast / Lighting mast shall be used for mounting lighting fixtures for outdoor switchyard lighting. Mounting of Lighting fixtures on towers/ gantries is not permitted. For extension of bays / addition of bays in existing switchyard bay lighting shall be provided as suited as per the site condition. 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Existing Indoor & outdoor lighting layout with design details etc.	Available drawings shall be shared with successful bidder during detail engineering
109	<ul style="list-style-type: none"> Extension of AC and DC supply from existing ACDB and DCDB of the thermal generation switchyard for feeding Auxiliary supply of the extension bays. A Separate 220V DC system is to be provided in case of Bongaigaon TPP. This DC system may be utilized for DC control supply to switchyard as well as to BESS. 	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Details of the existing Auxiliary AC and DC systems, including specifications of distribution boards, voltage levels, battery banks, chargers, and load capacities .Confirmation on the availability of expansion provisions, specifically regarding spare terminals, capacity margins, and space within existing panels to accommodate additional Bay loads	Available drawings shall be shared with successful bidder during detail engineering

110	2.02.03 Control and Protection of EHV System The scope of supply includes comprehensive provisions for the control and protection of the EHV system as outlined below. All components necessary for integrating control and protection relays, IEDs, and associated equipment—including their interface with the existing switchyard SAS system—shall be within the bidder's scope. Numerical relays shall be deployed for all protection schemes.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: Existing numerical relays details like makes and models along with protection schemes. Existing SAS details like makes and models along with SAS Architecture & communication protocols.	Available drawings shall be shared with successful bidder during detail engineering
111	AC and DC power supply systems shall be extended for all EHV bay equipment from existing ACDB/DCDB. Wherever sufficient feeders are not available separate AC and DC distribution boards to be supplied and shall be connected from existing ACDB /DCDB	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Details of the existing Auxiliary AC and DC systems, including specifications of distribution boards, voltage levels, battery banks, chargers, and load capacities Confirmation on the availability of expansion provisions, specifically regarding spare terminals, capacity margins, and space within existing panels to accommodate additional Bay loads	Available drawings shall be shared with successful bidder during detail engineering
112	Panel-mounted Bay Protection Units (BPUs) and Bay Control Units (BCUs) shall be installed for all extended bays and shall be integrated with the existing protection and control systems/networks.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: Existing numerical relays details like makes and models along with protection schemes. Existing SAS details like makes and models along with SAS Architecture & communication protocols.	Available drawings shall be shared with successful bidder during detail engineering
113	PMUs shall be installed in all 132KV and above transmission lines (extended bays) and shall be integrated with the existing systems/networks.		Available drawings shall be shared with successful bidder during detail engineering
114	Control and relay panels for bays under the current scope shall be installed in AC kiosks or within the existing control room, as per the existing practice followed for panel placement at respective site.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension: Existing substation Control room/Kiosk room details, including structural drawings, material specifications, height, span, and load-bearing capacity Confirmation on the suitability of existing Control room/Kiosk room for accommodating the bay extension control, relay & communication panels at all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
115	Busbar protection for extended bays shall be integrated into the existing busbar system. This includes all required hardware, software, Peripheral Units (PUs), accessories, and any necessary upgrades. All protection schemes shall conform to the relevant single-line diagrams (SLDs) provided in the tender.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: Existing bus bar configuration and protection numerical relays details like makes and models along with protection schemes. Relay Settings & Configuration Files Recommended relay settings, including calculation files. Confirmation on the suitability of bus bar protection system for accommodating the bay extension bus bar protection also please confirm the requirement of augmentation and integration for all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
116	Islanding scheme for extended bays shall be integrated into the existing islanding system. This includes all required hardware, software, relays, accessories etc.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: Existing numerical relays details like makes and models along with protection schemes. Existing SAS details like makes and models along with SAS Architecture & communication protocols.	Available drawings shall be shared with successful bidder during detail engineering

117	PLCC/FOTE panels at both ends transmission lines along with necessary panels, accessories, cables, JB's etc. is in the scope of work.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: .Existing PLCC/FOTE details like makes and models along with communication protocols. .Confirmation on the suitability of existing PLCC/FOTE communication system for accommodating the bay extension also please confirm the requirement of augmentation and integration for all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
118	Additional Provisions 1. Interface with DCS/LDCs All additional Digital / Analogue signals related to extended bays shall be integrated to DCS, LDCs as per existing scheme of respective sites. 2. Cabling All control and fiber optic cabling within the switchyard and main plant—including interfaces between the switchgears, transformers, and switchyard for extended bays—shall be provided to realize the control and protection scheme. 3. Relay Settings & Configuration Files Recommended relay settings, including calculation files, software (if any), and SCD/CD/SCL files, shall be submitted for the owner's review and approval for the switchyard bays under the present scope. 4. Space Provision Provision for all BCU/BPU, PMU and networking panels shall be kept in AC kiosk or Control room as per requirement.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system: .Existing numerical relays details like makes and models along with protection schemes. .Relay Settings & Configuration Files Recommended relay settings: including calculation files, software (if any), and SCD/CD/SCL files. .Existing SAS details like makes and models along with SAS Architecture & communication protocols. .Existing DCS/LDCS makes and models along with architecture & communication protocols. .Cable route length between DCS/LDCS panels to proposed bay communication panels	Available drawings shall be shared with successful bidder during detail engineering
119	Provision shall also be made for signal exchange between the BESS EMS/SCADA and the DCS of the main plant (each Unit of respective Thermal Power plant) to enable seamless integration and centralized supervision. The list of signals for such interfacing shall be finalized during detailed engineering.		Available drawings shall be shared with successful bidder during detail engineering
120	132kV and 220kV EHV cables for interconnection from BESS Tie transformer to identified Pol as per relevant tender SLD for each project. Bidders scope shall also include all necessary accessories, sealing ends, Jointing kits and end termination for the laying of EHV cables	Bidder requests owner to provide the following details of the proposed Battery Energy Storage System (BESS) bay extension: .Detailed route survey report, including topographical data, right-of-way conditions, and any constraints along the proposed UG cable route. .KMZ file of the surveyed route, compatible with Google Earth, showing coordinates, alignment, and key landmarks	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. bidder is expected to assess and provision cable lengths based on site conditions.
121	3.00.00 220 KV CABLE 6.00.00 CABLE /ACCESSORIES PARAMETERS 4 Conductor material Copper	Bidder request owner to allow EPC to consider conductor material with aluminium	Bidders proposal is NOT accepted
122	3.00.00 220 KV CABLE 6.00.00 CABLE /ACCESSORIES PARAMETERS 4 Conductor material Copper	Bidder request owner to allow EPC to consider conductor material with aluminium	Bidders proposal is NOT accepted
123	EHV Line Protection Each EHV Line shall be provided with the following protection: Main-I: Numerical Line Distance protection scheme suitable for carrier aided protection Main-II: Numerical Line Distance protection scheme suitable for carrier aided protection and with a hardware platform different from that of the Main-I protection. The Main-I and Main-II distance protection shall be of equal performance capability. The Main-I and Main-II distance protection relays shall be connected to two different protection groups to meet the requirements of relevant clause above.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations following clarifications: .Please confirm whether protection relays are required for the proposed Battery Energy Storage System (BESS) bay extension. .if line protection is required, please confirm the make and model of the relays installed at the remote end, along with any specific interfacing or communication protocols to be considered. .Please clarify the supply scope at both ends, including whether the EPC contractor is expected to provide matching relays or interface with existing systems.	Transmission line distance protection is NOT applicable for projects under BESS lot-1. Cable differential protection, as applicable shall be provided for interconnection of BESS Tie transformer with switchyard

124	1.03.00 Bus bar Protection Each bus bar shall be covered with a centralized high-speed busbar protection scheme. Bus bar protection of each bus shall operate in a two-out-of-two mode so as to achieve better security.	<p>Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation for communication integration with existing system:</p> <p>Existing bus bar configuration and protection numerical relays details like makes and models along with protection schemes.</p> <p>Relay Settings & Configuration Files including Recommended relay settings, calculation files.</p> <p>Confirmation on the suitability of bus bar protection system for accommodating the bay extension bus bar protection also please confirm the requirement of augmentation and integration for all proposed BESS locations</p>	Available drawings shall be shared with successful bidder during detail engineering
125	All equipment shall be supplied with suitable terminal connectors. The terminal connectors shall be well coordinated with type/size of conductor and equipment to be connected. The conductor terminations for equipment shall be either rigid or expansion type suitable for horizontal or vertical take-off suitable for tube / quadruple / twin/single Moose / Zebra / AAC Bull conductor. For Jack Bus Line Side Quad/ Twin moose/ Zebra / AAC Bull Conductor shall be used. The sub conductor spacing for quadruple and twin moose ACSR conductor / AAC Bull conductor shall be 450 mm for 765kV/400kV/ 220kV and 250mm for 132kV. The terminal pads shall preferably be capable of taking the required conductor span under normal, short circuit and meteorological conditions, without effecting the performance of the equipment..The rigid busbars for equipment inter connections shall have rigid connections at one end and expansion /flexible at other end. The tubular Al. connections shall have not more than one joint per span. Corona Bell shall be provided at the end of the rigid busbars.	<p>Bidder request owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension.a) Existing substation erection key diagram, including the associated bill of material listing all major equipment and components. b) Busbar system details, including: Busbar ratings (current-carrying capacity) Configuration and layout of both main busbar and jack bus conductor material specifications.Equipment jumpering conductor type and sizingc) In addition, the bidder requests the following clarifications:Please confirm whether the existing busbar has already been extended to the proposed BESS bays, or if the busbar extension is to be included within the bidder's scope..Please confirm whether the existing busbar rating is adequate to support the additional load introduced by the BESS installation, in compliance with applicable standards and thermal limits.</p>	Available drawings shall be shared with successful bidder during detail engineering. Bidder to make site visit to assess and make adequate provisions and consider scope accordingly
126	The switchyard / extension of bays in existing switchyard shall be provided with peripheral roads and roads for maintenance / approach for major AIS equipment for maintenance purpose and it is also inter connected with existing roads.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension: Existing substation peripheral road layout with section details.	Available drawings shall be shared with successful bidder during detail engineering
127	The present scope of cable trenches shall be interconnected to existing cable trenches (as applicable) and connected to sump pit to drain the water.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension:Existing substation cable routing layout, cable trench & section details, including structural drawings, material specifications, height, span, and load-bearing capacity.Confirmation on the suitability of existing cable trench for accommodating the bay extension control, relay & communication panels at all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
128	The control & protection panels belongs to present scope of Bays shall be placed in control room building if space is available / AC kiosk. AC kiosk shall be provided with adequate air conditioning, fire alarm system with at least two detectors and it shall be wired to SAS system. Two nos. of suitable separate power supply shall be provided to each AC kiosk to cater power supply to panels and AC separately.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension: Existing substation Control room/Kiosk room details, including structural drawings, material specifications, height, span, and load-bearing capacity .Confirmation on the suitability of existing Control room/Kiosk room for accommodating the bay extension control, relay & communication panels at all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering

129	Contractor shall make earth resistivity measurements at site (based on four electrode method) and design the earthing grid as per IEEE: 80 (Latest edition) and Gravel filling of switchyard. Earthing of all switchyard equipment's and its connection to existing earthing grid. Also, interconnection of switchyard earthing grid, BESS earthing with existing available earthing grid (02 no's minimum). Earth pit as per IS 3043 as required.	Bidder requests owner to provide the following information for the proposed BESS bay extension at all proposed locations: .Existing substation earth resistivity value, including any soil test reports. .Existing earth grid design layout, including conductor sizing, grid spacing, depth, and connection details to major equipment and structures	Available drawings shall be shared with successful bidder during detail engineering
130	Complete Direct Stroke Lightning Protection using Lightning Mast and/or shield wire and its connection to earth mat as required for switchyard area extension / addition of present scope of Bays & Transformer yard.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation: Bidder requests owner to provide the following information for the proposed BESS bay extension at all proposed locations: .Existing DSLP layout with design details etc.	Available drawings shall be shared with successful bidder during detail engineering
131	Lighting, earthing, lightning protection of switchyard area , extension / addition of present scope of Bays & Transformer yard.	Bidder requests owner to provide the following information for the proposed BESS bay extension at all proposed locations: .Existing DSLP layout with design details etc.	Available drawings shall be shared with successful bidder during detail engineering
132	09.11.05 EARTHING NOTES FOR SWITCHYARD	Bidder requests owner to provide the following information for the proposed BESS bay extension at all proposed locations: .Existing substation earth resistivity value, including any soil test reports. .Existing earth grid design layout, including conductor sizing, grid spacing, depth, and connection details to major equipment and structures	Available drawings shall be shared with successful bidder during detail engineering
133	LIGHTNING PROTECTION: Direct stroke lightning protection (DSLPL) shall be provided in the switchyard by lightning masts (at least 50 m high) and shield wires.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension at all designated locations within the existing substation:Existing DSLP layout with design details etc.	Available drawings shall be shared with successful bidder during detail engineering
134	i) The towers and gantries shall be suitable for a normal conductor tension of minimum 2T/conductor in case of twin/ single conductors and 1.5T/conductor in case of quad conductor, 0.8T/conductor in case of ground wire. The foundations and structures etc shall be designed accordingly.	Bidder requests owner to provide the following information for the proposed Battery Energy Storage System (BESS) bay extension:Existing substation tower gantry details, including structural drawings, material specifications, height, span, and load-bearing capacity.Confirmation on the suitability of existing tower gantries for accommodating the bay extension at all proposed BESS locations	Available drawings shall be shared with successful bidder during detail engineering
135	220KV CABLE	Bidder requests owner to provide the following details of the proposed Battery Energy Storage System (BESS) bay extension: extension:Detailed route survey report, including topographical data, right-of-way conditions, and any constraints along the proposed UG cable route.KMZ file of the surveyed route, compatible with Google Earth, showing coordinates, alignment, and key landmarks.Please confirm location of the power transformer whether bidder need to consider power transformer inside the BESS plant or with in the switchyard.	Location of BESS block and Switchyard are indicated in tender GLP for each project. Bidders is requested to assess the requirement related to distance/EHV cables etc. accordingly after taking into account all existing thermal plant facilities. bidder is expected to assess and provision cable lengths based on site conditions. Tie transformer for all projects (wherever applicable) are proposed to be located in the BESS area except for simadhri where Tie transformers are to be considered near new 400kV bays
136	132KV CABLE	Bidder requests owner to provide the following details of the proposed Battery Energy Storage System (BESS) bay extension: extension:Detailed route survey report, including topographical data, right-of-way conditions, and any constraints along the proposed UG cable route.KMZ file of the surveyed route, compatible with Google Earth, showing coordinates, alignment, and key landmarks.Please confirm location of the power transformer whether bidder need to consider power transformer inside the BESS plant or with in the switchyard.	Available drawings shall be shared with successful bidder during detail engineering
137	132KV and 220KV EHV cables for interconnection from BESS Tie transformer to identified Poi as per relevant tender SLD for each project.	Bidder request to provide EHV cable route length with location wise for the proposed bay extensions..Bidder request to confirm the location of the Tie-Transformers	Tie transformer for all projects (wherever applicable) are proposed to be located in the BESS area except for simadhri where Tie transformers are to be considered near new 400kV bays

138	<p>EMS System shall have the provision to perform the following functions:i. Provision to operate the BESS as per following minimum application requirement including Ancillary services but not limited to:a. Integrated control with thermal power plantb. Standalone operation (Independent of thermal plant) based on the grid schedule/requirements.c. VAR support to Grid / voltage Regulationd. Black Start applicatione. Frequency Regulation /Grid supportf. Ancillary Services (PRAS, SRAS, TRAS)g. Energy Arbitrage/energy shifting operationh. Ramp rate supporti. Power Quality Application to Gridj. Interaction on real-time with IEX for schedule of charging and discharging.k. Inertia Support to Grid as virtual Synchronous</p>	<p>we understand that integration/interface with IEX platform will be arranged by NTPC. Kindly provide the interface details for EMS communication with IEX.</p>	<p>Communication infrastructure from SAS/DCS to EMS is in bidders scope. Necessary provisions and compatibility for EMS communication for IEX interface, including required protocols and data exchange capability, shall be provided by the bidder and shall be finalized during detailed engineering.</p>
139	<p>EMS System shall have the provision to perform the following functions:i. Provision to operate the BESS as per following minimum application requirement including Ancillary services but not limited to:a. Integrated control with thermal power plantb. Standalone operation (Independent of thermal plant) based on the grid schedule/requirements.c. VAR support to Grid / voltage Regulationd. Black Start applicatione. Frequency Regulation /Grid supportf. Ancillary Services (PRAS, SRAS, TRAS)g. Energy Arbitrage/energy shifting operationh. Ramp rate supporti. Power Quality Application to Gridj. Interaction on real-time with IEX for schedule of charging and discharging.k. Inertia Support to Grid as virtual Synchronous</p>	<p>We understand that virtual Synchronous operation is functionality of Power Conversion System (PCS), but it is mentioned under Energy management System section. Kindly confirm</p>	<p>Bidder's understanding is correct. However, since the operation mode selection, coordination, and setpoint management are governed through the EMS, the requirement is mentioned under the EMS section to ensure integrated control and supervisory functionality.</p> <p>Bidder to comply accordingly.</p>
140	<p>The EMS shall be integrated with Automatic Generation Control (AGC), existing thermal plant DCS of each unit/main control room for coordinated operation and visibility. A separate AGC shall also be provided and configured for standalone BESS operation. The Contractor's scope shall include all necessary telemetry, data acquisition, and communication interfaces required to provide real-time data, status, and control signals to the Employer's DCS, Regional Load Dispatch Centre (RLDC), State Load Dispatch Centre (SLDC), and other statutory bodies, as per applicable grid code, LDC requirements. All necessary hardware, software, protocols, and cybersecure communication links required to ensure above interface, performance monitoring, and dispatch control are included in the Contractor's scope</p>	<p>Bidder proposes that a BESS EMS shall have in-built functionalities of the AGC. Hence, standalone BESS AGC is not required. Kindly confirm the same.</p>	<p>The BESS EMS may incorporate AGC functionality, provided it meets all AGC-related performance, response time, and interfacing requirements specified in the tender and is compliant with CEA (Technical Standards for Connectivity to the Grid) Regulations and other applicable statutory requirements. A separate standalone AGC is not required in such case.</p>
141	<p>Auxiliary Power</p>	<p>1. Will AUX power be chargeable or provided as Free Issue? Should it be included under O&M costs, and if so, at what tariff? 2. At night, for plant/control room and peripheral lighting, will NTPC provide AUX power from the metered connection? 3. Regarding RTE, does it include AUX consumption for BESS standby, or only for charging/discharging? 4. Will NTPC provide AUX power during BESS discharge and standby hours, or should we use stored BESS energy for these periods? 5. Will power consumption for BESS yard, control room, and switchyard lighting be considered under AUX power, or excluded?</p>	<p>1. Aux. power arrangement is NOT being provided by NTPC. It has to be drawn from Bidders own electrical network. Aux. Power shall be made without any charges. 2) Refer reply at Sl. No. 1 above. 3) Yes, BESS auxiliary consumption (for standby, charging & discharging) is included in RTE calculation 4) NTPC shall NOT provide any power 5) All draw bt BESS system for ANY purpose shall be covered under AUX power</p>
142	<p>Degradation</p>	<p>Will lower degradation be favorably considered in the tender evaluation? If yes, how will it be accounted for?</p>	<p>Lower degradation will not be given any preferential consideration in the tender. Bidders must meet the guaranteed degradation limits as specified in the technical specifications</p>

143	Factory testing shall, if required, demonstrate operation at expected temperature extremes at the independent laboratory. Certification of operation of critical components and subsystems in the battery, PCS, and control systems shall be submitted at the time of the FAT. The Contractor shall submit to the Employer for approval, 90 days before the FAT	Bidder request if NTPC can share any document mentioning tests which need to be covered under extreme temperature clause mentioned under tender specification. Further bidder request Battery is liquid cooled so we request NTPC that this test will be performed in ambient temperature as Container size thermal chamber are not available in India to perform the same	Testing shall be as per relevant IS/IEC/equivalent standard, as applicable.
144	Auxiliary Power Consumption	Bidder request NTPC to confirm the tariff for each thermal station to be considered for Auxiliary power consumption.	Auxiliary power supply shall be made available to the bidder by NTPC without any charges.
145	UI9540A IEC 61427-2/IS 16270 IEC 62933-2-1	Please clarify whether the system-level certification can be waived off if the rack-level has passed this certification.	Bidder's proposal is not acceptable. Bidder to comply with requirement of Technical Specifications.
146	Round trip AC/AC Efficiency (%) of BESS system at Metering Point shall be considering the energy loss including auxiliary power requirement of BESS.	Please clarify whether the auxiliary power consumption should include the standby power of the system, or if it should cover only the operating (charge and discharge) auxiliary power consumption	auxiliary power consumption includes the power consumption during standby periods also.
147	IEC 62477-2	The Certificate is not applicable for PCS of BESS. Request to eliminate this certification from the list.	Bidder's proposal is not acceptable. Bidder to comply with requirement of Technical Specifications. The Certifications shall be applicable based on the PCS Voltage level provided by the bidder.
148	IEEE 519-2022	Project is done as per CEA guidelines, hence mentioned certification not required	Compliance to IEEE 519 shall be ensured as per the applicable requirements of CEA regulations.
149	HISTORICAL STORAGE AND RETRIEVAL SYSTEM (HSRS)	Bidder request NTPC to provide the cloud server, bidder shall push the EMS data till end of Plant life.	Bidder's proposal is not acceptable. Bidder to comply with the requirements in Technical Specification
150	For long term plant performance analysis, the following plant data as a minimum with time stamping and interval as indicated in below table but not limited to shall be stored daily on historian.	We request acceptance of the provision that EMS data will be stored locally for a period of one (1) year, after which the data will be automatically overwritten on a rolling basis.E14:F14	Bidder's proposal is not acceptable. Bidder to comply with the requirements in Technical Specification
151	A 33kv dead TL passes over the plot which is not in use for NTPC. As site team has confirmed that its removal from site is not in vendor's scope. NTPC will remove the TL from site before handover of site	Please clarify	confirmed
152	We shall keep only one person 24*7 at one plant for EMS monitoring to ensure charge, discharge from remote (SCADA) & availability & communication with all BESS. If required other teams for maintenance shall be deployed based on requirements at any site or we may keep only one team for Bihar or near by two or three stations to ensure the availability of BESS as per norms.	Please clarify the same	Bidder to maintain adequate manpower as required to discharge its obligation under PG test and CAMC periods. Bidder to refer 5.00.00, Subsection-II, Part-A of Technical Specification
153	We shall consider pre-fab rooms, Suitable containers solutions etc. based on site for indoor BESS wlk in type and indoor PCS or we may choose to have containerised BESS and outdoor PCS solution for best fitting the sapce.	Please allow us to have design as per our engineering solution.	Bidder's proposal is acceptable subject to meeting the Statutory requirement and OEM standard practice/design.
154	Fromm tie transformer HV side the cables are running from transformer to sichthyard which is around 2 KM away without any breaker at transformer end, may arrange to review this in SLID for Barh and other plants as well. This may need to review as during discharge and black start mode any high impedance cable fault may casue enery loss and safety hazard.	Please clarify the same	No separate bay/breaker at BESS Tie transformer end is envisaged. Suitable protection scheme along with control cables/Fibres are to be provided for operation of switchyard breaker in case of fault. Details of protection scheme shall be finalized during detailed engineering stage.

155	The 132kV additional bay controlling shall be done form NTPC existing control room	Please clarify on additional space for CRP and other panels in control room.	Panels related to CRP requirements of BESS bays shall be suitably placed in AC kiosk as per subsection B-11A, part B section VI of the technical specifications
156	Do we required build any service building or special purpose room in BESS area?	Please clarify the same	No
157	Where does metering panel situated as there are no enough additional spare feeders in FDG switchgear room.	Please clarify the same	Metering for BESS is to be done at Pol. In case of non-availability of space in room, same may be provided separately or outside building.
158	As we are connecting in 33kV side directly, do we need to consider any additional SVG & Harmonic filter ?	Please clarify the same	Bidders system should comply with harmonic injection limits as per CEA standards for connectivity to grid and other statutory regulations applicable for Inverter based generation resources. Any additional equipment for complying the Statutory requirements shall be in Bidder's scope.
159	Where does metering panel situated ?	Please clarify the same	Metering for BESS is proposed at Pol. metering panel shall be placed in AC Kiosk or switchyard control room as decided during detailed engineering.
160	Kindly confirm of construction power and water supply ?	Please clarify the same	Arrangement of Construction power and its further distribution in various area of BESS package is in bidders scope. For Construction water refer Cl 2.01.00 of Sub Section-III, Part-A
161	Battery cell, Battery Management System, PCS (Power Conversion System), Energy Management System (EMS) Proposed supplier shall be NTPC ACCEPTED SOURCES BASED ON SUB-QR CLEARANCE AND QUALITY TIE-UP.	Please share details of approved supplier if available	The sub-vendor for the items may be proposed by the successful bidder during detailed engineering, subject to meeting the technical specification requirement, sub-QR clearance. Quality tie-up shall be done subsequently with the sub-QR qualified sub-vendor by NTPC CQA.
162	PCS (Power Conversion System) Proposed supplier shall be NTPC ACCEPTED SOURCES BASED ON SUB-QR CLEARANCE AND QUALITY TIE-UP.	Based on past inverter supply can we consider sungrow, FIMER etc	The sub-vendor for PCS may be proposed by the successful bidder during detailed engineering, subject to meeting the technical specification requirement, sub-QR clearance. Quality tie-up shall be done subsequently with the sub-QR qualified sub-vendor by NTPC CQA.
163		Kindly provide confirmation on space for CRP panel installation and Aux AC & DC supply.	CRP panels shall be installed in AC kiosks as per subsection B-11A, Part B section VI of technical specifications. Aux AC and DC supply for switchboard bay equipments and associated CRP panels shall be provided by the owner.
164		Kindly confirm the location of storing the spare tie transformers.	Spare Tie transformer, wherever applicable, shall be supplied by the bidder and stored in the plant as per directions of EIC. Location of storage shall be finalized during detailed engineering.
165	All cables from PCS upto BESS Pooling switchgear shall be laid in built up cable trenches. Cabled beyond BESS Pooling switchgear shall be laid in buried arrangement.	Kindly confirm whether the cable from the BESS container to the BESS pooling switchgear can be laid underground in a buried arrangement instead of in a built-up cable trench.	Bidders proposal is NOT accepted. Bidder to comply the technical specification requirements
166	BUSDUCT (NON-SEGREGATED, AIR INSULATED TYPE)	Kindly confirm whether the use of cables instead of bus ducts for the LT switchgear is acceptable.	LT Busducts shall be provided in case of current rating above 1600Amp.
167	6.02.01.d) Transformer Differential protection (87T): Differential protection for transformers (87T) of rating 5MVA and above shall be provided with stabilized biased differential relay	As per CEA guidelines, differential protection is required for transformers rated above 10 MVA. Kindly confirm.	Bidders proposal is NOT accepted. Bidder to comply with the technical specification requirements
168	1.01.05 :A separate AGC shall also be provided and configured for standalone BESS operation.	Kindly provide the specification of AGC. If it is in scope of NTPC then request you to provide the clarify on our scope of work.	AGC is included in the scope of the bidder. Requirements for AGC are included in Sub Section A-01, Part B, Section VI of Technical Specifications.

169	3. Inverter Duty Transformers: One number IDT with same rating shall be provided as spare for EACH location	Kindly confirm whether the bidder can provide only one IDT of the maximum rating at a location, even if there are two variants/ratings of IDT at the same location.	Bidders proposal is NOT accepted
170	4. Auxiliary transformer :Necessary redundancy shall be maintained such that there is no loss of auxiliary power supply in case of outage of Single Auxiliary Transformer.	Kindly confirm whether the bidder may consider using a UPS system for redundancy to meet this requirement.	Bidders proposal is NOT accepted
171	6.Energy Management System:The EMS along with the Power Plant Controller (PPC) shall provide real time monitoring and control of BESS, with provision for standalone operation (independent of thermal generation) as well as coordinated operation with the host thermal plant.	Kindly confirm whether the EMS can be considered as the PPC, or if a separate PPC is required.	The EMS (Energy Management System) can be considered as the Plant Power Controller (PPC) provided it meets all the functional and performance requirements specified for the PPC in the technical specifications. A separate PPC is not required if the EMS fulfills these requirements. However, if a separate PPC is required as per statutory, grid connectivity, or other regulatory requirements, the same shall be provided by the bidder accordingly.
172	10. Switchgear /Numerical Relay Networking :a) Communicable Numerical Relays (with IEC 61850) in all MV Switchgears & LV Switchgears.	Kindly confirm whether the bidder may provide IEC 61850 relays only in the MV switchgear panels.	Bidder to comply with requirements of technical specifications
173	2.02.02 (v) II. Switchyard materials: ACSR Conductor of suitable rating as required	Kindly confirm whether the bidder may consider AL59 or an equivalent conductor to meet losses and RTE requirements.	Confirmed. However, selected conductor shall have minimum ratings as provided in specifications and suitable to be used along with existing conductor material
174	Reactive power, Black Start, Ancillary services (PRAS, STAS, TRAS), AGC signal based control features	Kindly confirm whether the BESS is intended for frequency response, peak shaving, or spinning reserve applications, and what performance KPIs will be validated during PG test. This is needed to size the control logic, inverter response time and EMS configuration correctly	BESS use case requirements are mentioned in Clause 2.01.00, Sub Section A-02, Part B, Section VI of Technical Specifications. Performance KPIs shall be as per Sub-section-IV, Part-A of Technical Specification. For PRAS, Refer Technical Amendment-01.
175	B) Further, an additional feature shall be provided to change/edit the discharge duration and rate of discharge whenever required.	Kindly note that it may not be advisable to edit the rate of discharge, as it is governed by the C-rate and could impact the battery warranty. Please confirm if this requirement can be modified accordingly.	The requirement to allow editing of the discharge rate is retained to provide operational flexibility. However, it shall be within the battery manufacturer's recommended C-rate/Depth of Discharge limits to ensure safety and maintain warranty. The bidder shall configure the system accordingly.
176	C) BMS shall monitor battery system parameters such as string voltage & current, cumulative number of cycles and throughput along with DoD. It shall automatically determine the State of Charge (SOC) and State of Health (SOH) of the battery individual cell/module	Kindly confirm whether cell-level monitoring of voltage and temperature is mandatory for each individual cell, or if monitoring at the module level is sufficient. This is to optimize the BMS architecture and reduce associated cabling complexity.	Monitoring at the module/pack level is sufficient. Cell-level monitoring of voltage and temperature is not mandatory, however the same shall be as per Battery OEM standard practice, provided that the BMS can accurately determine the State of Charge (SOC) and State of Health (SOH) of each battery module and the overall system.
177	b. Round Trip Efficiency (RTE): Measurement of incoming and outgoing energy shall be carried out at the metering/delivery point/Pool of respective plant (33 kV/132 kV / 220 kV / 400 kV as applicable) using ABT class meters. Auxiliary consumption of the completeBESS plant shall be separately measured (as applicable) with ABT class meters installed at the tapping point of auxiliary load feeders.	1.Kindly confirm whether a separate 33 kV or 11 kV metered connection will be available for auxiliary power. 2.May the bidder include a small rooftop solar PV system to reduce the auxiliary consumption of the BESS plant, and if so, will its contribution be considered in the RTE calculations?	1) NO 2) In case of Roof Top considered by Bidder on its own accord, same may be used to reduce its Aux. power drawl for the BESS system. Only roof top solar on buildings under this package shall be considered and all other provisions of technical specification shall prevail.
178	Shortfall in LD for Availability, RTE, Degradation etc	Kindly confirm whether there will be any incentive if the availability, RTE, or annual degradation values are better than the limits specified in the tender, and whether such improvements will be considered/incentivized in the evaluation criteria.	No incentives will be provided for exceeding the specified limits of availability, RTE, or annual degradation. Bidders are required to meet the guaranteed values as per the tender.

179	3.01.01 :The cable shall consists of single core stranded copper compacted circular conductor 6.00.00 : CABLE /ACCESSORIES PARAMETERS-Conductor material Copper	Kindly confirm if we can use aluminum conductors for the EHV cables.	Bidders proposal is NOT accepted. Bidder to comply the technical specification requirements
180		For cable laying, may the bidder utilize NTPC's existing structures at the location, or is a separate cable crossing arrangement required? Kindly confirm.	Use of existing Thermal power plant structures is NOT envisaged
181		Kindly confirm the make of the FOTE, the availability of spare parts, and the type of FOTE—whether it is STM-4 or STM-16. If it is within the scope of NTPC, we request you to share the specifications of the FOTE.	FOTE is NOT included in scope of supply for Lot 1 projects