

		 A4-11	Section - A		Ref : CE/470/BESS/GI	
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		REVISION: 00		Approved: Alok Mandal 		
		Prepared  ASWANTH KUMAR K P		Issued CE-Engg-SCADA	Date 28.07.2020	

			GENERAL INSTRUCTION	Ref : CE/470/BESS/GI
		A4-11		REV. No. 00
				PAGE 2 OF 2
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company. <u>SECTION –A</u> <u>GENERAL INSTRUCTIONS TO BIDDERS</u> <u>Introduction</u> : Bidders are required to submit technical offer for 410KWH Battery Energy Storage system for M/s TERI –3 sites in NCT of Delhi. The bidder shall be totally responsible for the desired performance of the offered BESS system including survey, planning, design, engineering, manufacturing, testing, insurance,supply, installation and commissioning, comprehensive AMC on Turnkey basis. All required documents against this tender/specification shall be submitted in English only. 1. Submission of Documents : a. Documents listed in Section-B of this specification for meeting Pre Qualification Requirements (PQR) should be submitted in separate cover with “Section – B – Pre Qualification” written on cover. b. Technical offer / proposal as per Section-C of this specification should be submitted in a separate cover with “Section – C Technical offer” written on cover. 2. <u>Evaluation methodology</u> : A. Bidder’s PQR & Technical offer document cover will be opened first for review and evaluation by BHEL. In case the bidders offer do not meet the PQR, then corresponding techno-commercial offer will not be considered for further evaluation in the tender. Technical offers of those bidders who meet PQR shall be considered for review and further consideration. B. Bidders declared qualified for meeting Pre Qualification Requirements mentioned in section B and are presently not registered with BHEL EDN Bangalore for supplying BESS package, shall be informed by email to submit online BHEL vendor registration form at www.bhel.com. C. If required during evaluation of PQR and technical offers/bids, vendor should be present at BHEL Electronics Division, Bangalore, for discussions. Further in the event of order, during approval of the vendor documents by customer, vendor shall accompany BHEL representative for discussions with customer/consultant.				

		 A4-11	Section - B		Ref : CE/470/BESS/PQR	
					REV. No. 00	
					PAGE 1 OF 2	
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				REVISION: 00	Approved: Alok Mandal 	
			Prepared  Aswanth Kumar K P	Issued CE-Engg-SCADA	Date 28.07.2020	

			ELIGIBILITY CRITERIA	Ref : CE/470/BESS/PQR
		A4-11		REV. No. 00
				PAGE 2 OF 2
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company. SECTION –B PRE-QUALIFICATION REQUIREMENTS (PQR) 1. The bidder should have minimum two years of experience in executing contract of grid interactive BESS (viz. supplied/commissioned/running) across the globe. Purchase Order/ Completion Certificate of past five years should be enclosed. 2. The bidder having installed & operationalized the grid interactive battery energy storage system(s) of cumulative installed capacity of 125 kW for 2 hours or higher, out of which at least one grid interactive battery energy storage system should be of 30 kW for 2 hours capacity or, higher (in India or globally). Certificate issued by the Employer/ Client certifying the operation without any adverse remark along-with copy of purchase order prior to the date of techno- economic bid opening, shall be provided. The following documents are required for acceptance: 2.1 Un-priced purchase order copy / Completion Certificate of past five years of end user placed on bidder. 2.2 Certificate issued by end user certifying the operation without any adverse remark along-with copy of purchase order mentioning the date of installation of the supplied system 2.3 List of past supplies in tabular form mentioning name of project, year of supply, year of commissioning, make of system etc. Note: If the furnished PTR, end user contact details are found wrong/incorrect, the offer will be rejected. 3. The responsibility of complete system including Engineering, selection of components, and erection and commissioning, AMC shall be with original BESS manufacturer. For this OEM shall submit a letter in original. Further, OEM shall also submit letter indicating availability of service, spares for a minimum of 10 years after supply. 4. Bidder must meet the Technical Specifications as stipulated in the Tender, and the bidder(s) must be able to provide the after-sales warranty and support services. 5. If Bidder is not Original Equipment Manufacturer (OEM), then Bidder has to include Authorization letter from OEM for Design, Engineering, Manufacture, Testing, Supply, Erection and Commissioning of the offered system. 6. Along with the documents related to PQR above, following details shall also be included in the Offer: 6.1 Technical literature / Manuals of offered BESS system. 6.2 Details of Manufacturing, testing & inspection facility. Note: In case Bidder does not submit details mentioned in above clauses or meet the requirements of Pre-qualification requirements, Offers will be summarily rejected and Bidder’s technical offers/proposals will not be evaluated. Please read carefully the General Instructions in Section-A of this specifications.				

		 A4-10	SECTION-C PURCHASE SPECIFICATION		PS 4702165	
					REV. No. 00	
					PAGE 1 OF 40	
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		PURCHASE SPECIFICATION OF 410 KWH BATTERY ENERGY STORAGE SYSTEM (BESS) FOR M/s TERI (The Energy and Resources Institute), New Delhi				
		REVISION: 00		<i>Approved: Alok Mandal</i>  <i>Prepared</i>  ASWANTH KUMAR K P <i>Issued</i> CE-Engg-SCADA <i>Date</i> 24.07.2020		

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				REV. No. 00
				PAGE 2 OF 40
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		This document covers specifications of BESS System for M/s TERI for 3 sites in NCT of Delhi. The detailed specifications of the BESS system are given in the following sections. The vendor shall be totally responsible for the desired performances of the offered BESS system including survey, design, engineering, manufacturing, testing, supply, installation , commissioning and Warranty along-with CAMC for 5years(Total Turnkey Project). Objective: Tender for Design, Supply, Testing, Installation and Commissioning, Warranty along-with Comprehensive Annual Maintenance Contract (CAMC) for 5 years of Battery Energy Storage Systems (BESS) on Turnkey Basis. Location and Applications: Under UI-ASSIST initiative TERI in-association with BRPL(BSES Rajdhani Power Ltd.) conducted a detailed feasibility study within BRPL licensee area in the NCT of Delhi, and had identified few selected locations to demonstrate operational use cases of grid-scale BESS on pilot-basis. The details of BESS application(s) and size for specified locations are mentioned below: 1. Category-A: BESS will be used to manage overload of a Distribution Transformer (DT) serving mainly residential consumers. BESS to be installed on the LT side of DT will be charged when the loading of DT is lower than a particular threshold level and discharged when loading exceeds the defined threshold level. 2. Category-B: Here in, the proposed application of BESS is to supply the back-up power to common/critical loads (loads such as lift, water pump and lighting load) of gated group housing society during power outages. The system will be charged from grid power and also from existing solar PV installed as and when available. Additionally, there should be a provision to charge the BESS from DG power, DG synchronization if required. 3. Category-C: TERI-School of Advanced Studies (SAS) is an institution with TOD tariff applicable for five months. In this case, BESS will be charged during off-peak hours and discharged during peak hours. This application aims to demonstrate BESS operations with difference in prices during a day at a constant rate. During remaining times of the year, BESS operations may be used for research work within technical constraints of the battery technology.		

A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 3 OF 40

Table 1: Category-wise BESS descriptions for all 3 site:

	Location	Application	Useful Capacity of BESS at the Beginning of Life	Battery Chemistry	Designed Rating of BESS
Cat-A	990-kVA DT in Taimoor Nagar, New Friends Colony, New Delhi	Overload management of DT (primary application)	230 kWh/ 125 kW	Li-Ion (LFP)	Technology Dependent
Cat-B	Dwarka (Ispatika Apartments, Dwarka), New Delhi	Supply Critical/ Common Load of a Gated Residential Community (primary application)	120 kWh/ 240 kW	Li-Ion (LFP)	Technology Dependent
Cat-C	TERI-SAS, Vasant Kunj Institutional Area, New Delhi	Savings on TOD price difference (primary application)	60 kWh/ 50 kW	Li-Ion (LFP)	Technology Dependent

Note: There will be other applications of BESS in those sites, in-addition to primary applications.

1.0 Scope of work

The Selected Bidder shall be obligated to perform the following Scope of Work, but not limited to, in relation to installation of BESS.

A. Planning, design, engineering, transportation to site, insurance, supply at site, un-loading, storage, handling, installation, integration, testing, commissioning & demonstration for acceptance of all equipment/ materials and miscellaneous items required to complete the BESS installation, which includes, but is not limited to the following:

- Battery packs, Power conditioning system, Air conditioning (AC) system, Fire-fighting system, UPS, system hardware, measurement & control device and other associated items necessary for trouble free operation and maintenance of whole system.
- Containers, structures, Earthing design, and battery modules inter-connection.
- Power Conditioning Units (PCU) with monitoring & control related equipment such as actuators, sensors, transducers etc.
- Appropriate protection and safety features.
- Project Management including adherence to all requisite safety practices.

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			PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
		A4-11		PAGE 4 OF 40
f. Fire-fighting and fire detection systems. g. Factory acceptance test and site acceptance test				
1.1. Delivery Delivery of materials: All the materials as specified in the purchase order should be delivered at the sites of installation within NIT commercial terms schedule. Transit insurance and storage insurance till the handing over of all materials will be within the scope of work. The Contractor should provide the manufacturer’s warranty on all components supplied. It shall be the sole responsibility of the Contractor to get verified the quality and quantity of the supplied material at the site of delivery. Delivery time for installation and commissioning: The systems will be deemed commissioned only after successful trial run of the system for three (3) days from the date of installations. Warehousing and storage of all components will be in the scope of work till the commissioning of all systems as per the purchase order. Please note complete Work has to be completed within NIT commercial terms schedule. Insurance: Transit Insurance, storage insurance and erection insurance of the materials and equipment’s for setting up the BESS shall be arranged by the Contractor for the total supply The goods supplied under the contract shall be fully insured for 6 years against loss or damage incidental to manufacture or acquisition, transportation, storage during transportation				
1.2 Installation and Commissioning of BESS that includes: a. Special care to be taken while designing the system to cater to heavy rainfall, strong winds, temperature difference and earthquake that may be prevalent in the area. b. The Selected Bidder shall provide all related drawings to relevant IS/ IEC standards c. Documentation and Training to TERI’s and BRPL’s officials. d. Undertake Pre-commissioning and Commissioning of all supplied equipment. i. Test running of the grid-connected BESS facility including battery operation trials at Site, prior to handover. ii. Installation of appropriate measurement and control devices at required location, with submission of drawings - approved prior to commencement of work on Site. iii. Commissioning certificate from relevant authorities for the facility. e. No request for deviation in site specifications will be entertained by BHEL. All the site parameters such as space availability, electrical and civil infrastructures etc. have to be properly considered by the Contractor during site visit. BHEL Site survey report is also attached (Annexure VII) for reference. Any additional cost in making upgrades at the sites (for all three categories) will be borne by the Contractor . In case of any change in Location for Category-B, it is the responsibility of the Contractor to carry out the site visit and evaluate the new site for installation of Battery Energy Storage System at its own expenses. Any additional cost, if arises, due to any change in scope of work shall be finalized on mutual agreement between BHEL & Contractor on the basis of component wise cost				

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			PURCHASE SPECIFICATION	PS 4702165
		A4-11		REV. No. 00
				PAGE 5 OF 40
already submitted by the Contractor as a part of financial bid. f. After successful supply/commissioning of the system and training, the system will be handed over to the person designated by TERI or, BRPL.				
1.3 General Instructions - Security, safety, watch, and ward of all materials at sites shall be the responsibility of the Selected Bidder - Expenses for any other works, supply of material, and providing services required for the successful commissioning and operation of the plant, but not specifically mentioned in this document shall be borne by selected bidder. - Safety management to be strictly complied with by the Selected Bidder throughout implementation activity. - All local labour, employment, and other issues shall be handled independently by the selected Bidder. - The entire responsibility and risk relating towards the manpower working at the Site, and compliance of different statutory regulations like Workman Compensation Act, Employees State Insurance Corporation (ESIC), Factory Act. 1948, Contract Labour Regulation, and Abolition Act 1970, Shop and Establishment Act. 1948, and other Statutory regulatory bodies shall solely lie with the Selected Bidder. The Selected Bidder shall also be solely responsible for payment of wages, provident fund, bonus, retrenchment compensation leave, etc. applicable as per various statutory regulations to their entire workforce, and keep BHEL/TERI/BRPL and the eligible consumer indemnified in this regard against any claim.				
1.4 Operation and Maintenance - The operation & maintenance of the BESS would include wear, tear, overhauling, insurance, and replacement of defective cells, invertors, PCUs, spares, consumables & other parts for a period of five years. - The BESS system shall include energy management system (EMS), battery management system (BMS) and dashboard to display key operational parameters such as voltage, current, battery SoC, frequency etc. - Monitoring of BESS performance and supply of all technical, production/operation data and information and making it available as and when required. - The supplier shall be responsible to carry out routine and preventive maintenance and replacement of each and every component / equipment of the BESS in case of any failure and vendor shall provide all labour, material, consumables etc. for routine and preventive maintenance at his own cost. - Carryout preventive maintenance of each and every component of the BESS and shall provide the required manpower, materials, consumables, components or equipment etc at regular intervals as per the discretion of BRPL/TERI. - Carry out maintenance activities as a result of sudden failure/breakdown of any particular component or equipment. Bidder shall be responsible to carry out breakdown maintenance of each and every component of the BESS and shall provide the				

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		 A4-11	PURCHASE SPECIFICATION	PS 4702165 REV. No. 00 PAGE 6 OF 40
		required manpower, materials, consumables, components or equipment etc. for breakdown maintenance at his own cost irrespective of the reasons of the breakdown/failure. g. Visit to the site on call basis to provide maintenance services within 12 hours of lodging of complaint by BRPL/ TERI through Telephone/ E-mail or, any form of written communication. 1.41 OPERATION & MAINTENANCE MANUAL An Operation, Instruction and Maintenance Manual in English language as per the requirement should be issued enclosing - Basic principles of BESS operation. - A small site-specific write-up (with a block diagram) on the BESS – its components, battery packs, inverter, junction boxes and expected performance shall be provided. - Type of battery technology, Make & Model number, Voltage & capacity of inverter and cells, used in the BESS. - Technical characteristics of the entire component are required to be provided. - DO's and DONT's - About the complete battery energy storage system including battery modules/cell arrangements, power conversion system, monitoring & control devices, heat managements (AC/HVAC), fire protection, EMS functionalities and architecture . - Clear instructions on regular maintenance and troubleshooting of the system - Name, address and contact number of the contact person in case of non-functioning of the system 1.5 Failure to rectify the problem - If the Selected Bidder fails to rectify the problem, the distribution utility herein BRPL shall rectify the problem at the expense of the Selected Bidder. - In case of non-responsiveness of the Selected Bidder to carry out the O & M work, TERI/BRPL is free to empanel or allocate the work to the other selected company to carry out the maintenance activity. The payment for the O&M will be recovered from the contract performance guarantee of the Selected Bidder. - BRPL reserves the right to make surprise checks/ inspection visits at its own or through authorized representative to verify the O&M activities being carried out by the Selected Bidder. Failure to adhere to above guidelines will result in penal action.		
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A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 7 OF 40

2.0 Technical Specifications for Battery Energy Storage System(BESS)

The bidder shall be able to provide the components of the BESS as per following technical specifications described below in this section.

2.1 Battery Sub-system

The cells shall be supplied as group of cells combined into modules and inter-connection of cells; modules should be designed properly to prevent the damage during transportation. The cells & modules should be able to absorb the anticipated vibration/shock associated with the transportation.

2.2 Battery Technology

Definitions of various terminologies related to battery energy storage system should comply with IEC 60050-482 (International electro-technical vocabulary for cells/ batteries) if otherwise not specified. Li-ion LFP (LiFePo₄) shall be used in the battery energy storage system for application under category-A. Technical specification shall be provided for aforementioned Lithium-ion battery technologies for rated useful capacity of BESS as mentioned below in the table 2.

Table 2: Technical characteristics of BESS for Category A

Sr. No.	Parameters	Unit	Value
1	Useful capacity at output of power conversion system at rated DoD as per battery design	kWh	230 (Category A)
2	Peak power requirement	kW	125 (Category A)
3	Depth of Discharge	%	> 80 (Li-ion)
4	Throughput	kWh	At-least 9,20,000 kWh of total throughput for Li-Ion at rated DoD
5	Round Trip Efficiency (DC-DC)	%	> 90 (Li-ion)
6	Service Life	Years	At-least 6 years or, total throughput mentioned whichever is less
7	Charging time	Hours	Maximum 4 hrs. from rated DoD to full capacity
8	**Annual throughput (±10% permissible range)	kWh	2,000 kWh

** It indicates the annual energy required from BESS for category A as per current load pattern of distribution transformer. Annual throughput has been mentioned just to estimate the annual degradation of battery useful capacity. In-addition, BESS will not be

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utilizing for more than one cycle in a day for specified application under category A. However, warranty & AMC shall be provided on the basis of total throughput of BESS.

2.21 Lithium-ion battery (LFP) shall be also used in the energy storage system for applications under category B & C as applicable. Technical specification shall be provided for aforementioned Lithium-ion battery technologies for rated useful capacity of BESS as mentioned below in the table 3.

Table 3: Technical characteristics of BESS for Category B & Category C

Sr. No.	Parameters	Unit	Value
1	Useful capacity at output of power conversion system at rated DoD as per battery design	kWh	120 (Category B) 50 (Category C)
2	Peak power requirement	kW	240 (Category B) 50 (Category C)
3	Depth of Discharge	%	> 85 (Li-ion)
4	Throughput	kWh	4,80,000 kWh of total throughput for LFP at rated DOD
5	Round Trip Efficiency (DC-DC)	%	> 90
6	Service Life (for category B)	Years	At least 6 years or 4,80,000 kWh of total throughput for LFP. whichever is less at rated DOD
7	Service Life (for category C)	Years	At least 6 years or 2, 00,000 kWh of total throughput for LFP at rated DOD.
8	Charging time	Hours	Maximum 4 hrs. from rated DoD to full capacity
9	***Annual throughput (±10% permissible range)	kWh	3,600 kWh for category B and 9,000 kWh for category C

*** It indicates the annual energy required from BESS for category B & C. Annual throughput has been mentioned just to estimate the annual degradation of battery useful capacity. In-addition, BESS will not be utilizing for more than one cycle in a day for specified application under category B & C. However, warranty & AMC shall be provided on the basis of total throughput of BESS.

			PURCHASE SPECIFICATION	PS 4702165
		A4-11		REV. No. 00
				PAGE 9 OF 40
2.3 Battery Energy Management System				
Category A				
Battery storage shall discharge based on battery capacity and real-time loading of DT. Reference for discharge current shall be evaluated as per equation (4) expressed in annexure-I. The reference value shall be updated periodically (interval time will be decided in consultation with system integrator) depending upon the electrical parameter measurement. The charging shall be performed in constant current constant voltage (CCCV) mode. However, change of operating mode from CC to CV during charging shall be determined on the basis of bidder recommendations.				
Category B				
BESS shall supply the power to common/critical load during power outage event. The system shall monitor the grid parameters (voltage, current, frequency, power factor etc.) and total load demand during power outages. The system shall be able to discharge with 2C rate and it shall also be synchronized with DG set in such a manner that it should not back feed the power to DG. When the BESS is discharged completely during power outages then the power to the load shall be supplied through the DG set for remaining duration. The charging of battery storage system shall be performed through grid power supply. Grid power, common/critical load demand and battery capacity will be monitored continuously and whenever power failure occurs, BESS shall supply the power to load as per equation (5) and (6) expressed in annexure-II. In-addition, BESS must have feature to supply the power to the load in grid-connected mode when utility observes the peak demand. Therefore, bidder must install a hybrid system (PCS) which can be operated in both off grid as well as grid connected mode. Although, the aforementioned application of grid-connected operation of BESS is not a primary application as of now however it can be implemented in future.				
Category C				
The battery storage shall discharge during pre-defined peak hours with constant C-rate as per equation expressed in annexure-III. The charging of BESS shall be performed through grid in off-peak hours. Battery SoC shall be monitored periodically to evaluate the remaining capacity at start of discharge operation and accordingly a constant rate of discharge will be defined. Further, an additional feature shall be provided to change/edit the discharge duration and rate of discharge whenever required.				
Note: Control Algorithm mentioned in Annexure-I, II and III can be improvised, if required, in discretion with TERI & BRPL considering proper functioning of BESS.				
2.4 The Battery Energy Management System (EMS) architecture shall comply with following requirements:				
a. Energy management system shall comprise of hardware & software for managing the power/energy flow through BESS for specific application. b. BESS should have the capability to monitor the operational parameters of grid and BESS (Grid V & I, P, Q, f, battery V & I, State of Charge, relay/actuator command etc.) remotely in SCADA system through communication interface.				

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		 A4-11	PURCHASE SPECIFICATION	PS 4702165 REV. No. 00 PAGE 10 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		In-addition, BESS operation shall be controlled through utility's SCADA center. c. The EMS shall include monitoring, data acquisition and control to provide continuous visualization or display of key operational parameters (such as Grid voltage & current, Input/output power, battery voltage & current, state of charge, energy throughput remaining, SoC, sampling rate, mode of operation, cell level voltage and temperature, etc.), as well as permanent archival of all measured parameters. The system shall record values of all operational parameters in fix and removable non-volatile memory. It shall be capable of making all monitored data and events available through the Distributed Network Protocol (DNP3) communication interface and shall allow the display of current values and recent historical trend (such as past 24 hours). d. The sampling time for measurement/monitoring of key electrical parameters shall be adjustable up to 100 ms. The real time analogue data such as grid voltage & current, battery voltage & current, SoC, frequency etc. at 10 second interval and digital data such as alarm, events will be stored for 30 days. Human machine interface (HMI) shall display the single line diagram of whole system with color display and alarms & events shall be displayed in the form of list. The operation of HMI should be user friendly. It should have feature to control the BESS operation both in automatic and manual mode (set/reference point can also be defined manually as well). There should be provision to change some of the set point values such as loading threshold of various distribution system components like transformers, sampling rate (as a decision parameter) and this should be provided through the user interface. e. The control features in Energy Management System (EMS) shall be customizable and shall have feature to update the algorithm time to time as per requirement. There should be provision to change the program/code of EMS software depending upon the TERI demand. The procedure to request the change in program/code of EMS should be provided by the Contractor. It shall have capability to store 30 days back up data at local EMS platform, and can be extracted on user/TERI demand. The EMS portal should display input/output power, operating state (charge/discharge/idle), charge/discharge mode (CC, CV, CP), DoD Vs cycle count histogram and module-wise temperature heat-maps. f. Module-level battery management system shall be provided to take care of battery module's parameters (voltage, SoC and temperature) within specified range as per the requirement of battery technology. Additionally, BMS must have feature to monitor the cell level parameters as well. g. Local EMS portal should be password protected with different level of security such as operator, supervisory and admin level. Also, the recorded & monitored data should be encrypted to ensure secure operation of BESS.		

			PURCHASE SPECIFICATION	PS 4702165
		A4-11		REV. No. 00
				PAGE 11 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		The operator and supervisory level access should be provided to TERI/BRPL while the Contractor will hold the access of admin level password. EMS of BESS shall be designed in such a way that it could be interfaced with existing SCADA system of the utility. The field status of key operational parameters must be communicated to a centralized control station of the distribution utility through Modbus communication and it shall have feature to control the system from centralize control station. In addition, the contractor shall also create local control station to monitor & control the system operation locally from an industrial computer/ PC as well as through a smart phone application based on android or IOS. Also, the EMS portal shall have a provision to monitor the real-time status of Distributed Energy Resources (DERs) located nearby the BESS installation site through a seamless integration method. However, the communication methodologies such as GPS, GPRS, etc. may be decided mutually between TERI and the Contractor, later during the engineering design stage based on the options available for accessing the external data repositories corresponding to the respective DERs.		
		h. EMS shall link all three (3) sites which are to be installed in the current tender. However, EMS shall be extendable in case additional battery storage systems get installed in future at other locations or existing battery energy storage system gets replaced with a newer technology and/or of different size. The contractor shall share the open Application Program Interface (APIs) of the EMS with customizable data structure for integration of any future battery energy storage system of any make at multiple locations. EMS shall be interoperable with any other EMS or Distributed Energy Resources Management System (DERMS) having the same protocol and with SACDA through IEC 60870-5-104 protocol. It is reemphasized that the EMS so supplied should be supporting open protocols capable of integrating multiple battery energy storage systems at different locations in future as well. The communication between the EMS (which is to be located at BRPL’s Central SCADA Control Center at 33kV Balaji Grid Station, Kalkaji) and different locations of BESS needs to be established by the contractor through suitable communication channels. i. BESS operation should be controlled by one operator at a time, positioned either locally or remotely and thus it must have suitable interlock features. Local control should be highly placed in control hierarchy. Real-time analogue & digital inputs & outputs should be visible on the display screen both locally and remotely and logical command shall also be displayed in Control Centre. An integrity scan shall also be made periodically and any discrepancy occurs between field status and command, shall be intimated through alarm. j. Software interlocking should be provided to ensure that inadvertent incorrect operation of switchgear causing damage and accidents in case of		

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			REV. No. 00
			PAGE 12 OF 40
false operation does not take place. k. A restricted access to monitor the operating parameters through web/online portal as well as mobile app shall be provided to TERI and BRPL. Following parameters to be displayed at the control center: I. Operating Mode: a. Grid connected/ Standalone mode b. Automatic/ Manual mode c. Charge/discharge II. Application mode (as described above for different category) III. Measurements (V, I, P, Q, SoC, charge/discharge rate freq., energy export/import) IV. Events and alarms V. Breaker position/operation VI. Parameters of PCS such as active power, reactive power, power factor, operating DC voltage etc. VII. Fault information VIII. Status of air conditioning and fire protection system IX. Smoke/fire alarm and container opening alarm 2.5 System Hardware Requirements Monitoring & control centre shall include workstation, keyboard, mouse, LAN cable and all associated items. Local LED - LCD display shall be provided to monitor various functions and parameters locally viz. Charge, discharge, current, voltage, power, alarms etc. The system shall preferably be based on Latest hardware and software of personal computer technology with a Microsoft Windows 10 or later operating system. Other system architectures are acceptable, but regardless of system architecture, the system shall, at a minimum, provide remote data inquiry from personal computer-based platform and data file export capabilities in ASCII format or, independent media (such as universal serial bus drive) that are readable on personal computer based systems. The system shall provide unsolicited message capability for reporting critical alarms and indication locally and remotely to the BRPL's SCADA system. Latest Hardware- Processor, RAM and Storage should be selected in such a way that it should not use more than 50% of the disk space. An additional remote monitoring unit (42") displaying required features shall also be provided at TERI HQ with suitable configurations. There should be CCTV surveillances for installations at each site with real-time recordings.(IP based CCTV camera with DVR system for recording)			

		बी एच ई एल BHEL A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 13 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.				
		3.0 Battery Management System (BMS) Functionality Requirement & Monitoring: BMS shall monitor battery system parameters such as string voltage & current, SoC, cumulative number of cycles and throughput along with DoD. It shall also monitor utility side parameters such as voltage, charge/discharge current and protection system readings/status. 3.1 Charge control: EMS shall control the charging state of each module based on monitoring of parameters and power/energy requirements. It should charge the module in float/boost mode and/or Constant Current Constant Voltage (CC-CV) mode as per requirements of battery sub system. Further, it should regulate the voltage to limit the temperature rise in the cell. 4.0 Power Conditioning System (PCS) Functionality Requirements &Monitoring: 4.1 Power Control: PCS shall able to supply rated power to grid/battery for specified duration (as per requirement) as required without violating the temperature rise limits. Additionally, it shall control the active and reactive power separately. Though, the primary requirement of the project is to supply only active power (power factor must be greater than 0.98 from BESS but there should be provision to supply reactive power as well if required. Power quality parameters of PCS shall comply with relevant IEC/IEEE standards. 4.2 Operation Mode: The output of the PCS (voltage and frequency) needs to be synchronized with secondary side output of Distribution Transformer (DT) when the battery energy storage system is operating in synchronized mode of DT. In other cases, PCS output voltage shall remain within 1% of the set value i.e. 433V. PCS must have isolation transformer (inbuilt shall be preferred) to disconnect the system from grid in case of any hazardous situation. It shall operate in inverter mode during discharging and rectifier mode during charging of battery system. 4.3 Auxiliary power supply: Auxiliary loads of BESS shall be supplied power either from AC bus of PCS or else a separate connection shall be established from control room. Useful capacity at output of power conversion system at rated DoD as mentioned in tables above are after consideration of Auxiliary power consumption the BESS. It is re-emphasized that the useful capacity at output of power conversion system as mentioned in above tables is after consideration of round-tip efficiency, rated DoD, auxiliary power consumption, (which should preferably be less than 2%) etc. Auxiliary consumption has to be mentioned under technical bid for proposed battery technology and same has to be included in technical datasheet as well.		

A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 14 OF 40

4.4 Enclosure:

PCS should be placed in waterproof and dustproof enclosure rated to minimum IP-42 protection with provision to prevent moisture condensation, airborne dust rodents etc. It shall be kept indoor (inside container/enclosure of BESS) floor-mounted, self-supporting sheet metal enclosed cubicle type. The contractor shall provide all associated items such as base frames, removable gland plates, copper lugs anchor bolts and hardware. Cubicle door should be earthed properly.

Table 4: Detailed description of PCS/ PCU

Sr. No.	Parameters	Unit	Value
1	Maximum power rating	kVA	140 (Category A) 270 (Category B) 56 (Category C)
	Power rating	kW	125 (Category A) 240 (Category B) 50 (Category C)
2	Power factor	Cos Φ	0.9 (leading to lagging)
3	Efficiency	%	> 97
4	Voltage withstand capabilities	Volts	+15/-20% of rated voltage on both AC & DC side
5	Frequency	Hz	50 $\pm$ 3 %
6	Power quality parameters	As per IEC/IEEE standards (IEEE 519-1992/2003)	
7	Communication interface with SCADA system	Modbus (Port: RS-485) / IEC 60870-5-104 protocol	

5.0 Design and Construction Requirements

- BESS system will be inter-connected with grid at secondary terminal of distribution transformer i.e. three-phase four-wire, 433 Volts (L-L) at point of common coupling (PCC). The above mentioned inter-connection point is suggested for category-A & category-C application. However, probable inter-connection point of BESS for category-B will be at 3-phase output of DG set. However, it may further change slightly after the site visit to installation site. The single line diagram (SLD) of all the three categories is given in annexure IV, V & VI. In-addition, the appropriate location for BESS inter-connection shall be proposed by the bidders and further it shall be approved by TERI/BRPL.
- The whole system (battery, PCS, auxiliary source, PMS, firefighting system etc.), shall be enclosed in a container or cabinet with IP-54 class of protection or as per national/ international standards (IEC-60529). The system must be placed in a container and it should have feature for heat load management. The standard containerized solution including both Battery modules and PCS shall be preferred. The system's container shall meet all standard safety requirements. For BESS Container sizing ,Bidders to consider actual space availability at sites . A site survey report is attached for reference(Annexure VII). Further, the battery container material should have electro-chemical compatibility and resistant to acid &

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		बी एच ई एल BHEL A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 15 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		alkaline material. The container should be fire retardant and it shall able to withstand the tensile stress due to internal pressure of the cells or electrolyte in the worst operating condition. c. Each cell should be provided with pressure regulated valve (if required as per battery technology). The valve should be self-re-sealable and fire resistant. d. The terminals of the cells shall be coated with corrosion resistant materials and it should be non- reactive to acid and alkaline. It shall also be covered with insulating material to prevent any accidental contact with live electrical connections. e. All the batteries shall be mounted in a metallic stand/frame. The frame should be painted with acid/base resistant paint. The suitable isolation should be provided between base of frame and ground to avoid the grounding of frame f. All sensors, transducers, circuit boards, and test points in the System shall be easily and safely accessible for calibration and maintenance. g. The additional items such as enclosures, junction boxes, grounding, instrumentation, wiring etc. required for fully functional system as per specification shall be provided / installed by contractor. h. External connection to the cells, including inter-cells or inter-module connections (such as cables/ straps etc.) shall also be designed to prevent failure during transportation. i. The modules can be interconnected in series or parallel configuration to achieve the specified energy and power requirements. j. BESS shall be provided with air conditioning system to manage the heat load of the system and rating of AC should be defined accordingly. It should be rugged, reliable and maintenance free and designed for long life time. It shall be designed for continuous operation. The system should be equipped with changeover feature to keep system healthy. k. Reputed make Energy meter of 0.5 class accuracy (as per IS-14697) shall be provided for recording export/import energy from/to BESS. CTs and PTs used in the energy meter will be under scope of contractor.		
		6.0 Safety Requirements		
		6.1 System Safety		
		a. Safety of Li-Ion cell shall be ensured as per IEC-62281 and container should have IP-54 class of protection. b. Each cell shall be equipped with a flame arrestor to defuse any flammable gas escaped during charge and discharge. In addition to the fire suppression system, the flame arrestor is required to prevent the fire from one cell to the adjacent cells and needs to be provided from the perspective of safety as per relevant standards. c. The safety for whole BESS system shall be ensured as per UL-9540. d. Adequate fire protection system should be provided for whole system (cells, modules, PCS etc.). e. Suitable Earthing system should be designed and provided for BESS.		

		बी एच ई एल BHEL A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 18 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		6.4 Protection for Temperature Rise The contractor shall design a protection system for temperature rise in the battery modules/cells, PCS or any other component of the BESS, due to short circuit in any part of the system, failure in temperature controller or sensors or any other internal/ external fault.		
		6.5 Protection for Spillage Protection shall be provided for electrolyte spills that are related with the type of electrolyte used. It shall have feature to prevent the discharging of electrolyte to nearby installation site.		
		6.6 Emergency Stop There should be provision of manual and automatic disconnection of the BESS from distribution system if; 1. Protection system failure is detected during self-diagnosis, healthy check. 2. Breaker trip coils or interrupting device. 3. DC supply lost.		
		7.0 Disposal/ Battery Recycling Plan Once battery / system completes its life the contractor will be responsible for dismantling of system and remove the item from the site and handover clear site to owner of the property / site. a) The supplies of battery cells/modules/pack shall be supported by an extended producer responsibility certificate as and when available, authorization from the battery manufacturer. 'Extended Producer Responsibility' (EPR) means responsibility of any producer of batteries for their products beyond manufacturing until environmentally sound management of their end-of-life products; for channelization of waste batteries to ensure environmentally sound management of such waste. Extended Producer Responsibility may comprise of implementing take back system or setting up of collection centres or both and having agreed arrangements with registered recycler either individually or collectively through a Producer Responsibility Organization recognized by producer or producers in their Extended Producer Responsibility. b) All batteries that have completed the useful life (battery waste) at the location installed shall be managed in an environmentally sound manner. 'Environmentally sound management of battery waste' means taking all steps required to ensure that batteries are managed in a manner which shall protect health and environment against any adverse effects, which may result from hazardous substance contained in such wastes;		
		7.1 Dismantling: At the end of the life of batteries, final dismantling, removing and recycling batteries from the site is the complete responsibility of vendor. Under Category-B, BESS is to be placed into a premises of residential society. The inter-connection of the said system will be behind-the-meter, and hence it is outside of control area of TERI/ BRPL. Thus, in view of public interest, a premature removal of BESS from the site may be required even within the contract duration. In such unforeseen circumstances, TERI/ BRPL will provide another site within licensee area of BRPL with similar operating conditions in NCT of Delhi. The shifting and re-installation of BESS will be performed by TERI/ BRPL (within a stipulated time-frame) at their own cost and risk under the supervision of vendor. The commissioning of the BESS at the new site will be performed by vendor with the support from TERI/		

		बी एच ई एल BHEL A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 19 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		BRPL. The charges for vendor’s services for ‘shifting & re-installation supervision’ and ‘commissioning of the BESS at the new site’ are to be paid to vendor by BHEL as per the per man-day rates prevailing at that time. The man-day rates shall include to-and-fro transportation, food and lodging. The charges shall be prior mutually discussed and finalized as and when required. At the time of shifting & re-installation, the CAMC clauses of purchase order in particular and any clauses related to non-availability during the relocation period in general will remain suspended till the BESS is completely installed and ready to use condition in new site. Post commissioning, those clauses will be applicable as per the purchase order.		
		7.2 Recycling Once batteries have reached the end of its useful life (even after six years of contract duration), It is the complete responsibility of Contractor to remove batteries from each site and recycle the batteries. Batteries should be in completely discharged condition prior to their disposal and disposed as per the brief plan presented at the time of quality assurance program (refer clause 13). The DC connection terminals of the batteries must be insulated with electric tape to prevent accidental contacts. Incineration must be performed by an approved and permitted waste treatment facility that handles lithium ion batteries. It shall be the responsibility of Contractor to; 1. ensure that used batteries collected are sent to the registered recycling agencies or for disposal; 2. ensure that necessary arrangements are made for safe transportation from site to the premises of recyclers or for disposal; 3. ensure that no damage to the environment occurs during transportation; 4. ensure that batteries are recycled according to relevant guidelines prevailing at the time of disposal. A detailed report on recycling has to be submitted once the process is complete duly signed by registered recycling agency.		
		8.0 System Testing 8.1 Factory Test The contractor shall carry out factory acceptance test (FAT) at sub system and module level and it shall include for all component to the extent possible. The contractor shall submit FAT document to approving authority. It shall include following test: Visual Inspection of equipment including dimension and overall design Verification of sensors, metering and alarms Verification of all control function including remote control, monitoring and communication interface Verification of system performance at full/ partial Energy/ Power ratings Verification of maintenance and replacement features for unit batteries and other components During the FAT, system shall be operated as specified and designed in all the operating states, use cases and duty cycles. It shall meet power/ energy requirements and shall be demonstrated to meet the safety requirements.		

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		Operation of all control, protective relaying and instrumentation circuits shall be demonstrated by direct tests, if feasible, or by simulating operating states for all parameters that cannot be directly tested. Automatic, local and remote operation of the controls shall be demonstrated. BESS shall be verified for operation at temperature extremes defined in specification. For this, if it is not possible for the full system, then independent laboratory certification of operation of critical components and subsystems shall be submitted at the time of FAT. During FAT, if something mal-operates then FAT shall be suspended and resumed after rectification of the problem. The system shall not be accepted for shipment until all FATs have been successfully completed.		
		8.2 Site test The contractor shall submit a comprehensive plan for site acceptance test to approving authority for approval. SAT plan shall include procedures to test correct system responses to system disturbances and operating scenarios described in the specification. The test shall include, as a minimum, following procedure: Verification of sensors, metering and alarms Verification of all control functions including automatic, local and remote control Verification of the performance criteria Demonstration of all the intended applications Demonstration of grid interface protection & control system Verification of power quality parameters 9.0 Special Tools and Mandatory Spares The bidder shall ensure the deployment of all special tools and tackles, required for installation, testing & commissioning and maintenance of BESS. Additionally, the contractor shall also furnish list of special tools and tackles for the system (such as switches, measurement & sensing device, transducers etc.), referred by employer during the operation of the system. Further, bidder shall provide the mandatory spares along with the list of mandatory spares for the system and no such spares to be used during commissioning of equipment or warranty period. Any spares required for commissioning / warranty shall be arranged by the Contractor. In-addition, battery modules of capacity 5 kWh of lithium-ion (LFP) shall also be provided as spare items, 3 kWh under category B and 2 kWh of category C for the technology as mentioned in bid. The same will be used for research purpose and placed in TERI’s Smart Control Laboratory at TERI Gram, Gual Pahari, Gurugram, Haryana.		

		बी एच ई एल  A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 21 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		10.0 AMC & WARRANTY Supplier shall offer one year warranty as per tender document and comprehensive AMC charges for 5 years after warranty expires for maintenance of the BESS systems for all sites. The Supplier shall warrant as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly. 10.1 Scope of AMC Warranty period is followed by comprehensive AMC period. The Scope of AMC contract starts after one year of receiving signed completion certificate from TERI. i) The Contractor shall perform standard annual maintenance and augment the system as needed to meet performance guarantee in all aspects. ii) The Contractor shall perform standard annual maintenance of BESS that would include wear, tear, overhauling, insurance, and replacement of defective cells, PCUs, spares, consumables and other parts including sensors and data acquisition equipment installed to communicate parameters to EMS and between EMS and SCADA. iii) Monitoring of BESS performance and supply of all technical, production/operation data and information and making it available as and when required. iv) Responsible to carry out routine and preventive maintenance and replacement of component/equipment of BESS in case of failure and Contractor shall provide all labor, material, consumables etc. for routine and preventive maintenance at regular intervals. This will also include scheduled software maintenance, HVAC cleaning, battery container cleaning, low voltage side circuit breaker maintenance, fire suppression system maintenance etc. v) Carryout maintenance activities as a result of sudden failure/breakdown of any particular component or equipment. Contractor shall be responsible to carry out breakdown maintenance of each and every component of BESS. vi) Visit to onsite on call basis to provide maintenance services within 12 hours of raising the complaint. vii) Emergency trouble shooting calls - within 12 Hrs including spare arrangements. viii) On site repairing/component replacement - within 2 working days, however, system has to be in service utilizing the spares (if available on site/ or at nearby service center of the Contractor) within 12 hours of the breakdown. ix) The Contractor shall maintain stock of mandatory spares required for warranty and AMC period for any emergency troubleshooting. In any case system should be in running condition within 12 hours of break-down. x) Contractor shall keep one technically skilled person employed dedicatedly to three sites as mentioned in the tender. The technically skilled person has to remain in New Delhi and in case of absence of the person due to any unavoidable circumstances; a back-up skilled person must be employed by contractor. xi) Payment of AMC charges shall be linked with uptime (availability) of BESS. BESS is more significant during peak times of BRPL, thus weightage of penalty will be higher during peak time slots as per the latest tariff orders of BRPL, as shown		



A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 22 OF 40

below:

Time Slot	Weightage
00:00 Hours to 02:00 Hours	1
02:00 Hours to 14:00 Hours	0.5
14:00 Hours to 00:00 Hours	1

The penalty on the account of non-availability of the BESS shall be calculated as under:

System Availability Factor (SAF) %	Penalty (%)	% of Quoted AMC*
0	95	100
95	96	80
96	97	60
97	98	40
98	99	20
99	100	0

Time Slot	BESS unavailable hours in a month (UAH)	Weightage(W)
TS1- 00:00 Hours to 02:00 Hours	2	1
TS2-02:00 Hours to 14:00 Hours	2	0.5
TS3-14:00 Hours to 00:00 Hours	8	1

$$\text{SAF} = 1 - \left[\frac{\{(\text{TS1 UAH} * \text{W} + \text{TS2 UAH} * \text{W} + \text{TS3 UAH} * \text{W})\}}{(\text{Number of days in the month} * 24)} \right]$$

$$\text{SAF} = 1 - \left[\frac{\{2 * 1 + 2 * 0.5 + 8 * 1\}}{(\text{Number of days in the month} * 24)} \right]$$

SAF=98.47% (considering 30 days month)

Assumed AMC charges: 1000 units

Actual charges paid: 80% of 1000 = 800 units

- xii) The penalty on account of non-availability of the BESS shall be calculated on monthly basis. The net balance (AMC contract annual price – penalty) will be released half-yearly to the contractor.
- xiii) Sub-Contracting: No sub-contracting of work in full or in part is allowed unless approved by TERI in writing.
- xiv) The Contractor shall submit category wise monitoring report to TERI and BRPL.
- xv) The Contractor shall continue to provide spare parts during warranty and AMC period at their own cost to keep the systems in good operating conditions. After

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		बी एच डी एल BHEL A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 23 OF 40
		the expiry of AMC period, the Contractor shall continue to provide spare parts at the users cost till the product life. If the Contractor fails to continue to supply spare parts and services to users, 'BHEL' shall take appropriate action against the contractor.		
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		10.2 Performance of Equipment		
		10.21 In addition to the warranty as already provided, the Contractor/ Bidder shall guarantee satisfactory performance of the equipment and shall be responsible for the period specified in Clause 10.23 hereof after the equipment has been accepted by 'TERI' to the extent for any defects that may develop such defects shall be removed at his own cost when called upon to do so by 'TERI'. During AMC contract period, as per the listed conditions of tender, the total responsibility of the BESS at all the three sites lies with the Contractor and all the repairs and replacements have to be made without any additional cost to TERI and BRPL. Also, the contractor shall be responsible for any defects that may occur due to faulty materials, design or workmanship during the AMC contract period. If it becomes necessary for the contractor to replace or repair any defective portion of the system, the contractor shall make such replacement or renewal within 2 working days of intimation and without any extra cost to BHEL/TERI/ BRPL. 10.22 The Contractor shall warrant as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly. The bidder to Guarantee the materials / items supplied against any defect of failure, which arise due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 12 months and warranty of 12 months from the date of commissioning followed by the comprehensive AMC period of be 5 (five) years for complete system including battery after 12 months from the date of commissioning and handing over of the system or total throughput mentioned in the bid whichever is first. If during the defects liability period any materials / items are found to be defective, these shall be replaced or rectified by the bidder at his own cost within 30 days from the date of receipt of intimation. BHEL may also invoke performance/security bank guarantee if any identified defects are not replaced or rectified by the bidder at his own cost within 30 days from the date of receipt of intimation. After completion of 5 years of installation due to ageing, available capacity shall not go below 95% of available capacity specified at the time of bidding. Annual expected throughputs with ± 10% permissible range are as mentioned in Table-2 and Table-3. Bidders are requested to propose degradation against estimated annual throughput in the technical bid. The Contractor shall submit category wise monitoring report to TERI and BRPL twice in a year briefly assessing the overall performance of the BESS and its associated components alongside the technical performance of battery cells/modules promised at the time of		

		बी एच ई एल BHEL A4-11	PURCHASE SPECIFICATION		PS 4702165
					REV. No. 00
					PAGE 24 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		bidding for all six years of the agreement. For example throughput consumed & throughput remaining, C – rate assessment (maximum, minimum and average), degradation curve, down-time assessment, depth of discharge assessment (maximum, minimum and average), auxiliary consumption assessment, round-trip efficiency, PCS efficiency, battery module-wise health parameters, etc. 10.23 The Warranty period shall be 1 (one) year for complete system including battery from the date of commissioning and handing over of the system. During warranty period, as per the listed conditions of NIT terms, the total responsibility of the BESS at all the three sites lies with contractor and all the repairs and replacements have to be made without any additional cost to BHEL. For warranty period, after system installation, the contractor shall be responsible for any defects that may occur due to faulty materials, design or workmanship. If it becomes necessary for the contractor to replace or repair any defective portion of the system, the contractor shall address all the issues within 2 working days and any replacements or renewals can be completed within 10 working days of intimation and without any extra cost to BHEL. However, the system must be in running condition within 2 working days of intimation to the contractor. 10.24 Since the maintenance of the system may also be taken up by the Contractor/Bidder after expiry of one year of warranty period if the end user/’TERI’/’BRPL’ so desires, the Contractor/ Bidder shall take up annual maintenance of the installed system. Bidder has to provide the year-wise quote for the period of five years after expiry of warranty years. 10.25 The Contractor/ Bidder shall maintain the system under periodic maintenance contract with the end-user. The preparation of maintenance schedule is sole responsibility of the contractor/bidder. Additionally, a checklist shall be prepared to check/validate the critical operating parameters during maintenance. The checklist will be prepared by the bidder with all mandatory details. 10.3 On-site Warranty: a. Contractor / Bidder will create provision for receiving and recording all complaints, attending the complaints, stocking essential spares, provisioning trained service personnel, recording monthly logs of all activities, etc. b. During the 1 (one) year period, the repair works will have to be carried out at the premise except in exceptional circumstances where the equipment or any component may be required to be taken out for repair, for which specific written permission should be obtained from TERI. In such cases, standby arrangements are required to be made by Contractor / Bidder so that the BESS remains in functional state. All products have valid product warranty and hence on-site repair and maintenance service needs to be provided after getting replenishment of spares from respective product manufacturer. c. If the Contractor/ Bidder fail to attend the complaint within 2 working days, every time, a reasonable penalty will be applied as per NIT commercial terms.			

		 A4-11	PURCHASE SPECIFICATION	PS 4702165 REV. No. 00 PAGE 26 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		all future inspections/ audits undertaken by TERI after the supply of materials and within the warranty coverage. TERI reserves the right to conduct the random quality check for the materials associated with BESS through third party intervention; however the cost shall be borne by TERI to conduct such test. In-addition, validation test shall be performed after each routine/preventive maintenance in-order to ensure the proper functioning of the system and component replaced during maintenance, if any. Accordingly, validation certificate shall be signed by contractor and approved by TERI. In case of any deviations in quality or technical characteristics of battery and associated equipment from the conditions stated in the Specifications, the contractor shall re-ensure that all the deviations stand null within stipulated mutually agreed time period between TERI and contractor. 13.1 Inspection - The 'TERI', 'BRPL' or their representative shall have the right to anytime inspect and/or to test the goods to confirm their conformity to the Agreement. The special conditions of contract and/or the Technical specifications shall specify what inspections and test the 'TERI' required. - The 'TERI', 'BRPL' or their duly authorized representative shall have at all reasonable times access to the contractor premises or works and shall have the power at all reasonable time to inspect and examine the materials and workmanship of the works during its manufacturing or assembling stage. - The contractor shall give the 'TERI', 15 days prior written notice of any material being ready for testing. It shall be mandatory that such notice should reach 'TERI' within 120 days of placement of work order. Such tests shall be on the contractor's accounts/ expenses except for the expenses of the inspector. 'TERI' reserves the full rights, to waive off inspection of material. - The contractor is required to get the entire lot of the ordered material inspected , before the supply of the materials. - All arrangements for the inspection of materials will be done by contractor. - The inspection by 'TERI' and issue of dispatch instruction thereof shall in no way limit the liabilities and responsibilities of the contractor in respect of the agreed quality assurance programme forming a part of the contract 13.2 Replacement of rejected material: Any material supplied against order placed on basis of this tender and found to be defective at any time during the project life on inspection or differing from approved samples or make or specifications will be replaced by the Contractor free of cost or full refund made for the amount paid by BHEL. The contractor must replace or repair any defective portion of the system; the contractor shall make such repair within 2 working days. of intimation and without any extra cost to TERI/ BRPL. The contractor shall address the issues within 2 working days and any replacements or renewals/replacements can be completed within 10 working days of intimation to the contractor. 13.3 Materials –Quality & Workmanship - Immediately on award of contract, the contractor shall submit a detailed project report along with valid external ISO audit report of the company and Implementation plan report within 20 working days having planning and testing strategy with provisions for quality check performance at various stages of the project. The report shall also furnish details of method of checking and inspection and acceptance standards / values.		

		 A4-11	PURCHASE SPECIFICATION	PS 4702165 REV. No. 00 PAGE 28 OF 40
		15 CLEANING UP OF WORK SITE i) The Contractor shall, from time to time, remove all rubbish resulting from execution of his work. No materials shall be stored or placed on passage driveways. ii) Upon completion of work, the Contractor shall remove all rubbish, to scaffoldings, temporary structures and surplus materials etc. to leave premises clean and fit for use.		
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company .		16 ERECTION AND COMMISSIONING Erection and commissioning of the BESS in all required locations is in the scope of Contractor. Vendor has to quote for erection and commissioning of the BESS system. Vendor has to supply of all required associated accessories. The vendor shall perform survey of sites for estimation of civil & electrical works required for Erection and commissioning of BESS. After site survey and estimation, vendor shall prepare layout and erection and commissioning drawings showing location of all system equipment & components, cable routing, detailed cable scheduling in cable trays/ racks/ trenches/ buried underground, conduits routing along with hardware schemes of the system. Vendor should submit the drawings listed in (Cl. 17) to BHEL for approval. Vendor has to perform Final Integrated testing for SAT (Site Acceptance Test). After SAT at site, the vendor shall furnish to BHEL "AS BUILT" layout and erection and commissioning drawings along with distribution schemes properly incorporating changes / alterations/field modifications, if any, as carried out at field.		
		17 DOCUMENTATION & REPORTS • In the event of order, the supplier shall provide each 6 sets of following documents to BHEL after award of order for main equipment. a) Planning report for all BESS sites. b) Bill of material c) Layout drawing indicating dimensions of all equipment, power supply requirements d) OGA drawings and Technical Data Sheets with Catalogues of all items e) System architecture drawing, EMS networking drwgs. f) Technical detail of Battery pack, PCS, EMS, auxiliary systems etc. Wiring diagram of AC/DC Electrical panel of BESS. Technical details, such as SoC, PCS/ PCU efficiency, round trip efficiency and throughput etc., shall be furnished. g) Manufacturing Quality Plan document shall be prepared by vendor in consultation with BHEL and shall be submitted to M/s. TERI for final approval. All the above Technical datasheets/Docs will be submitted to M/s. TERI for final approval. • After manufacturing clearance(MC) from BHEL and during FAT a) Test Certificates and reports for all the items as per agreed manufacturing quality plan (MQP) document. b) Internal test reports and data sheets of all components like cell/modules, PCS, sensors, transducers etc. shall be sent to BHEL for records. • After site survey and before installation and commissioning a) BESS cable schedule for Power, C&I and Communication cabling and routing interconnections drawings.		

		बी एच ई एल  A4-11	PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 29 OF 40
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		- After SAT at site, the vendor shall furnish to BHEL "AS BUILT" layout and erection drawings along with distribution schemes, cable schedule properly incorporating changes/ alterations/ field modifications, if any, as carried out at field. - Complete list of installation location verified by TERI/BRPL representative - The warranty certificates for complete system (as per Purchase Order)		
		(i) Complete system warranty certificate from the Contractor (ii) Manufacturer warranty card / letter for all components and data sheet for lithium ion/various technologies battery cells/modules, inverter and PCS (iii) All reports should be stamped and signed by the authorized representative of the contractor / contractor (iv) Invoice of installation and commissioning as per purchase order. (v) Insurance copy of the complete system. (vi) Proof for the establishment of service center for the sites (photo, registration docs). (vii) Proof of submission of PF/ESI. (viii) Extended Producer will provide proof of document for EPR and share the waste battery handling report. (As per the Ministry of Environment, Climate and Forest Change released the Draft Battery Waste Management Rules, 2020. The Draft Rules seek to replace the Batteries (Management and Handling) Rules, 2001, which provide details for handling and management of batteries under the Environment (Protection) Act, 1986) (ix) Commissioning and handover certificate (as prescribed), counter- signed by TERI/ BRPL. (x) Minimum two (2) photographs (dated) for each premise in soft copy of the BESS Unit. Photos should be clear and of minimum postcard size. Photo should cover all the components supplied at site. - The supplier shall provide each one sets of following documents to BHEL and 4 sets shall be sent along with the system to site after technical datasheets customer approval / dispatch clearance of the main equipment. a) O&M manuals b) Technical Catalogues of the equipment. c) Programming manual d) Installation and commissioning instruction e) General maintenance documents - One year (from the date of issuing of completion certificate) functionality report duly signed by contractor, representatives from TERI and BRPL - Comprehensive Annual Maintenance Contract half-yearly Reports: (a) Detailed complaint log of all the complaints received during the period (half yearly). (b) Rectification log of all complaints attended and remedial measures taken (half yearly). (c) Verification report signed by user and TERI representative.		

A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 30 OF 40

(d) The documents are to be submitted within the specified stipulated time period, (at half yearly frequency) .

(e) Complete records for complaint and rectification log should be maintained and available during any visit.

(f) Category wise half-yearly monitoring report.

18 TRAINING

c) Supplier shall offer training for the staff of M/s. TERI for operation and maintenance of the BESS system. The Contractor in consultation with 'TERI' will conduct training programme for users, focusing on main features, operation and maintenance of the systems.

19 AFTER SALES SERVICE AND SPARES

Supplier shall confirm availability of spares and after sales service support for the offered system for minimum 10 years.

20 SPECIAL NOTES

a) POINT WISE CONFORMATION FOR THE ENTIRE SPECIFICATION SHALL BE FURNISHED AT THE TECHNICAL OFFER STAGE AFTER FILLING IN THE TABLE 8, 9 & 10 AND CHECK LIST. NO DEVIATION PERMITTED FROM THE SPECIFICATION.

b) Any other hardware & software, services required but not mentioned in the specifications but important to make complete system functional, shall be in the scope of supplier.

c) Supplier shall submit catalogues of all offered products, BESS architecture and configuration drawing with BoM, Battery capacity sizing calculations, PCS sizing, all required certifications as per standard etc. along with technical bid.

d) Supplier shall submit dimensions of the equipment being supplied.

e) Site Survey and any boarding & lodging charges at site shall be borne by the supplier.

f) The selected Contractors are mandatorily required to open service center to carry out onsite warranty services at site . Supplier shall mention in his offer the nearest authorized service center for reporting any malfunctioning of BESS system.

g) Any other hardware & software, services required as per specification but not mentioned in scope BoM table but important to make complete system functional, shall be in the scope of supplier.

h) All BESS components offered shall be of **Reputed make** meeting all relevant standards.

i) Non-tearable Logo (**TERI, BRPL & UI-Assist**) pasting has to be done on each BESS Unit.

Table 8 : Descriptions of BESS for technical bid

Sl. No.	Description	To be Furnished by the Vendor
A	Battery	
1	Make/Manufacturer	
2	Type / Chemistry	
3	Design capacity of battery in terms of KWh	
4	Self-Discharge rate	
5	DOD	

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6	Life cycle of battery and Throughput	
7	Round trip efficiency	
8	Dimensions and weight of battery	
9	Test certificate available for battery cell/module (IEC Standards / NABL accredited labs / CPRI labs/ERDA/ BIS Standards)	
10	Number of series & parallel connected cells and modules	
11	Power/energy rating cells and modules	
12	BESS favorable operating temperature	
13	Auxiliary consumption	
14	Annual degradation	
B	Power Conditioning Unit	
1	Make/manufacturer	
2	Type of charge controller (DC-DC converter)	
3	Efficiency of charge controller (DC-DC converter)	
4	Inverter- power rating & efficiency	
5	Inverter minimum response time	
6	Test certificate available (IEC Standards / NABL Accredited labs / CPRI labs/ERDA /BIS Standards)	
C	Lighting Arrestor	
1.	Type of Lighting Arrestor and make	
2	Type of Earthing	
D	Earthing	
1	Type of Earthing, make and capacity	
2	No of Earthing	
E	Connecting cables/wire	
1	Material and size& specifications	
2	Details of Switches	
F	Measurement & control devices	
1	Sensors	
	Type/make	
	Accuracy/precision	
	Sensitivity	

Sl. No.	Description	To be Furnished by the Tenderer
2	Transducers	
	Type/make	
	Accuracy/precision	
	Sensitivity	
G	Energy Management System (EMS) & Battery Management System	
1	Details of EMS & BMS	



A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 32 OF 40

	Specific parameters (number & name) accessed on EMS portal	
	Detail feature of BMS (accessed parameters)	
	Communication protocol used to interface EMS with SCADA, if any	
	Distance between site of BESS and SCADA center wherein EMS has been linked	
	Recording and sampling time interval	

Table 9 : Technical Compliance

S. No.	DESCRIPTION	Supplier's Confirmation
1.	Clause 1.0 : Scope of work 1.1 Delivery 1.2 Installation and commissioning 1.3 General Instruction 1.4 Operation and maintenance 1.5 Failure to rectify problem	
2.	Clause 2.0 : Technical Specification of Battery Energy Storage System. 2.1 Battery Subsystem 2.2 Battery Technology 2.3 Battery Energy Management System 2.4 Battery Energy Management System Architecture and Requirements 2.5 System Hardware Requirements	
3.	Clause 3.0: Battery Management System(BMS) Functionality and Monitoring. 3.1 Charge control	
4.	Clause 4.0 : Power Conditioning System Functionality, Requirements and Monitoring. 4.1 Power Control 4.2 Operation Mode 4.3 Auxiliary Power Supply 4.4 Enclosure	
5.	Clause 5.0 : Design and Construction Requirements	
6.	Clause 6.0 : Safety Requirements 6.1 System Safety 6.2 Fire Fighting System 6.3 Protection System 6.4 Protection for Temperature rise 6.5 Protection for Spilling 6.6 Emergency stop	

			PURCHASE SPECIFICATION	PS 4702165
				REV. No. 00
				PAGE 33 OF 40
A4-11				
	7.	Clause 7.0 : Disposal and Battery Recycling Plan 7.1: Dismantling 7.2 Recycling		
	8.	Clause 8.0 System Testing 8.1 Factory Test 8.2 Site Test		
	9.	Clause 9.0 Special Tools and Mandatory Spares		
	10.	Clause 10.0 AMC & Warranty 10.1 Scope of AMC 10.2 Performance of the equipment 10.3 On Site Warranty		
	11.	Clause 11.0 Scope of supply BOM		
	12.	Clause 12.0 Grounding/Earthing		
	13.	Clause 13.0 Quality assurance and Implementation plan 13.1 Inspection 13.2 Replacement of rejected Materials 13.3 Material-Quality and workmanship		
	14.	Clause 14.0 Erection Tools and Tackles		
	15.	Clause 15.0 Cleaning up of work site		
	16.	Clause 16.0 Erection and Commissioning		
	17.	Clause 17.0 Documentation & Tools		
	18.	Clause 18.0 Training		
	19.	Clause 19.0 After Sales Services & Spares		
	20.	Clause 20.0 Special Notes		

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A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 34 OF 40

Table 10: Format for BoM (Complete System) : Vendors shall necessarily fill Bill of Material in this format only. Vendor shall provide reputed make/model, details of all items and attach catalogues of all items.

Sl.NO	ITEM DESCRIPTION	Details	Make / Model / Rating	Catalogue attached (Yes / No / NA)	QTY	PRICE (To be filled in price bid only)
1.	410 KWH Battery Energy Storage solution(BESS) as per details of <u>Purchase Specification</u> . Note: Add any other Hardware/software if required to make system complete but not listed here.					<u>Please mention individual price of each sub item below sl no 1.1,2.1,3.1</u>
1.1	<u>Cat-A Location</u> Containerized Battery Energy Storage Solution (BESS) consisting of Li-Ion LFP Batteries mounted in Racks, Battery Management System (BMS), Power Conditioning System (PCS) & Energy Management System (EMS) Capacity (BESS/PCS):230KWh/125 KW . Cat-A BESS components as per following: Sl. No. 1.11 to 1.27				1 Set	Cat-A Total Package cost =[Sum of all BESS components costs (1.11 to 1.24)]
	1.11 Li-Ion (LFP) Battery pack				1 Set	
	1.12 Power Conditioning System (PCS) with Isolation Transformer				1 Set	
	1.13 DC control Box (DCDB) With protection functions as indicated in the specification				1 lot	
	1.14 AC control Box (ACDB) with protection functions as indicated in the specification along with Energy meter 0.5 class accuracy with required CT & PT for Metering.				1 lot	
	1.15 Energy Management System-EMS (Hardware and Software) with local HMI workstation.				1 Set	
	1.16 EMS Communication Systems(hardware & software) to interface : 1)From BESS site to Central EMS and BRPL SCADA				1 lot	

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		बी एच ई एल  A4-11	PURCHASE SPECIFICATION					PS 4702165	
								REV. No. 00	
								PAGE 35 OF 40	
COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.			2)From BESS site to TERI HQ						
			1.17 Fire fighting System					1 Set	
			1.18 HVAC System					1 Set	
			1.19 Internal and external AC/DC Power Cables for cabling (Battery Rack to DCDB to PCS to ACDB to LT panel)					1 lot	
			1.20 C&I cables and Communication Cables (CAT6/ Twisted Pair cable) for cabling EMS to C&R protection panels , Energy Meter and Aux. systems.					1 lot	
			1.21 CCTV system					1 Set	
			1.22 Container for BESS housing Batteries, PCS, HVAC, Fire fighting, DCDB, ACDB, EMS Cabinet etc.					1 lot	
			1.23 Mandatory Spares: i) Spares required for commissioning / warranty ii) All special tools and tackles, Accessories required for installation					1 lot	
			1.24 Miscellaneous items & services i. Earthing materials, Lighting Arresters etc. ii. Loose items as per actual requirements for E&C and cable laying like Ferrules, terminations, route markers, consumables hardware, nameplates, sleeves, conduits, JB glands, clamps, Cable identification tags ,ground wires, all tools for cable terminations, materials for civil works etc. iii. Any other hardware & software, services required as per specification but not mentioned in BOQ tables but important to make complete system functional.					1 lot	
			1.25 Installation & commissioning of BESS. (Including Civil and Electrical works for BESS.)					1 lot	
			1.26 Comprehensive AMC for 5 years					5 years	

		बी एच ई एल BHEL	PURCHASE SPECIFICATION				PS 4702165	
							REV. No. 00	
							PAGE 36 OF 40	
A4-11								
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			2) Workstation with Monitor in BRPL SCADA control room				1 Set	
		2.1	<u>Cat-B Location</u> Containerized Battery Energy Storage Solution (BESS) consisting of Li-Ion LFP Batteries mounted in Racks, Battery Management System (BMS), Power Conditioning System (PCS) & Energy Management System (EMS) Capacity (BESS/PCS):120KWH/ 240KW Cat-B BESS components as per following: Sl. No. 2.11 to 2.27				1 Set	Cat-B Total Package cost=[Sum of all BESS components costs (2.11to 2.25)]
			2.11 Li-Ion (LFP) Battery pack				1 Set	
			2.12 Power Conditioning System (PCS) with Isolation Transformer				1 Set	
			2.13 DC control Box (DCDB) With protection functions as indicated in the specification				1 lot	
			2.14 AC control Box (ACDB) with protection functions as indicated in the specification along with Energy meter 0.5 class accuracy with required CT & PT for Metering.				1 lot	
			2.15 Energy Management System - EMS (Hardware and Software) with local HMI workstation.				1 Set	
			2.16 EMS Communication Systems(hardware & software) to interface : 1)From BESS site to Central EMS and BRPL SCADA 2)From BESS site to TERI HQ				1 lot	
			2.17 Fire fighting System				1 Set	
			2.18 HVAC System				1 Set	
			2.19 Internal and external AC/DC Power Cables for				1 lot	



A4-11

PURCHASE SPECIFICATION

PS 4702165

REV. No. 00

PAGE 37 OF 40

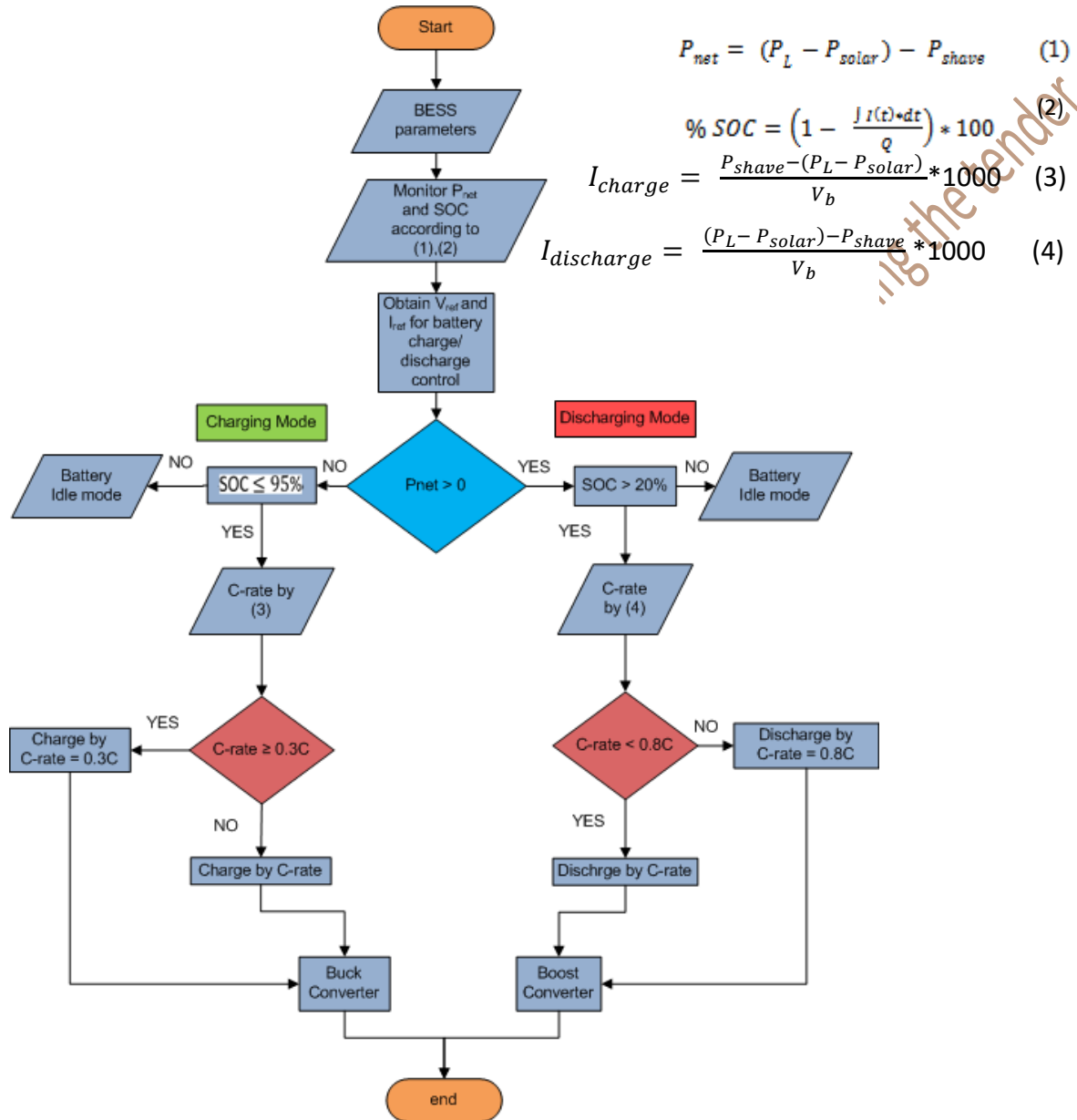
	cabling (Battery Rack to DCDB to PCS to ACDB to LT panel)					
	2.20 C&I cables and Communication Cables (CAT6/ Twisted Pair cable) for cabling EMS to C&R protection panels , Energy Meter and Aux. systems.				1 lot	
	2.21 DG Integration with PCS and EMS				1 Set	
	2.22 CCTV system				1 Set	
	2.23 Container for BESS housing Batteries, PCS, HVAC, Fire fighting, DCDB, ACDB, EMS Cabinet etc.				1 Set	
	2.24 Mandatory Spares: i) Battery Modules- 3 KWH ii) All special tools and tackles, Accessories required for installation iii) Spares required for commissioning / warranty				1 lot	
	2.25 Miscellaneous items & services i. Earthing materials, Lighting Arresters etc. ii. Loose items as per actual requirements for E&C and cable laying like Ferrules, terminations, route markers, consumables hardware, nameplates, sleeves, conduits, JB glands, clamps, Cable identification tags ,ground wires, all tools for cable terminations, materials for civil works etc. iii. Any other hardware & software, services required as per specification but not mentioned in BOQ tables but important to make complete system functional.				1 lot	
	2.26 Installation & commissioning of BESS. (Including Civil and Electrical works for BESS.)				1 Set	
	2.27 Comprehensive AMC for 5 years				5 years	
3.1	<u>Cat-C Location</u> Containerized Battery Energy Storage Solution (BESS) consisting of Li-Ion LFP Batteries mounted in Racks, Battery Management System (BMS),				1 Set	Cat-C Total Package cost=[Sum of all BESS components costs (3.11to 3.24)]

		बी एच ई एल BHEL	PURCHASE SPECIFICATION					PS 4702165	
								REV. No. 00	
								PAGE 38 OF 40	
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			Power Conditioning System (PCS) & Energy Management System (EMS) Capacity (BESS/PCS):60KWH/50 KW Cat-C BESS components as per following: Sl. No. 3.11 to 3.26						
			3.11 Li-Ion (LFP) Battery pack					1 Set	
			3.12 Power Conditioning System (PCS) with Isolation Transformer					1 Set	
			3.13 DC control Box (DCDB) With protection functions as indicated in the specification					1 lot	
			3.14 AC control Box (ACDB) with protection functions as indicated in the specification along with Energy meter 0.5 class accuracy with required CT & PT for Metering.					1 lot	
			3.15 Energy Management System-EMS (Hardware and Software) with local HMI workstation.					1 Set	
			3.16 EMS Communication Systems(hardware & software) to interface : 1)From BESS site to Central EMS and BRPL SCADA 2)From BESS site to TERI HQ					1 lot	
			3.17 Fire fighting System					1Set	
			3.18 HVAC System					1Set	
			3.19 Internal and external AC/DC Power Cables for cabling (Battery Rack to DCDB to PCS to ACDB to LT panel)					1 lot	
			3.20 C&I cables and Communication Cables (CAT6/ Twisted Pair cable) for cabling EMS to C&R protection panels , Energy Meter and Aux. systems.					1 lot	
			3.21 CCTV system					1 Set	
	3.22 Container for BESS housing Batteries, PCS, HVAC, Fire fighting,					1 Set			

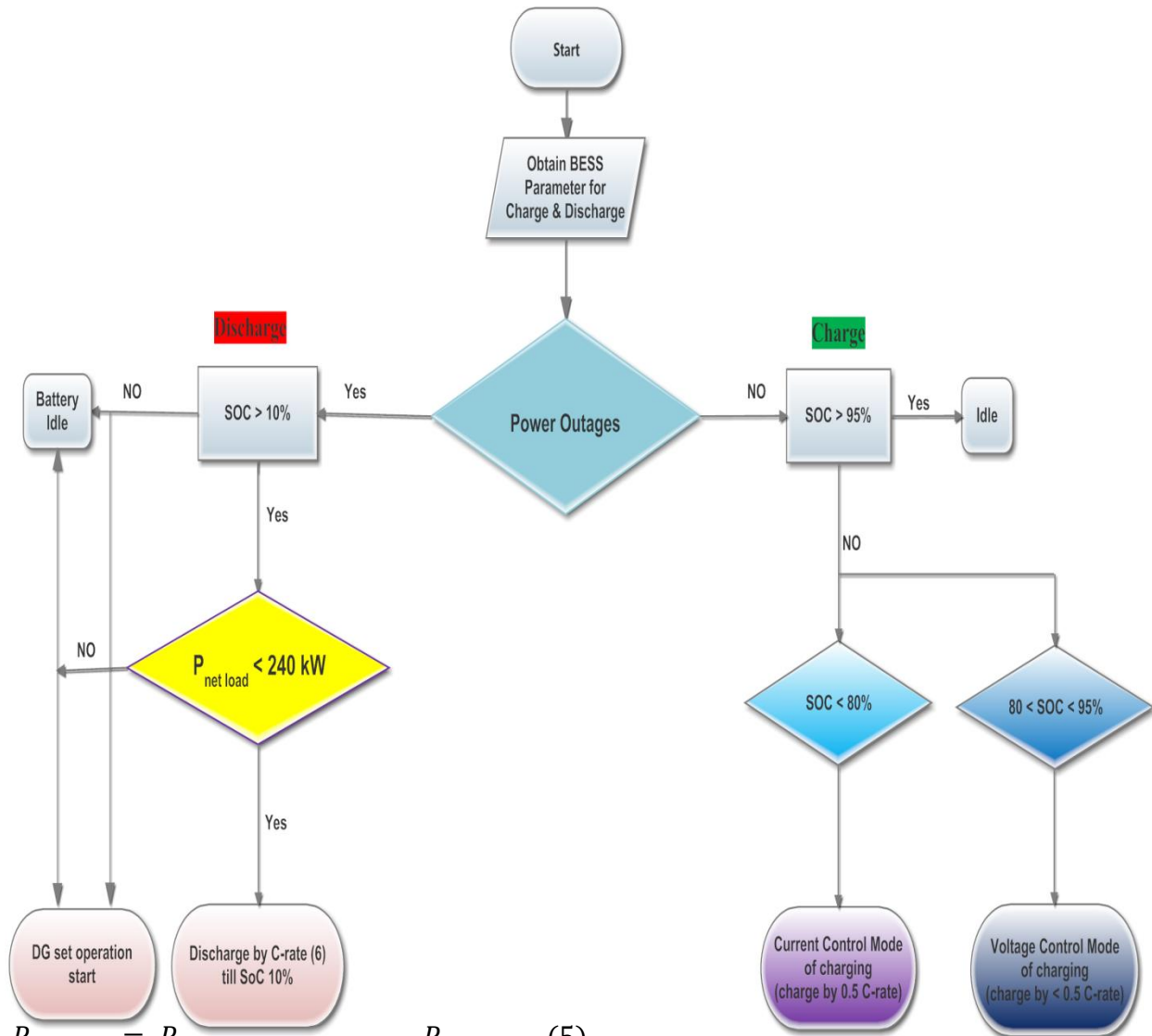
			PURCHASE SPECIFICATION				PS 4702165	
							REV. No. 00	
							PAGE 39 OF 40	
A4-11			DCDB, ACDB, EMS Cabinet etc.					
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			3.24 Miscellaneous items & Services i. Earthing materials, Lighting Arresters etc. ii. Loose items as per actual requirements for E&C and cable laying like Ferrules, terminations, route markers, consumables hardware, nameplates, sleeves, conduits, JB glands, clamps, Cable identification tags ,ground wires, all tools for cable terminations, materials for civil works etc. iii. Any other hardware & software, services required as per specification but not mentioned in BOQ tables but important to make complete system functional.				1 lot	
			3.25 Installation & commissioning of BESS. (Including Civil and Electrical works for BESS.)				1 Set	
			3.26 Comprehensive AMC for 5 years				5 years	
Checklist: <u>For Technical bid, Table 8, 9 & 10 shall be duly filled. No deviations permitted from the specification.</u> <u>Technical datasheet/catalog of Battery Pack, PCS ,EMS ,HVAC ,Fire fighting System, DCDB and ACDB with Metering & Protection System, CCTV system , Communication system for Remote Control Centre, Workstation PC with Monitor, Power cables, C&I & Communication Cables ,BESS container, BESS architecture and configuration drawing with BoM for each category site, Battery capacity sizing calculations for each category, PCS sizing, EMS communication networking drawings Dimensions of all BESS components etc. are to submitted along with technical offer.</u>								

		बीएच ई एल BHEL		PURCHASE SPECIFICATION		PS 4702165	
						REV. No. 00	
		A4-11				PAGE 40 OF 40	
		3. <u>For Price bid, Table-10 (Price section) shall be duly filled. Unit prices of all individual items & sub-items of BESS are STRICTLY to be filled & mentioned, failing which offer is liable to be rejected.</u> 4. <u>The system shall be complete in all respect and shall not be limited to the above. All necessary hardware & software shall be supplied as a package to meet the specification and trouble free operation. Pl note that all the items required for commissioning for BESS systems and its connectivity to Grid/Electrical systems is in the scope of vendor. Therefore list down all such material in BoMs without fail.</u>					
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Annexure I: BESS control flow diagram for Category-A



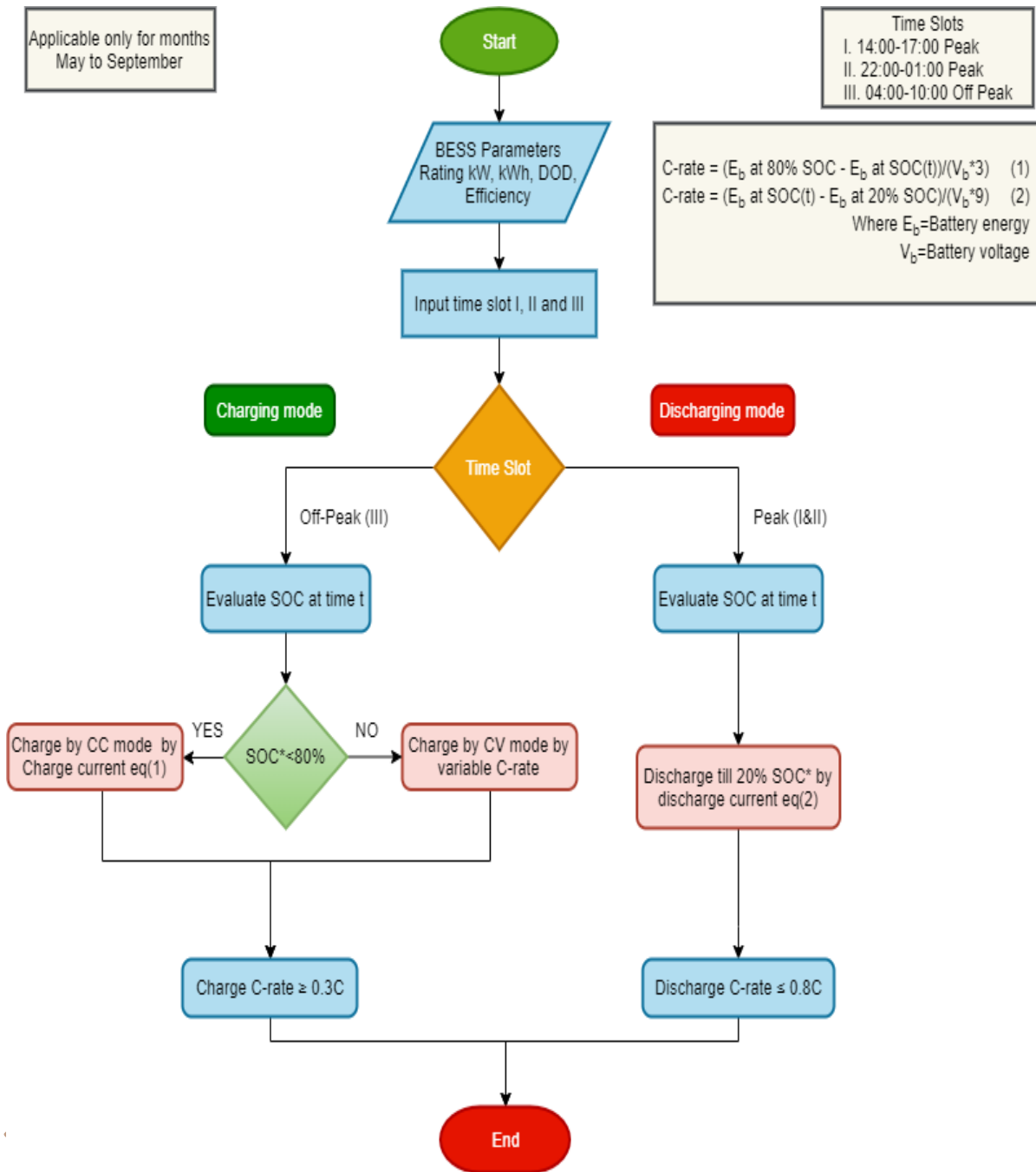
Annexure II: BESS control flow diagram for Category-B



$$P_{net\ load} = P_{Gross\ load\ demand} - P_{solar} \quad (5)$$

$$I_{discharge} = \frac{P_{net\ load\ (kVA)}}{V_b} * 1000 \quad (6)$$

Annexure III: BESS control flow diagram for Category-C

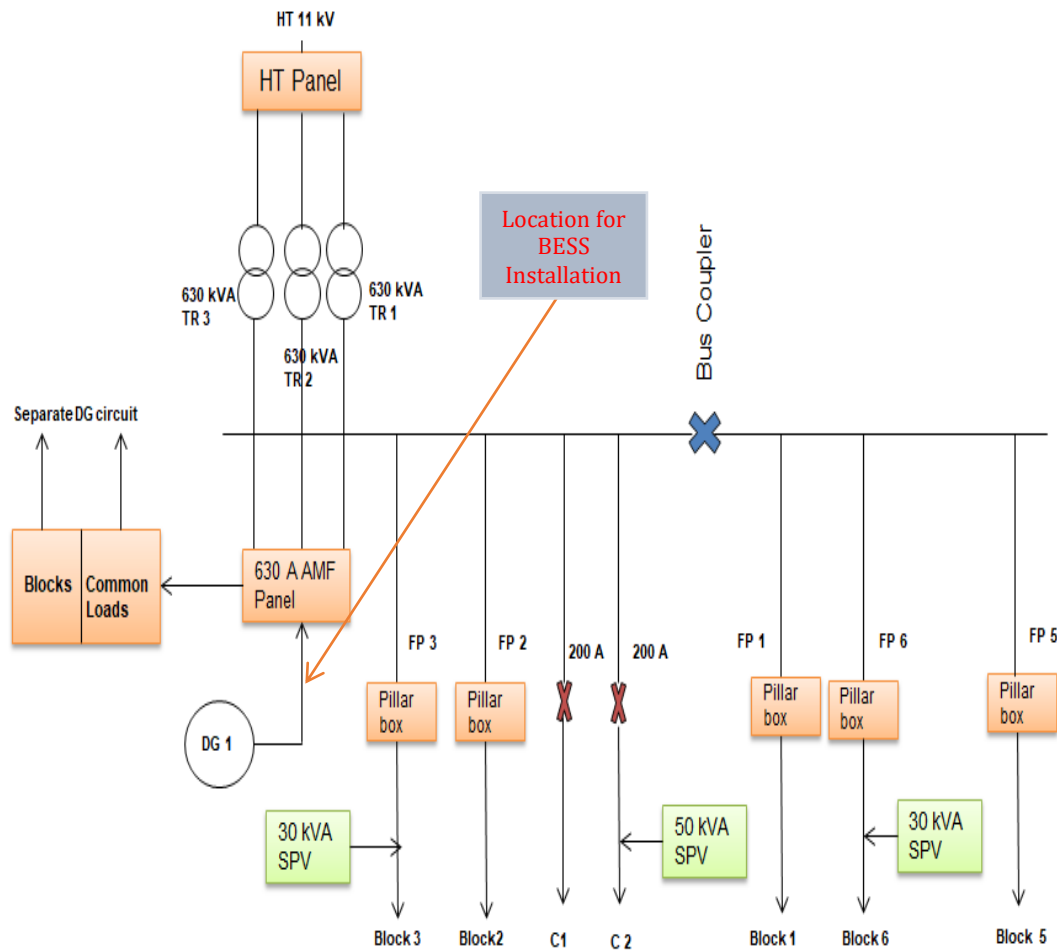


SOC*: SOC limit could be changed as per system integrator recommendations

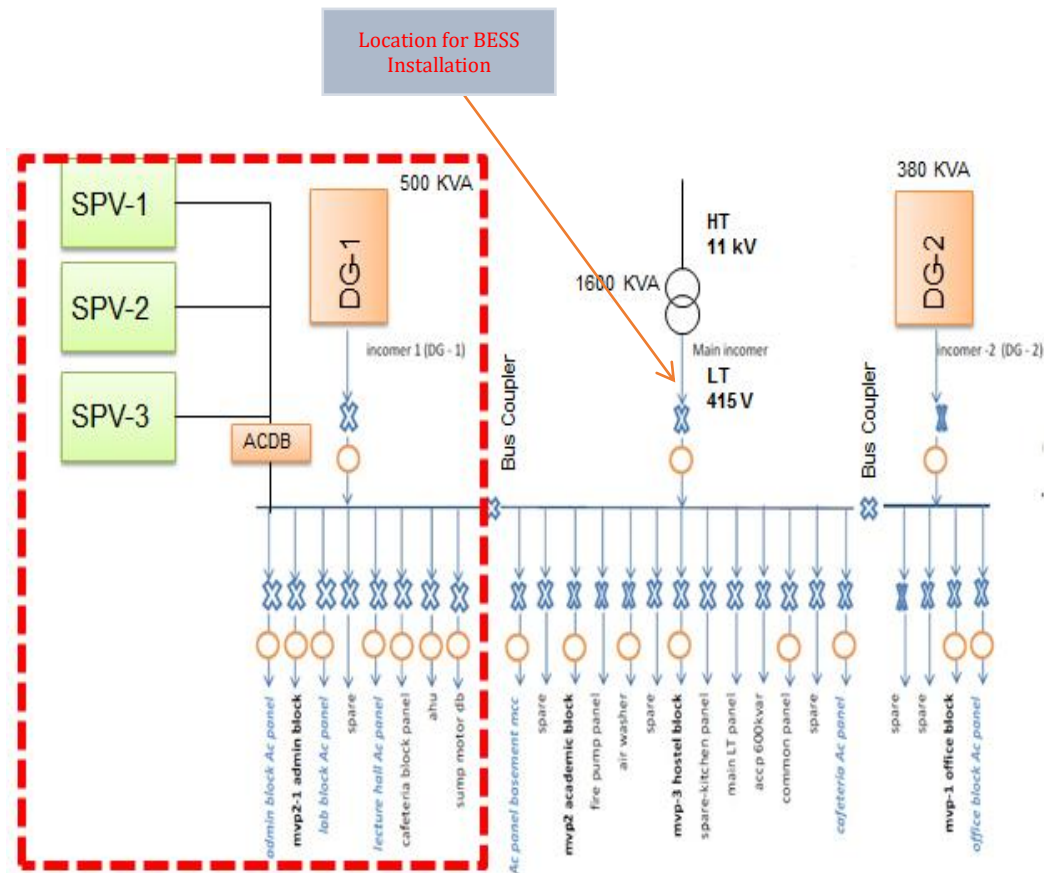
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Annexure V: Single Line Diagram of Category B



Annexure VI: Single Line Diagram of Category C



Mandatory to read all the terms and

ANNEXURE-VII

**Site Visit Report for TERI BSES Tender for installation of cumulative 410 KWh
BESS at 3 locations in New Delhi**

Visiting officials : Mr. Rohit Anand, Sr. Engineer / ESSG, BHEL Industry Sector
Mr. Imran Mansury, Sr. Engineer / ESSG, BHEL Industry Sector

Site visit in presence of : Mr. Ashish Kumar Sharma, Research Associate, TERI, 9711423310
Mr. Ram Krishan, Research Associate, TERI, 8894044704
Ms. Sugandhita Wadhera, BSES, 9810693389

Date of visit : 03.01.2020

Place of visit : Cat A) 990 kVA DT in Taimoor Nagar, New Friends Colony, New Delhi
230 kWh/ 125 kW for Overload management of DT (primary application).

Cat B) Ispatika Apartments, Dwarka, New Delhi
120 kWh/ 240 kW for Supply Critical/ Common Load of a Gated Residential Community (primary application).

Cat C) TERI-SAS, Vasant Kunj Institutional Area, New Delhi
60 kWh/ 30 kW for Savings on TOD price difference (primary application).

Cat A) 990 kVA DT in Taimoor Nagar, New Friends Colony, New Delhi

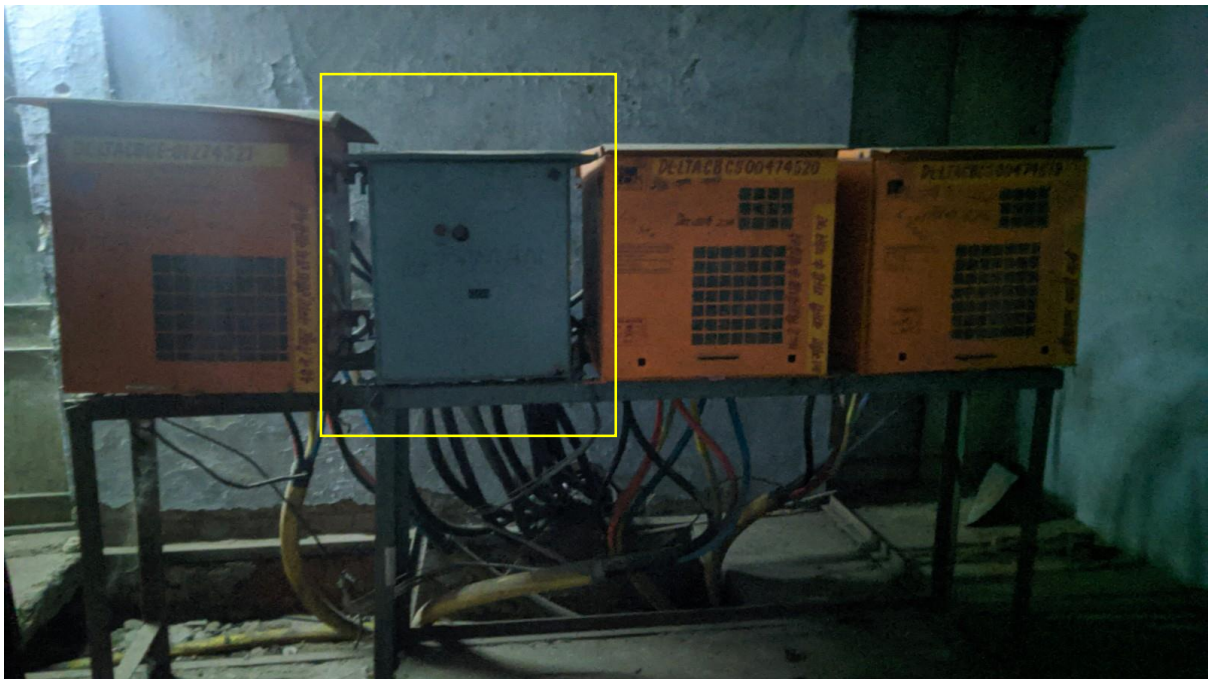
1. Capacity of BESS to be installed: 230 kWh / 125 kW for Overload management of DT (primary application).
2. Site Location: Distribution Transformer Station, Taimoor Nagar, New Friends Colony, New Delhi
3. Site Approachability: Situated adjacent to a 4-lane main road.
4. Space Available: 3 meters X 1.1 meters.
5. Water for Construction: To be arranged by Bidder.
6. Power for Construction: DG to be arranged by Bidder
7. Storage facility: To be made by Bidder in Site premises.
8. Site specifics:
 - a. Site is a Distribution Transformer Station with a gated premises.
 - b. Two transformers are installed next to a Control Room(CR) containing Switchgears and ACDBs.
 - c. The BESS is to be installed inside this CR.
 - d. Corner vacant space inside CR for installation of new equipment is 5m (W) X 1.3m (D).
 - e. Excluding clearances from adjacent panels, available space for installation is 3m (W) X 1.2m (D).
 - f. Installation space is filled with old construction debris and is to be cleared by Bidder prior to installation of BESS.
 - g. Cable trench is available for cable routing from place of BESS installation to LT panel of interconnection.
 - h. No spare terminals/space available in the LT panel for interconnection. Suitable modifications to be proposed and done by Bidder.
 - i. A rolling shutter approx. 8 feet wide is installed at entrance of CR.



View of space for BESS installation, cable trench, debris present



Another view of space for BESS installation



View of LT panel (and other ACDBs)



View of complete CR (from entrance)



Entry through rolling shutter

Cat B) Ispatika Apartments, Dwarka, New Delhi

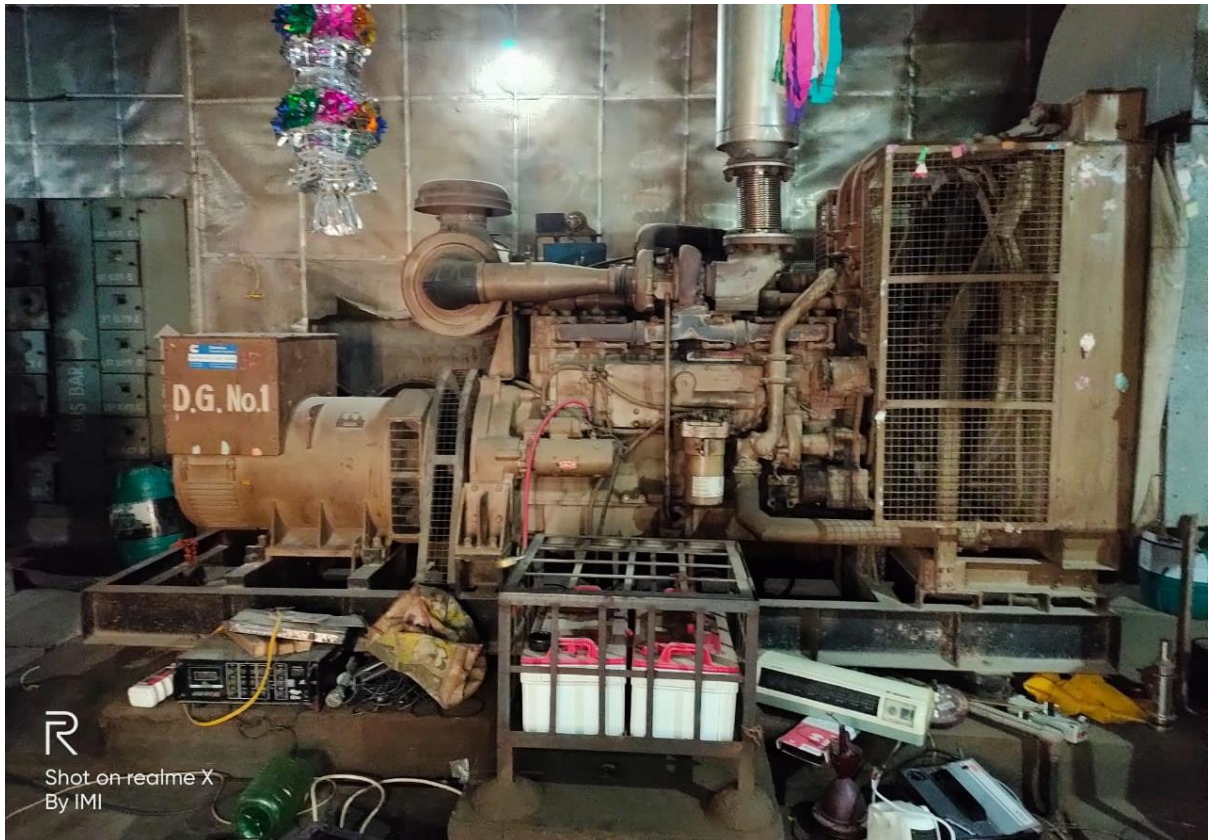
1. Capacity of BESS to be installed: 120 kWh / 240 kW for Supply Critical/ Common Load of a Gated Residential Community (primary application).
2. Site Location: Ispatika Apartments, Plot 29, Sector 4 Rd, near NK Bagrodia Public School, Sector 4, Dwarka, New Delhi, Delhi 110078.
3. Site Approachability: Situated adjacent to a 4-lane main road.
4. Space Available: 2 meters X 0.8 meters (Expandable in Length up to 4 meters)
5. Water for Construction: To be arranged by Bidder.
6. Power for Construction: DG to be arranged by Bidder
7. Storage facility: To be made by Bidder in Site premises.
8. Site specifics:
 - a. Site is a residential society with multiple apartment towers (14 Nos) in a gated premises.
 - b. Two Diesel Generators (DG) are installed in a closed space (called DG room) on the ground floor of one of the apartment building/tower.
 - c. The grid supply comes to two LT panels installed inside this DG room.
 - d. DGs are tied-up with these LT panels (one DG to one LT panel) in tandem to cater load shedding/power outages.
 - e. The power supply is distributed to lifts (14 lifts of 20Hp each), water pumps (4 pumps of 11.5Hp each), household and other loads of the society by set of LTDBs/ACDBs housed inside this DG room.
 - f. The BESS is to be installed in a closed space(room) available at front of the DG room; adjacent to the entry of the DG room.
 - g. The space for BESS installation is a small room with dimensions: 2m(L) X 1m (W). with small entry of 0.5m. The height of the room is more than 15 feet.
 - h. The room can be extended along length by another 2m by making necessary civil modifications by Bidder.
 - i. Installation space is filled with some non-degradable wastes (iron bars, plastic bags) and is to be cleared by Bidder prior to installation of BESS.
 - j. Bidder has to envisage for necessary electrical and civil modifications for Interconnection of the installed BESS with Bidder's proposed LT panel(s) housed inside the DG room.
 - k. Cable trenches available inside the DG room can be used by Bidder for cable routing.
 - l. No spare terminals/space available in the LT panel for interconnection. Suitable modifications to be proposed and done by Bidder.



View of space for BESS installation



View of space for BESS installation, entry to the BESS room, outside space available for expansion of BESS room



2 such DGs are installed in the DG room



2 LT panels to which grid and DGs are connected



Set of LTDBs / ACDBs for lifts, pumps, house blocks



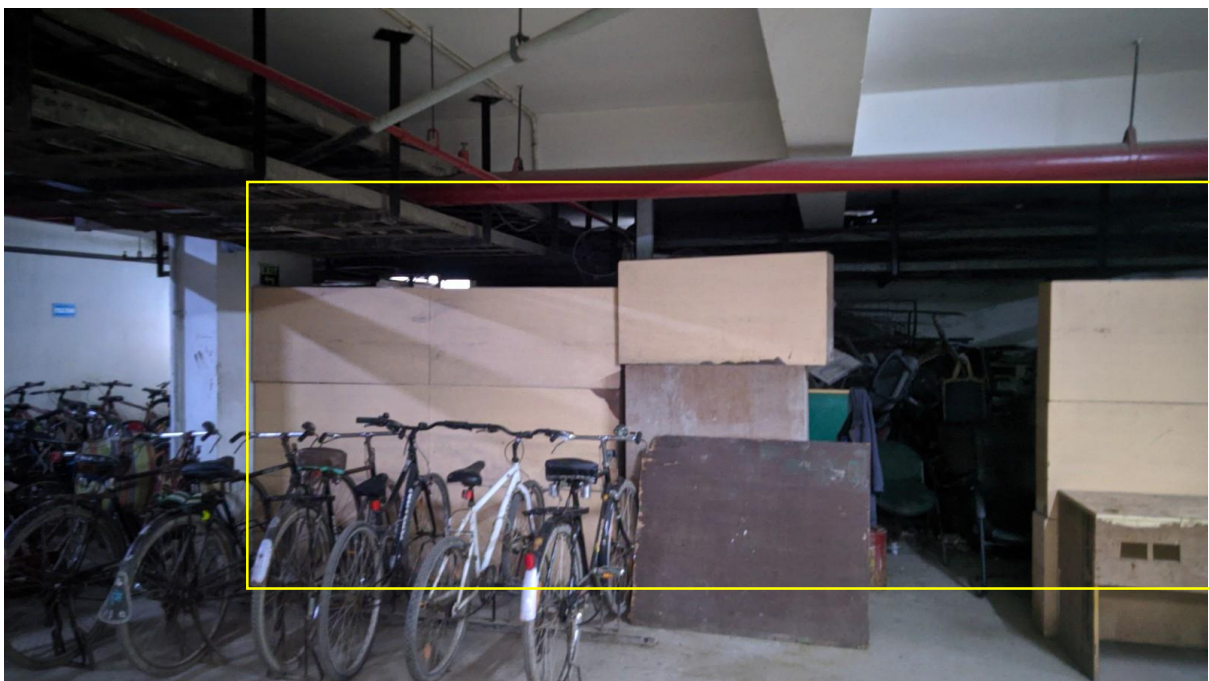
Set of LTDBs / ACDBs for lifts, pumps, house blocks

Cat C) TERI-SAS, Vasant Kunj Institutional Area, New Delhi

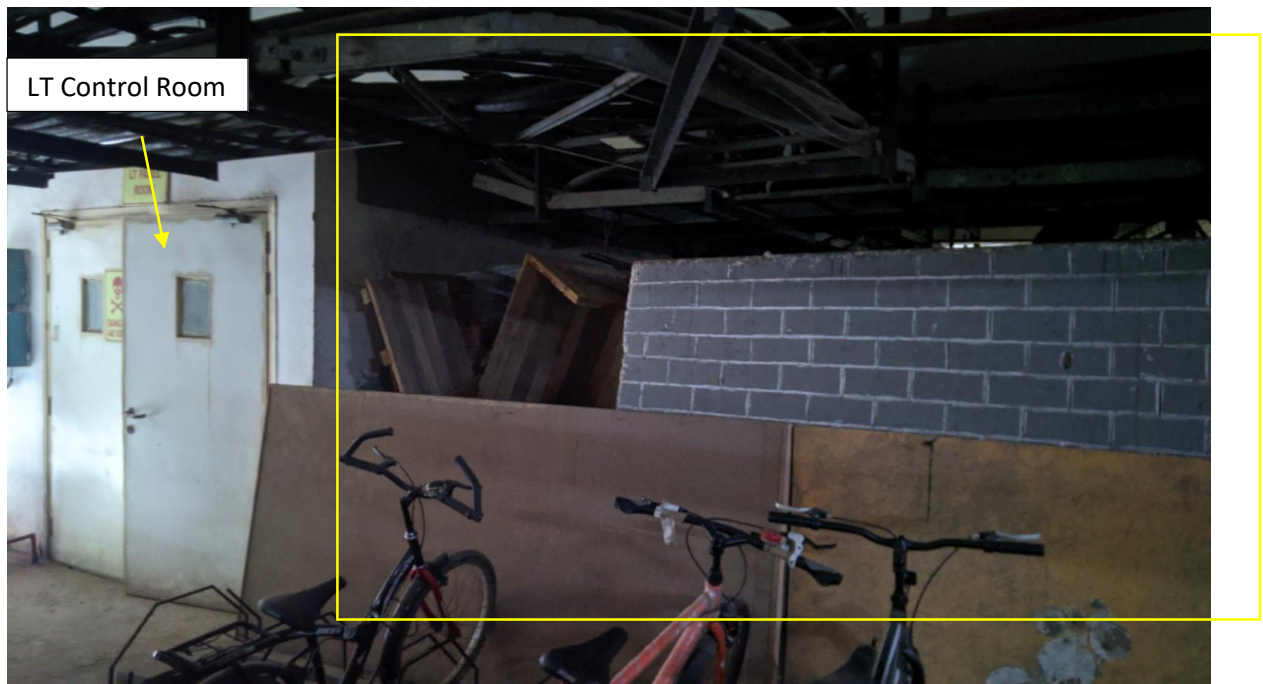
1. Capacity of BESS to be installed: 60 kWh / 30 kW for Savings on TOD price difference (primary application).
2. Site Location: TERI School of Advanced Studies, Plot No. 10, Vasant Kunj Institutional Area, Vasant Kunj, Institutional Area, New Delhi, Delhi 110070.
3. Site Approachability: Situated adjacent to a 4-lane main road.
4. Space Available: 4 meters X 5 meters x 2.2 meters(H).
5. Water for Construction: To be arranged by Bidder.
6. Power for Construction: DG to be arranged by Bidder
7. Storage facility: To be made by Bidder in Site premises.
8. Site specifics:
 - a. Site is TERI's own campus.
 - b. An LT distribution & Control Room (CR) is located at the basement (underground parking) of the TERI SAS building.
 - c. Supply from Grid and from a 50 kWp SPV plant installed at the roof of TERI SAS building comes to this CR.
 - d. The BESS is to be installed in this underground open parking space, adjacent to above mentioned CR.
 - e. The space for BESS installation is an open space with dimensions: 5m(L) X 4m (W) x 2.2m (H).
 - f. The height of the available space is restricted to 7.5 feet in portion of installation space due to presence of overhead cable trays.
 - g. These overhead cable trays can be used for routing of cable(s) from BESS to LT panel(s) housed in the adjacent CR.
 - h. The open space is to be covered/closed by works to form a BESS room.
 - i. Installation space is filled with some non-degradable wastes (plastic bags, wooden planks, old furniture) and is to be cleared by Bidder prior to installation of BESS.
 - j. Bidder has to envisage for necessary electrical and civil modifications for Interconnection of the installed BESS with Bidder's proposed LT panel(s) housed inside the CR.
 - k. No spare terminals/space available in the LT panel for interconnection. Suitable modifications to be proposed and done by Bidder.



View of space for BESS installation, cable trays, debris present



Front view of space for BESS installation, cable trays, debris present inside



Side view of space for BESS installation, Entry to LT Control Room, cable trays, debris present



Inside view of LT Control Room



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE: PR: 003- Rev 02

SPECIAL COMMERCIAL CONDITIONS OF CONTRACT

Reference is brought to BHEL's Instructions to Bidders (Document Ref: CE: PR: 001- Rev 03) and General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 02).

These two documents along with Special Conditions of Contract annexed to this RFQ will form an integral part of the contract as and when the RFQ culminates into a Purchase Order / Contract.

RFQ No. : MGRM0000355

RFQ Date : 07/08/2020

RFQ Due Date : 18/08/2020

Customer/Project : M/s.The Energy and Resources Institute (TERI), New Delhi

Tender Description : Site survey, Design, Engineering, Manufacturing, Testing, Supply, Erection, Commissioning and 01 year Warranty followed by Five years Comprehensive AMC of 410KWH Battery Energy Storage System (BESS) for M/s.The Energy and Resources Institute (TERI),New Delhi.

Type of Bid : Two-Part Bid (Pre-Qualification Bid + Techno-commercial bid: Part-I; Price-bid: Part-II)

Purchase Executives : Clarifications with regard to the tender shall be addressed to purchase officers through e-mail IDs: mounishg@bhel.in ; kanimozhid@bhel.in

Splitting of tendered quantity to MSE vendors: The tendered quantity will/will not be split to MSE vendor/s subject to submission of relevant documents by vendors. Refer clause-I of Instructions to Bidders for conditions applicable and for information on documents to be submitted.

Destination: For Indigenous scope of supply, items are to be directly despatched to below-mentioned 03 designated locations in NCT of Delhi allotted by M/s.The Energy and Resources Institute (TERI), New Delhi.

- 230 KWH BESS-Taimoor Nagar,New Friends Colony, New Delhi (CAT-A)
- 120 KWH BESS-Ispatika Apartments, Dwaraka (CAT-B)
- 60 KWH BESS-Vasant Kunj Institutional Area, New Delhi (CAT-C)

Separate Purchase Orders will be placed for each category mentioned above. Consignee details will be issued by BHEL along with Despatch Clearance.

Terms of Delivery:

- Indigenous scope of supply:** FOR, customer designated location (including Packing & Forwarding charges but excluding Taxes).

Under-mentioned details shall be provided against indigenous supplies and services:

- a. GSTIN (no.) of place of supply: _____
b. HSN (Harmonized System of Nomenclature) code: _____
Applicable tax and Rate: _____ & _____
c. SAC (Service Accounting Code) no.: _____
Applicable tax and Rate: _____ & _____
d. GSTIN (no.) of place of supply of service: _____

I. Bidders to mandatorily provide confirmation/compliance for the under-mentioned terms:

Sl. No.	Term	BHEL Clause	Bidder's Confirmation	Remarks, if any
01	Parting of license for imported raw materials	In case of projects where Basic Custom Duty is NIL and vendor is importing any raw materials / components for the enquired item, same are eligible for Zero Customs duty. As per EXIM policy, BHEL will part the import licence with the vendors to obtain import licence by themselves and custom clear the raw materials/ components by availing zero customs duty. Hence, please furnish list of raw materials / components to be imported by you with Quantity and CIF value (for which BHEL has to share import licence). The benefit due to the above shall be passed on to BHEL and confirmed in the quotation. If there are no imported raw materials/components, same shall be confirmed in the offer.	AGREE —CIF value Yes, benefit passed on to BHEL in the priced quotation. (or) We confirm that there are no imported components	
02	Declaration of Local content (Refer Clause 'A' Sl. No. 12 of Instructions to Bidders)	Bidder to furnish the following details: (a) Percentage of local content: _____ (b) Details of the Location(s) at which the local value addition is made: _____ _____		
03	Declaration to be mandatorily submitted by the Bidder, as a compliance to Rule 144(xi) of GFR, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India.	"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered." (Refer Clause 'A' Sl. No. 13 of Instructions to Bidders).		

II. Bidder to note that Deviations shall not be permitted for the below mentioned terms and are deemed to be complied. In case of non-compliance/deviation, offer shall be liable for rejection:

(1) **Site Details:** No request for deviation in site specifications will be entertained by BHEL. All the site parameters such as space availability, electrical and civil infrastructures etc. have to be properly acknowledged by the vendor during site visit. Any additional cost in making upgrades at the sites (for all three categories) will be borne by the Vendor. In case of any change in Location for Category-B, it is the responsibility of the vendor to carry out the site visit and evaluate the new site for installation of Battery Energy Storage System at its own expenses. Any additional cost, if arises, due to any change in scope of work shall be finalized on mutual agreement between BHEL & Vendor on the basis of component wise cost already submitted by the Vendor. In case the vendor fails to execute the said work within site constraints acknowledged during site visit facilitated by TERI, then BHEL will be at liberty to get the work executed from the open market without calling any tender/e-tender and without any notice to the vendor, at the risk and cost of the vendor. Any additional cost incurred by 'BHEL' in the process of executing the work from third party shall be recovered from the Vendor. If the cost of executing the work as aforesaid shall exceed the balance due to the Vendor, and the Vendor fails to make good the additional cost, 'BHEL' may recover it from the vendor's pending claims against any work in 'BHEL' or in any lawful manner.

(2) The purchase order shall be on turn-key basis. The entire work shall be completed within **21 weeks** (including delivery of materials and installation & commissioning) from the date of signing of purchase order. However, BHEL may in case of urgency ask the vendor to complete the work earlier, with the mutual consent of the vendor.

Delivery of materials: All the materials as specified in the purchase order should be delivered at the sites of installation within **14 weeks** of issuance of Purchase order as delivery is the essence of the Contract. Transit insurance and storage insurance till the handing over of all materials will be within the scope of vendor. The vendor should provide the manufacturer's warranty certificate for all components supplied.

Delivery time for installation and commissioning: The systems will be deemed commissioned only after successful trial run of the system for three (3) days from the date of installations. Warehousing and storage of all components will be in the scope of vendor till the commissioning of all systems as per the purchase order.

(3) **Price reduction for delayed delivery:** In the event of delay affecting the delivery within agreed period to specific project site, unless concurrence for the delay has been given by BHEL for any unexpected event on request of the vendor, a reduction in the price shall be levied @ 1% of the total order value (excluding E&C and CAMC) per week or part there of subject to a maximum of 10% of the total order value (excluding E&C and CAMC) pertaining to the affected project site.

(4) The time and the date of installation of the system stipulated in the Purchase Order shall be also deemed to be the essence of the Contract, and installation must be completed within 21 weeks of issuing PO. If the vendor fails to install or any consignment thereof

within the period prescribed for such installation, BHEL shall be entitled at their option: As agreed under the liquidated damages clause, BHEL has the rights to recover a price sum equivalent to 1% of the Installation & Commissioning price which the vendor failed to install, subject to a maximum of 10% of the Installation & Commissioning price pertaining to the affected project site.

- (5) In case the vendor fails to execute the said work within the stipulated time, 'BHEL' will be at liberty to get the work executed from the open market without calling any tender/e-tender but with a prior notice to the vendor, at the risk and cost of the vendor (with proof of actual cost incurred). Any additional cost incurred by 'BHEL' in the process of executing the work from third party shall be recovered from the vendor. If the cost of executing the work as aforesaid shall exceed the balance due to the vendor, and the vendor fails to make good the additional cost, 'BHEL' may recover it from the vendor pending claims against any work in 'BHEL' or in any lawful manner.
- (6) The vendor will have the sole responsibility to execute order(s) placed as per time schedule, and to ensure quality parameters, specifications and other requirements provided in the tender document and purchase order terms.
- (7) In the interest of the work and the programme, purchase order executed between the vendor and 'BHEL' may be extended for a mutually agreed period, if the need arises. It shall be the sole responsibility of the vendor to get verified the quality and quantity of the supplied material at the site of delivery.
- (8) **Warranty period:** The material supplied shall be under on-site warranty for a period of minimum one year from the date of commissioning and issuance of completion certificate by TERI, as per tender conditions. Warranty certificate(s) shall be submitted at the time of issuance of completion certificate by TERI. During warranty period, as per the listed conditions of tender, the total responsibility of the BESS at all the three sites lies with vendor and all the repairs and replacements have to be made without any additional cost to TERI and BRPL (BSES Rajdhani Power Limited.) For warranty period, after system installation, the vendor shall be responsible for any defects that may occur due to faulty materials, design or workmanship. If it becomes necessary for the vendor to replace or repair any defective portion of the system, the vendor shall address all the issues within 2 working days and any replacements or renewals can be completed within 10 working days of intimation and without any extra cost to TERI/ BRPL. However, the system must be in running condition within 2 working days of intimation to the vendor. In case, the replacement is further delayed over 10 working days of intimation to the vendor, 1% of cost of the equipment to be replaced will be deducted from remaining payment or PBG as found suitable to BHEL (on case to case basis) with a limit of cumulative 10 % for the affected project site. Even then, if the vendor fails to execute the said work within aforementioned time period, 'BHEL' will be at liberty to get the work executed from the open market without calling any tender/e-tender and with a prior notice to the vendor, at the risk and cost of the vendor. Any additional cost incurred by 'BHEL' in the process of executing the work from third party shall be recovered from the vendor (provided the proof of actual cost incurred is submitted to vendor). If the cost of executing the work as aforesaid shall exceed the balance due to the vendor, and the vendor fails to make good

the additional cost, 'BHEL' may recover it from the vendor pending claims against any work in 'BHEL' or in any lawful manner.

The scope of work for on-site warranty services will further include the following:

- a) The vendor will create provision for receiving and recording all complaints, attending the complaints, stocking essential spares, provisioning trained service personnel, recording monthly logs of all activities, etc.
- b) During the 1 (one) year period, the repair works will have to be carried out at the premise except in exceptional circumstances where the equipment or any component may be required to be taken out for repair, for which specific written permission should be obtained from TERI. In such cases, standby arrangements are required to be made by vendor so that the BESS remains in functional state. All products have valid product warranty and hence on-site repair and maintenance service needs to be provided after getting replenishment of spares from respective product manufacturer.
- c) The vendor shall submit the bill along with the verification report counter-signed by TERI representative. The vendor will be responsible for complete on-site warranty of the installed systems for period of one year. It is mandatory for the vendor to have an authorized service center at Delhi-NCR before release of the purchase order. The same must be made available only after release of the purchase order.
- d) All preventive & breakdown maintenance and repair activities associated with Battery Energy Storage System.
- e) The vendor shall provide to its service station all normal tools and testing equipment needed for maintenance of the station at its own cost.
- f) If the work of the vendor is found unsatisfactory or if the vendor dishonors the purchase order or fails to perform as per purchase order terms, BHEL shall be entitled to terminate the purchase order after discussion with the vendor and BHEL's decision will be final and binding on the vendor. In that case, the payment of last invoice amount will not be done in addition to forfeiting the PBG or any other remedial measures as been deemed fit by BHEL.
- g) The vendor shall submit the bill along with the validation certificate counter-signed by TERI representative.
- h) The vendor shall keep one technically skilled person employed dedicatedly to three sites as mentioned in the tender. The technically skilled person has to remain in New Delhi and in case of absence of the person due to any unavoidable circumstances; a back-up skilled person must be employed by the vendor.

(9) Inspection:

- a) The 'TERI', 'BRPL', 'BHEL' or their representative shall have the right to anytime inspect and/or to test the goods to confirm their conformity to the purchase order.
- b) The 'TERI', 'BRPL', 'BHEL' or their duly authorized representative shall have at all reasonable times access to the vendor premises or works and shall have the power at

all reasonable time to inspect and examine the materials and workmanship of the works during its manufacturing or assembling stage.

- c) The vendor shall give the 'BHEL', 15 days prior written notice of any material being ready for testing. Such tests shall be on the vendor's accounts/ expenses except for the expenses of the inspector. 'BHEL' reserves the full rights, to waive off inspection of material.
- d) The vendor is required to get the entire lot of the ordered material inspected, before the supply of the materials.
- e) All arrangements for the inspection of materials will be done by vendor.

(10) Replacement of rejected material: Any material supplied against order placed on basis of this tender and found to be defective at any time during the project life on inspection or differing from approved samples or make or specifications will be replaced by the vendor free of cost or full refund made for the amount paid by BHEL. The vendor must replace or repair any defective portion of the system; the vendor shall make such repair within 2 working days of intimation and without any extra cost to BHEL. The vendor shall address the issues within 2 working days and any replacements or renewals/replacements can be completed within 10 working days of intimation to the vendor. In case, the replacement is further delayed over 10 working days of intimation to the vendor, 1% of cost of the equipment to be replaced will be deducted from remaining payment or PBG as found suitable to BHEL with a limit of cumulative 10 % for the affected project site. Even then, if the vendor fails to replace the equipment within aforementioned time period, BHEL will be at liberty to get the work executed from the open market without calling any tender/e-tender and with a prior notice to the vendor, at the risk and cost of the vendor. Any additional cost incurred by BHEL in the process of executing the work from third party shall be recovered from the vendor (provided the proof of actual cost incurred is submitted to vendor). If the cost of executing the work as aforesaid shall exceed the balance due to the vendor, and the vendor fails to make good the additional cost, BHEL may recover it from the vendor pending claims against any work in BHEL or in any lawful manner.

(11) Liquidated damages: If the vendor fails to perform the services within the time periods specified in the purchase order, then 'BHEL' shall without prejudice to its other remedies under the purchase order, deduct from the order price as liquidated damage a sum equivalent to 1% of the purchase order price (excluding CAMC) inclusive of taxes and levies for each week (For the purposes of calculation of delay, part of week shall be treated on Pro-rata basis) of delay until actual performance up to a maximum deduction of 10% of the purchase order price (excluding CAMC) for the affected project site. Once the maximum is reached, the 'BHEL' may consider termination of the purchase order. In the case of violation of purchase order terms by the vendor, BHEL may confiscate pending payments/ dues of the vendor assigning specific reasons and shall also have the power to debar/ blacklist the vendor in similar circumstances. BHEL may also invoke performance/security bank guarantee. 'BHEL' may also get the work executed from the open market without calling any tender/e-tender and with a prior notice to the vendor, at the risk and cost of the vendor (provided the proof of actual cost incurred is submitted to vendor). Any additional cost incurred by BHEL in the process of executing the work from

third party shall be recovered from the vendor. If the cost of executing the work as aforesaid shall exceed the balance due to the vendor, and the vendor fails to make good the additional cost, 'BHEL' may recover it from the vendor pending claims against any work in 'BHEL' or in any lawful manner.

(12) Road permit and entry taxes: To be facilitated and arranged by vendor.

(13) The vendor shall have to comply with all the rules, regulations, laws and by-laws for the time being in force and the instructions if any, of the organization, in whose premises the work has to be done. 'BHEL' shall have no liability in this regard.

(14) Insurance: Transit Insurance, storage insurance and erection insurance of the materials and equipment's for setting up the BESS shall be arranged by the vendor for the total supply. The goods supplied under the purchase order shall be fully insured for 6 (six) years against loss or damage incidental to manufacture or acquisition, transportation, storage during transportation. Complete BESS has to be insured and insurance copy stating indemnification to be furnished by the vendor before release of supply payment. In case of any damage/ loss/ pilferage/ non-delivery during transit, the vendor shall lodge and settle the claim with the insurance agency. The vendor shall also arrange replacement of the damaged/ lost/ pilfered items expeditiously pending settlement with insurance agency, if any, so as not to hamper the erection and commissioning work of the BESS. The resultant loss if any due to failure of sub-vendor of the vendor to comply with the above shall be to the account of vendor. The insurance copy is required to be submitted along with the invoices.

(15) Labour Engagement: The vendor shall be responsible to provide all wages and allied benefits (including PF/ESI etc.) to the labour engaged for execution of the project work. The vendor shall remain liable to the authorities concerned for compliance of the existing rules and regulations of the government for this purpose including regulations against employing child labour, etc. and shall also remain liable for any contravention thereof. The vendor shall submit the proof of PF /ESI paid to the employees along with invoices.

(16) Safety Codes and Regulation: The vendor shall adhere to safe construction practices and guard against hazardous and unsafe conditions and shall comply with safety rules of the Government of India and adhere to standards mentioned in the tender specification. In addition, the vendor shall adhere to and be bound by the applicable safety codes, rules and regulation for the work to be carried out. A separate log to be maintained by vendor.

(17) The vendor shall not, without the consent in writing of 'BHEL', transfer, assign or sublet the work under the purchase order or any substantial part thereof to any other party.

(18) 'TERI', 'BRPL' and 'BHEL' shall have at all reasonable time access to the works being carried out by the vendor under the purchase order. All the work shall be carried out by the vendor to the satisfaction of 'TERI' and 'BRPL'.

(19) BHEL may at any time by notice in writing to the vendor either stop the work all together or reduce or cut it down. If the work is stopped all together, the vendor will only be paid for

work done and expenses distinctly incurred by him as on preparation or the execution of the work up to the date on which such notice is received by him. Such expenses shall be assessed by 'BHEL', whose decision shall be final and binding on the vendor. If the work is reduced, the vendor will not be paid any compensation what so ever for the loss or profit which he might have made if he had been allowed to complete all the work included in the purchase order.

(20) Risk, Accident and Damages: The vendor shall take due precaution to avoid damages to any pipelines, Railway lines, roads, canals, cables, culverts, bridges, drains, sewer, telegraph and telephone lines, water mains, dykes, poles, pillars, fences, wires, supports and embankments and other underground or over ground works, structural or constructions whatsoever and shall at his own cost and initiative forthwith restore and repair any damage thereto the satisfaction of TERI and / or the person or authority concerned relative to the line, pipe or other works, construction of installation as the case may be.

(21) Observation of Environmental Regulations and Protection: The vendor shall ensure that its servants and agents and sub-vendors and their servants and agents shall duly comply with all environmental laws, applicable rules and regulations and the conditions of any permit, permission, consent and or no-objection granted in this behalf by any authority with respect to or concerning the work and shall independently so organize and conduct their operations as not to cause any hazard or pollution to health, life, property or environment including (but not limited to) discharge of any noxious substance or effluent into the atmosphere or into the earth or into any drain, canal, stream, river, pond, lake or other water body.

(22) Compliance with regulations: The vendor shall comply with all applicable laws or ordinances; codes approved technical standards, rules and regulations and shall procure all necessary Government permits & licenses etc. at its own cost. All compliances (State Govt /Central Govt/Local - VAT/WCT/ESI/PF/Labour law etc.) is to be met by the vendor and the same is to be produced by the vendor at the time of payment.

(23) Dismantling: At the end of the life of batteries, final dismantling, removing and recycling batteries from the site is the complete responsibility of vendor. Under Category-B, BESS is to be placed into a premises of residential society. The inter-connection of the said system will be behind-the-meter, and hence it is outside of control area of TERI/ BRPL. Thus, in view of public interest, a premature removal of BESS from the site may be required even within the contract duration. In such unforeseen circumstances, TERI/ BRPL will provide another site within licensee area of BRPL with similar operating conditions in NCT of Delhi. The shifting and re-installation of BESS will be performed by TERI/ BRPL (within a stipulated time-frame) at their own cost and risk under the supervision of vendor. The commissioning of the BESS at the new site will be performed by vendor with the support from TERI/ BRPL. The charges for vendor's services for 'shifting & re-installation supervision' and 'commissioning of the BESS at the new site' are to be paid to vendor by BHEL as per the per man-day rates prevailing at that time. The man-day rates shall include to-and-fro transportation, food and lodging. The charges shall be prior mutually discussed and finalized as and when required. At the time of shifting &

re-installation, the CAMC clauses of purchase order in particular and any clauses related to non-availability during the relocation period in general will remain suspended till the BESS is completely installed and ready to use condition in new site. Post commissioning, those clauses will be applicable as per the purchase order.

(24) Recycling: Once batteries have reached the end of its useful life (even after six years of purchase order duration), It is the complete responsibility of vendor to remove batteries from each site and recycle the batteries. Batteries should be in completely discharged condition prior to their disposal and disposed as per the brief plan presented at the time of quality assurance program. The DC connection terminals of the batteries must be insulated with electric tape to prevent accidental contacts. Incineration must be performed by an approved and permitted waste treatment facility that handles lithium ion batteries. It shall be the responsibility of vendor to;

- ensure that used batteries collected are sent to the registered recycling agencies or for disposal
- ensure that necessary arrangements are made for safe transportation from site to the premises of recyclers or for disposal
- ensure that no damage to the environment occurs during transportation;
- ensure that batteries are recycled according to relevant guidelines prevailing at the time of disposal.

(25) Demurrage Wharfage etc.: All demurrage, wharfage and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the vendor.

(26) Indemnity: Vendor shall indemnify and at all times keep BHEL indemnified and hold TERI and BHEL harmless against any direct loss to it or any claims by any third person, for any personal injury to anybody or loss to property, movable or immovable, caused by or attributable to any act or omission of the vendor or any of his officer, employee, agent or professional etc. in connection with this purchase order. The vendor shall be responsible for the safety of the BESS systems installed at site and shall indemnify TERI, BRPL and BHEL for any direct or indirect loss due to any fire, explosion or any other safety issue arising due to operation of BESS systems.

(27) Performance Bank Guarantee (PBG): The vendor shall furnish a Bank Guarantee (PBG-1) against performance of the contract with validity for a period of 15 months from the date of dispatch (or) 12 months from the date of issuance of 'Commissioning completion' certificate, whichever is earlier. The PBG-1 shall be issued for a value equivalent to 10% of the purchase order price which will include all components of the purchase order and will exclude only taxes/duties, freight, E&C and CAMC charges. After completion of one year from the issuance of the 'Commissioning completion' certificate, a fresh Bank Guarantee (PBG-2) equivalent to 10% of the CAMC (inclusive of taxes), valid for a period of 60 months shall be submitted by the vendor within 30 days.

The PBG1 shall be released by BHEL within 15 working days from the submission of PBG2. The validity of bank guarantee shall be extended in case the project execution period gets extended due to delay in execution by the vendor or any other reasons

whatsoever. The bank guarantee shall be issued in favour of BHEL. PBG-2 will be released after successful completion of 60 months of CAMC period of BESS.

- (28) Once battery / system completes its life the vendor will be responsible for dismantling of system and remove the item from the site and handover clear site to owner of the property / site.
- (29) Periodical review will be carried out after every 3 months to take care of unforeseen situation like COVID -19. Any impact on project execution due to COVID-19 shall qualify under Force Majeure.
- (30) Installation & commissioning and services: Installation & commissioning and operation & maintenance of the system shall be done by vendor as per tender specifications.

(31) Comprehensive Annual Maintenance Contract (CAMC):

CAMC will be applicable for a period of 60 months from the date of expiry of warranty period.

Evaluation Methodology in tender: In case the quoted total CAMC value is less than 20% of the main supply value (excluding E&C), BHEL shall evaluate Bidders Price deducting differential amount from main supply price and apportioning towards CAMC charges.

The Scope of CAMC contract starts after one year of receiving signed completion certificate from TERI.

- I. The vendor shall perform standard annual maintenance and augment the system as needed to meet performance guarantee in all aspects.
- II. The vendor shall perform standard annual maintenance of BESS that would include wear, tear, overhauling, insurance, and replacement of defective cells, PCUs, spares, consumables and other parts including sensors and data acquisition equipment installed to communicate parameters to EMS and between EMS and SCADA.
- III. Monitoring of BESS performance and supply of all technical, production/operation data and information and making it available as and when required.
- IV. Responsible to carry out routine and preventive maintenance and replacement of component/equipment of BESS in case of failure and vendor shall provide all labor, material, consumables etc. for routine and preventive maintenance at regular intervals. This will also include scheduled software maintenance, HVAC cleaning, battery container cleaning, low voltage side circuit breaker maintenance, fire suppression system maintenance etc.

- V. Carryout maintenance activities as a result of sudden failure/breakdown of any particular component or equipment. Vendor shall be responsible to carry out breakdown maintenance of each and every component of BESS.
- VI. Visit to onsite on call basis to provide maintenance services within 12 hours of raising the complaint.
- VII. Emergency trouble shooting calls - within 12 Hrs including spare arrangements.
- VIII. On site repairing/component replacement - within 2 working days, however, system has to be in service utilizing the spares (if available on site/ or at nearby service center of the vendor) within 12 hours of the breakdown.
- IX. The vendor shall maintain stock of mandatory spares required for warranty and CAMC period for any emergency troubleshooting. In any case system should be in running condition within 12 hours of break-down.
- X. The vendor shall keep one technically skilled person employed dedicatedly to three sites as mentioned in the tender. The technically skilled person has to remain in New Delhi and in case of absence of the person due to any unavoidable circumstances; a back-up skilled person must be employed by vendor.
- XI. Payment of AMC charges shall be linked with uptime (availability) of BESS. BESS is more significant during peak times of BRPL, thus weightage of penalty will be higher during peak-time slots as per the latest tariff orders of BRPL, as shown below:

Time Slot	Weightage
00:00 Hours to 02:00 Hours	1
02:00 Hours to 14:00 Hours	0.5
14:00 Hours to 00:00 Hours	1

The penalty on the account of non-availability of the BESS shall be calculated as under:

System Availability Factor (SAF) %	Penalty (%)	% of Quoted AMC*
0	95	100
95	96	80
96	97	60
97	98	40
98	99	20
99	100	0

Time Slot	BESS unavailable hours in a month	Weightage
00:00 Hours to 02:00 Hours	2	1
02:00 Hours to 14:00 Hours	1	0.5
14:00 Hours to 00:00 Hours	5.5	1

$SAF = 1 - \frac{[(2 \times 1 + 1 \times 0.5 + 5.5 \times 1)]}{(\text{Number of days in the month} \times 24)}$

SAF=98.89% (considering 30 days month)

Assumed AMC charges: 1000 units

Actual charges paid: 80% of 1000 = 800 units

- XII. The penalty on account of non-availability of the BESS shall be calculated on monthly basis. The net balance (AMC contract annual price – penalty) will be released half-yearly to the vendor.
- XIII. Sub-Contracting: No sub-contracting of work in full or in part is allowed unless approved by TERI/BHEL in writing.
- XIV. The vendor shall submit category wise monitoring report to TERI, BRPL and BHEL as per specifications along with the invoice of CAMC on half yearly basis.

(32) Termination: BHEL by written notice, may terminate this Order for default, in whole or in part, if the vendor: (a) fails to make a delivery in accordance with the Order's schedule, (b) fails to comply with any of the terms of this Order, (c) fails to make progress so as to endanger performance of this Order, (d) fails to provide adequate assurances of future performance, (e) ceases to conduct its operations, or (f) has any proceeding or lawsuit under bankruptcy, liquidation, or insolvency law brought against it.

(33) Warranty: The vendor shall warrant as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly.

(34) Performance of Equipment:

- a) In addition to the warranty as already provided, the vendor shall guarantee satisfactory performance of the equipment and shall be responsible for the period or up to the date specified in specification here of after the equipment has been accepted by the 'TERI' to the extent for any defects that may develop such defects shall be removed at his own cost when called upon to do so by the 'TERI'.

During CAMC period, as per the listed conditions of tender, the total responsibility of the BESS at all the three sites lies with the vendor and all the repairs and replacements have to be made without any additional cost to TERI, BRPL and BHEL.

Also, the vendor shall be responsible for any defects that may occur due to faulty materials, design or workmanship during the CAMC period. If it becomes necessary for the vendor to replace or repair any defective portion of the system, the vendor shall

make such replacement or renewal within 2 working days of intimation and without any extra cost to TERI/ BRPL/BHEL. Initially, If the vendor fails to attend the complaint within 2 working days or two working days, every time, a reasonable penalty of 5% (five percent) of total CAMC amount may be deducted from the retention pending amount due during that period for the affected project site.

In case the vendor fails to execute the said work within a week, BHEL will be at liberty to get the work executed from the open market without calling any tender/e-tender and without any notice to the vendor, at the risk and cost of the vendor. Any additional cost incurred by BHEL in the process of executing the work from third party shall be recovered from the vendor. If the cost of executing the work as aforesaid shall exceed the balance due to the vendor, and the vendor fails to make good the additional cost, BHEL may recover it from the vendor pending claims against any work in BHEL or in any lawful manner.

- b) The vendor shall submit category wise monitoring report to BHEL, TERI and BRPL twice in a year briefly assessing the overall performance of the BESS and its associated components along-side the technical performance of battery cells/modules promised at the time of bidding for all six years of the agreement. For example, throughput consumed & throughput remaining, C – rate assessment (maximum, minimum and average), degradation curve, down-time assessment, depth of discharge assessment (maximum, minimum and average), auxiliary consumption assessment, round-trip efficiency, PCS efficiency, battery module-wise health parameters, etc.

(35) Force majeure:

- a) Notwithstanding the provisions of clauses contained in this purchase order, the vendor shall not be liable for forfeiture of its performance security, liquidated damages, termination for default, if he is unable to fulfill his obligation under this deed due to event of force majeure circumstances.
- b) For purpose of this clause, 'Force majeure' means an event beyond the control of the vendor and not involving the vendor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of Government either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, pandemics, quarantine restrictions, and freight embargoes.
- c) However, if a force majeure situation arises, the vendor shall immediately notify 'BHEL' in writing. Any time extension on delivery or project completion to the extent of delay due to force majeure may be granted to the vendor based on mutual discussion and agreement. The decision of the competent authority of BHEL in above conditions shall be final.

(36) Demurrage: All demurrage, and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the vendor.

(37) Others :

- a) Technical details, such as SoC, PCS/ PCU efficiency, round trip efficiency and throughput etc., shall be supplied along-with each consignment and copy should be sent to BHEL and 'TERI' HQ for records.
- b) Internal test reports and data sheets of all components like cell/modules, PCS, sensors, transducers etc. shall be supplied along-with each consignment a copy should be sent to BHEL and 'TERI' HQ for records.
- c) The vendor in consultation with BHEL will conduct training programme for users, focusing on main features, operation and maintenance of the systems.
- d) The vendor shall continue to provide spare parts during warranty and CAMC period at their own cost to keep the systems in good operating conditions. After the expiry of CAMC period, the vendor shall continue to provide spare parts at the users cost till the product life. If the vendor fails to continue to supply spare parts and services to users, BHEL shall take appropriate action against the vendor.
- e) After successful supply/commissioning of the system and training, the system will be handed over to the person designated by TERI or, BRPL.
- f) It shall be the sole responsibility of the vendor to get verified the quality and quantity of the supplied material at the site of delivery.
- g) The supplies of battery cells/modules/pack shall be supported by an extended producer responsibility certificate as and when available, authorization from the battery manufacturer. 'Extended Producer Responsibility' (EPR) means responsibility of any producer of batteries for their products beyond manufacturing until environmentally sound management of their end-of-life products; for channelization of waste batteries to ensure environmentally sound management of such waste. Extended Producer Responsibility may comprise of implementing take back system or setting up of collection centres or both and having agreed arrangements with registered recycler either individually or collectively through a Producer Responsibility Organization recognized by producer or producers in their Extended Producer Responsibility.
- h) All batteries that have completed the useful life (battery waste) at the location installed shall be managed in an environmentally sound manner. 'Environmentally sound management of battery waste' means taking all steps required to ensure that batteries are managed in a manner which shall protect health and environment against any adverse effects, which may result from hazardous substance contained in such wastes.

(38) PAYMENTS:

The payments shall be effected as per the following terms and conditions:

- a) 60% supply payment (excluding E&C and CAMC) with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.

Note: In case PBG is not furnished, only 50% payment will be released without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.

Following documents need to be submitted to BHEL for processing of 60% supply payment:

1. Invoice (02 sets of original) for complete material supplied along with proof of delivery at site (sign and stamp of person who has received and verified the materials)
 2. Delivery challan(s) & E way bill
 3. Packing list and Consignee copy of Lorry Receipt (Packing List shall be detailed indicating package-wise content details along with Net weight & Gross weight of each package).
 4. Original certificate issued by BRPL confirming receipt of material at site and acceptance of the same
 5. Dispatch clearance / inspection report in original issued by the inspection authority
 6. NIL Short-Shipment Certificate
 7. Test Reports and Warranty Certificate
 8. Insurance policy (covering insurance scope defined in clause: 14 above)
 9. Performance Bank Guarantee (PBG-1)
- b) 30% supply payment (excluding E&C and CAMC) against installation and commissioning of the system, as per purchase order, will be paid in 15 days from the date of submission of supplementary invoice against proof of E&C completion certificate issued by TERI.

Payment term for E&C charges: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

Following documents need to be submitted to BHEL for processing of Service payments:

- (i) Complete list of installation location verified by TERI/BRPL representative
- (ii) The warranty certificates for complete system (as per Purchase Order) :

- (a) Complete system warranty certificate from the vendor.

- (b) Manufacturer warranty card / letter for all components and data sheet for lithium ion/various technologies battery cells/modules, inverter and PCS.
 - (c) All reports should be stamped and signed by the authorized representative of the vendor / vendor.
 - (d) Invoice of installation and commissioning as per purchase order.
 - (e) Insurance copy of the complete system.
 - (f) Proof for the establishment of service center for the sites (photo, registration docs).
 - (g) Proof of submission of PF/ESI.
 - (h) Extended Producer will provide proof of document for EPR and share the waste battery handling report. (As per the Ministry of Environment, Climate and Forest Change released the Draft Battery Waste Management Rules, 2020. The Draft Rules seek to replace the Batteries (Management and Handling) Rules, 2001, which provide details for handling and management of batteries under the Environment (Protection) Act, 1986)
- (iii) Original certificate issued by BRPL confirming Installation, testing and commissioning of material at site and acceptance of the same by Site In charge and duly verified by EIC.
 - (iv) Commissioning and handover certificate (as prescribed), counter- signed by TERI/ BRPL.
 - (v) Minimum two (2) photographs (dated) for each premise in soft copy of the BESS Unit. Photos should be clear and of minimum postcard size. Photo should cover all the components supplied at site.
- c)** Balance 10% supply payment (excluding E&C and CAMC) will be released (after ending of one year from the date of signing of completion certificate) within in 15 days from the date of submission of supplementary invoice against proof of successful execution of Warranty obligations.
 - d)** After expiry of warranty period, Comprehensive AMC charges will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on half -yearly basis; invoice certification shall be done by project In-charge.
 - (a) Detailed complaint log of all the complaints received during the period (half yearly).
 - (b) Rectification log of all complaints attended and remedial measures taken (half yearly).

- (c) Verification report signed by user and TERI representative.
- (d) If the documents are not submitted within the specified stipulated time period, (at half yearly frequency) the purchase order will deem to be completed and the vendor will not have any claim for the payment.
- (e) Complete records for complaint and rectification log should be maintained and available during any visit.
- (f) Category wise half-yearly monitoring report.

Payment terms for CAMC charges: 100% CAMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on yearly basis.

Note.3:

1. The vendor is mandatorily required to open service center to carry out on-site warranty services at site before accepting any purchase order.
2. Non-tearable Logo (TERI, BRPL, UI-Assist & BHEL) pasting has to be done on each BESS Unit.

(39) Materials –Quality & Workmanship:

- a) Immediately on award of contract, the vendor shall submit a detailed project report along with valid external ISO audit report of the company and Implementation plan report within 20 working days having planning and testing strategy with provisions for quality check performance at various stages of the project. The report shall also furnish details of method of checking and inspection and acceptance standards / values.
- b) The vendor has to provide quality assurance certificates to TERI/BRPL for required components of BESS and shall comply with appropriate codes & standards. . Failure to abide by the same may result in rejection of purchase order by TERI/BRPL/BHEL. BHEL reserves the right to request for any additional information and also reserves the right to reject the proposal of any vendor, if in the opinion of BHEL, the data in support of tender requirement is incomplete.
- c) The vendor shall comply with the purchase order terms in all respects to the satisfaction of TERI, BRPL and BHEL.
- d) For a period of 6 years, after system installation, the vendor shall be responsible for any defects that may occur due to faulty materials, design or workmanship. If it becomes necessary for the vendor to replace or repair any defective portion of the system, the vendor shall address and the issues within 2 working days and any replacements or renewals can be completed within 10 working days of intimation and without any extra cost to TERI/ BRPL/BHEL. However, the system must be in running condition within 2 working days of intimation.
- e) It is agreed by vendor that prior to expiry of this agreement which is six years from the date of installation of BESS (i.e. 1-year warranty and 5 year AMC) at three specified locations (as mentioned in tender document), the health assessment of the asset shall be

carried out to assess the performance of associated components (i.e. cells, modules, PCS etc.) during last six months of the purchase order.

- f) After CAMC period, based on health assessment, the vendor shall quote a price to refurbish the system to the minimum of 50% of its original rated capacity.

(40) Validity of offer: The offer will be valid for a period of 60 days from the date of part-I bid opening and in case of Negotiation/ Counter-offer, price validity will apply afresh for a period of 25 days from the date of according final price by bidder (or) up to original validity period, whichever is later.

(41) Inland transportation including loading, un-loading, insurance and other costs incidental to delivery (demurrage, wharfage, etc.): The supplier is required under the Contract to transport the Goods to place of destination defined as Site. Transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the supplier, and the related cost shall be included in the Contract Price. Vendor shall book the consignment through vendor's approved Road carriers on "Freight pre-paid" basis & to be claimed from BHEL through a separate invoice against proof of acknowledged L/R.

(42) Evaluation criteria for tendered item/s: Items will not be split on item-wise lowest offer. Items shall be evaluated and procured as a combined package. Clause 'A' Sl. No. 12 of 'Instructions to Bidders' shall also be referred in this regard.

(43) Reverse Auction: Not applicable for this tender.

With this, we hereby confirm that all the terms & conditions as indicated in Instructions to Bidders (Document Ref: CE: PR: 001- Rev 03) & General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 02) are accepted without any deviation.

Vendor's Signature with Seal

Note: This document has to be mandatorily filled & furnished as part of Part-I bid.



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भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE:PR:001- Rev 03

INSTRUCTIONS TO BIDDERS

Bidder is requested to read the instructions carefully and submit their quotation taking into consideration of all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: CE: PR: 001 – Rev 03), General Conditions of Contract (document reference: CE: PR: 002 - Rev 02) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Regret letter (either through post or by mail or by EPS) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender. Supplier shall be liable for removal as a registered vendor of BHEL when the supplier fails to quote against four consecutive tender enquiries for the same item or all enquiries in last two years for the same item, whichever is earlier.
4. Procurement directly from the manufacturers is preferred. However, if the OEM/ Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.
In case bids are received from the manufacturer/ supplier and his agent, bid received from the agent shall be ignored.
5. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
6. If an Indian representative/associate/liaison office quotes on behalf of a foreign based bidder, such representative shall furnish the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages/damages/replacement/repair of imported scope till the equipment is commissioned and handed over to customer will be the sole responsibility of the Indian representative/associates/agent/liaison office.
 - d. Refer **Annexure I** on “Guidelines for Indian Agents”.
7. ~~In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport /Seaport. Bidders must provide all original documents required for completing the customs clearance along with the shipment. Warehousing charges due to incomplete or~~

~~missing documentation will be to supplier's account. All offers for imported scope of supply by air, must be made from any of the gateway ports (within the country) indicated (Refer Annexure II).~~

8. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: http://www.bhel.com/vender_registration/vender.php
9. Business dealings with bidders will be suspended if they are found to have indulged in any malpractices/misconduct which are contrary to business ethics like bribery, corruption, fraud, pilferage, cartel formation, submission of fake/false/forged documents, certificates, information to BHEL or if they tamper with tendering procedure affecting the ordering process or fail to execute a contract, or rejection of 3 consecutive supplies or if their firms / works are under strike/lockout for a long period. Bidder may refer "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available on www.bhel.com for more details.
10. The bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to your notice.
11. Offers to be submitted in English language only.
12. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent Orders issued by the Nodal Ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of price bid/s against this NIT.

Any Indian Bidder intending to avail the benefits shall submit the requisite documents as per the aforesaid orders.

13. The Bidder shall mandatorily submit Declaration as mentioned below, under Rule 144(xi) of General Financial Rules, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India. The declaration to be submitted on Company Letter head duly signed and sealed by authorised signatory, for ascertaining the eligibility of offer in the tender.

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered."

(Where applicable, evidence of valid registration by the Competent Authority shall be attached).

The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

Refer Annexure-X for 'Restrictions under Rule 144(Xi) of General Financial Rules, 2017 amendment dt: 23.07.2020'.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:

- **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
- **TWO PART BID:** Unpriced offer i.e. “Techno-commercial Bid” with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the “Price Bid” without the prices** should be enclosed in one cover and the cover must be super scribed “**Techno-commercial offer**) and Priced offer i.e. “Price Bid” containing price summary in a separate sealed envelope and must be super scribed “**Price Bid**”. Both these envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.
- **THREE PART BID:** Pre-qualification Bid (Part-I), Techno Commercial Bid with filled in BHEL Standard Commercial terms and conditions (Part-II), and Price Bid (Part-III). All three envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

If any of the offers (Part I, Part II or Part III) are not submitted before the due date and time of submission (or) if any part of the offer is incomplete, the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to superscribe each envelope with RFQ number, RFQ Date, RFQ Due date and time, Item Description and Project clearly & boldly. Also mention on the envelope whether it is “Techno Commercial Bid” or “Price Bid” or “Pre-Qualification Bid”. Please ensure complete address, department name and purchase executive name is mentioned on the envelope (before dropping in the tender box or handing over) so that the tender is available in time for bid opening.
3. BHEL standard Commercial Terms and Conditions (duly filled, signed & stamped) must accompany Technical-Commercial offer without fail and should be submitted in original only.

The above indicated submission of Offers in “sealed envelope/hard copy” as mentioned in points B.1-B.3 is applicable for tenders that are not floated through E-Procurement System (EPS).

4. Validity: Unless otherwise specified in SCC (special commercial conditions of contract), the offer will be valid for a period of 90 days from the date of part-I bid opening and in case of Negotiation/Counter-offer/Reverse Auction, price validity will apply afresh for a period of _60_ days from the date of according final price by bidder (or) upto original validity period, whichever is later.
5. Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if all terms and conditions of this enquiry are accepted by the supplier without deviation.
6. Deviation to this specification/item description, if any, shall be brought out clearly indicating “DEVIATION TO BHEL SPECIFICATION” without fail, as a part of Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if the entire specification of this enquiry is accepted without deviation.
7. Suppliers shall submit one set of original catalogue, datasheets, bill of materials, dimensional drawings, mounting details and/or any other relevant documents called in purchase specification as part of Technical Bid.
8. “Price Bid” shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, freight charges (if applicable) etc. Once submitted no modification / addition / deletion will be allowed in the “Price Bid.” Bidders are advised to thoroughly check the unit price, total price to avoid any discrepancy.
9. In addition, bidder shall also quote for erection & commissioning charges/erection supervision & commissioning charges (E&C service charges), documentation charges, testing Charges (type & routine),

~~training charges~~ etc. as applicable along with corresponding tax. The price summary must indicate all the elements clearly.

10. Wherever applicable, bidders should indicate "lumpsum" Erection and Commissioning (or) Erection Supervision and Commissioning charges, as applicable (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for carrying out E&C activity and further handing over to customer. The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist (if any).
11. Wherever bidders require PAC (Project Authority Certificate)/applicable certificates for import of raw materials, components required for DECC,EPCG Power Projects, Export Projects or other similar projects wherein supplies are eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
12. Prices should be indicated in both figures & words. Bid should be free from correction/overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure III** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid" and BHEL decision will be final.
13. Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder. However, this requirement is not mandatory for offers uploaded through E-Procurement System (EPS).

C. GUIDELINES FOR OFFER SUBMISSION:

The under-mentioned clauses 1, 2&3 will not be applicable for EPS tenders.

1. Offers / Quotations must be dropped in tender box before 13.00 Hrs. on or before due date mentioned in RFQ. The offers are to be dropped in the proper slot of the Tender Box kept in our reception area with caption "CE, SC&PV, DEFENCE". Tenders are opened on 3 days in a week (Monday/Wednesday/Friday). Tender must be deposited in the slot corresponding to the day (Monday - Box no.4/Wednesday - Box no. 6 /Friday - Box no.8) while depositing the offer.
2. E-Mail/ Internet/EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC document of the tender.
3. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference no. and give only such other details not covered in the MOU.
4. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two purchase officers whose names are mentioned in the SCC document of tender RFQ.
5. Tenders will be opened on due date, time and venue as indicated in the RFQ in the presence of bidders at the venue indicated in the RFQ. For EPS tenders, e-mail notifications will be automatically generated and forwarded to registered e-mail ID/s of bidders during opening of tenders.
6. Bidder will be solely responsible:
 - a. For submission of offers before due date and time. Offers submitted after due date and time will be treated as "Late offers" and will be rejected.
 - b. For submission of offers in the correct compartment of the tender box based on the day of due date (Monday/Wednesday/Friday). Please check before dropping your offer in the correct tender box.

- c. For depositing offers in proper sealed condition in the tender box. If the bidder drops the tender in the wrong tender box (or) if the tender document is handed over to the wrong person, BHEL will not be responsible for any such delays.
- d. For offers received through email etc., suppliers are fully responsible for lack of secrecy on information and ensuring timely receipt of such offers in the tender box before due date & time (This clause will not be applicable for EPS tenders).

The above indicated submission of Offers as mentioned in points 6.a-6.d is applicable for tenders that are not floated through EPS.

- e. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, system/software requirements etc. will be the sole responsibility of the bidder. Wherever assistance is needed for submission of e-tenders, help-line numbers as available in the web-site of service provider of BHEL may be contacted.

Purchase Executive/ BHEL shall not be responsible for any of the activities relating to submission of offer.

D. PROCESSING OF OFFERS RECEIVED:

1. Any discount/ revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid). The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes/revisions are requested by BHEL. In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids/conducting the Reverse Auction, revision of price/impact bid will not be accepted.
3. In case there is no change in the technical scope and/ or specifications and/ or commercial terms & conditions, the supplier will not be allowed to change any of their bids after Technical bids are opened (after the due date and time of tender opening).
4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL and it accounts for price implications from bidders, all techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening.
5. Un-opened bids (including price bids) will be returned to the respective bidders after release of Purchase order. Regarding Offers for EPS tenders that get rejected on PQC/ techno-commercial grounds, the bids for the subsequent parts will not be opened i.e., both technical bid and price bid (Parts-II & III) will not be opened in case of rejection on PQC ground and price bid (Part-II/Part-III, as applicable) will not be opened in case of rejection on techno-commercial ground.
6. After receipt of Purchase Order, supplier should submit required documents viz., specified drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report , O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.

7. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL and agreed upon in the Purchase Order.
8. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL").
 "Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and/or duties(as applicable), freight charges, taxes on Services, customs clearance charges for imported items, any other cost indicated by bidder for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions). Benefits arising out of Nil Import Duty on DEEC, EPCG, DFIA Projects, Physical Exports or such 100% exemptions (statutory benefits), project imports, customer reimbursements of statutory duties (like Basic Customs Duty and cess on customs duty), Input tax credits as applicable will also be taken into account for arriving at the Total cost to BHEL (wherever applicable and as indicated in SCC document of tender).

For EPS tenders, it shall be noted that the prices (including discounts) vis-a-vis currency quoted in EPS portal only will be considered as Final for the purpose of evaluation of the lowest bidder. Bidder shall ensure to indicate the applicable taxes against each line item in online portal, failing to which the same will be considered as inclusive/NIL.

In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

9. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

Single part bids:	Date of tender opening
Two/three part bids:	Date of Part-I bid opening
Reverse Auction:	Date of Part-I bid opening

In case of Performance Bank Guarantee (PBG) also, exchange rate will be considered as mentioned above for converting foreign currency to Indian currency and vice versa.

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

10. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format (**Refer Annexure IV**) for receiving all payments through NEFT.(Applicable for Indian vendors only).
2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors. All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to supplier's account only. Such recovery will be made out of any of the available bills (**Refer Annexure V**).
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued.
 - A. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.

In addition to the above, Foreign vendors shall also submit relevant details of their bankers like Swift Code, Banker's Name & Address etc.

B. TDS deduction as per section 51 of CGST Act, 2017 shall be applicable as per Gazette Notification No. 50/2018-Central Tax, Dated: 13th September 2018 and subsequent notification/s, as and when released by Govt. authorities.

4. Incomplete documentation will not be accepted. Delayed submission of invoice / documents may result in corresponding delay in payment. In this connection, request to also refer clause: G about invoicing & payment formalities under GST regime. Applicable documents shall be submitted to the purchaser at the time of execution of supplies/services for availing GST input credits.

F. STANDARD PAYMENT TERMS OF BHEL-EDN:

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH SERVICE(S)</u>	<u>SUPPLY ONLY</u>
<u>INDIGENOUS PROCUREMENT</u>	a. 100% of basic value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later. <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	b. 100% of PO value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.
<u>IMPORT PROCUREMENT</u>	c. 100% of basic value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents. <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	d. 100% of PO value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents.
<u>HIGH-SEA SALES PROCUREMENT</u>	e. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	f. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.

g. Erection and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 10% of the main supply value. In case the quoted total E&C value is less than 10% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

h. Erection Supervision and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 5% of the main supply value. In case the quoted total E&C value is less than 5% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

i. Comprehensive Annual Maintenance Contract:

Evaluation methodology: Unless and otherwise specified in SCC, CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later and the total CAMC value should not be less than 20% of the main supply value. In case the quoted total CAMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards CAMC charges.

Payment terms: 100% CAMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on yearly basis.

j. Terms of Payment for Training: 100% payment will be made in 45 days from the date of completion of Training or 15 days from the date of submission of complete set of invoice along with documentary evidence, whichever is later.

LOADING FACTORS FOR DEVIATION IN PAYMENT TERMS (APPLICABLE FOR IMPORT PROCUREMENT ONLY):

- 1) For offers received with Sight draft payment term in place of Usance draft, loading applicable will be 1.0% of basic value.
 - 2) For offers received with Letter of Credit payment term with Usance of 45 days, loading applicable will be 2.5% of basic value.
Additional loading of 2% will be applicable for payment term as Letter of Credit at Sight.
- k. Any payment term with credit period of less than 45 days for indigenous supply/HSS and any other variation of payment terms are liable for rejection.
- l. Standard payment terms indicated in Clauses: F (a), (b), (c), (d), (e), (f), (g), (h), (i) & (j) will not attract any loading.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight, ~~training charges~~, E&C and AMC charges (wherever applicable). Wherever the Purchase Order is split into import portion and indigenous portion of supply, minimum % to be quoted for Services, wherever mentioned, will be of both purchase order values put together.

Note 2: In case of multiple packages/units in a power plant, payment of E&C charges will be processed on pro-rata basis.

Note 3: No deviation will be permitted from the duration of Guarantee/Warranty and/or Comprehensive Annual Maintenance Contract period specified in SCC.

G. Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB. However for CGST +SGST/UGST billing outside the state of Karnataka, invoice has to be generated with BHEL's Nodal Agency GSTIN number. Address of Nodal Agency along with GSTIN number will be provided by BHEL at the time of issuing dispatch clearance.
2. The Bidder shall mention Bidder's GSTIN number in all quotations and Invoices submitted.
3. The Bidder shall also mention HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) mandatorily in all quotations and invoices submitted.
4. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST,IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. For invoices paid on Reverse charge basis – “Tax payable on reverse charge basis” to be mentioned on the invoice.
7. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
8. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.
9. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
10. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the calendar month notified by BHEL.
11. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.

H. Performance bank guarantee (PBG):

Performance bank guarantee (PBG) will be applicable as called in the tender documents. Unless otherwise specified in the SCC, the PBG against performance of the contract shall be valid for a period of 24 months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10 % of the basic value of the purchase order which will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable).

1. The BG issued in Indian Rupees by Banks in India is to be executed on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Bank issuing the guarantee.
2. No deviation for the duration and value of PBG will be permitted.
3. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure VI**).
4. PBGs from nationalized banks are also acceptable.
5. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order.
6. PBG should be in the format specified (**refer Annexure VII**). No deviation to this format will be allowed. However in case BHEL changes the PBG format, bidder shall honor the same.
7. Bank Guarantee should be enforceable in Bangalore.
8. In Case of Bank Guarantees submitted by Foreign Vendors:
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in Bangalore.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 Please note that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter-Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It shall be noted that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 is required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time).
9. Expired PBGs will be returned only after expiry of the claim period.
10. ~~PBG shall not be applicable for spares.~~

I. PROVISIONS APPLICABLE FOR MSE VENDORS (MICRO AND SMALL ENTERPRISES) :

Benefits/facilities as applicable for Micro and Small Enterprises (MSEs) shall be available to MSEs registered with Government designated authorities as per the Purchase & Price Preference Policy of the Government subject to them becoming eligible otherwise.

Vendors who qualify as MSE vendors are requested to submit applicable certificates (as specified by the Ministry of Micro, Small and Medium Enterprises) at the time of vendor registration. Vendors have to submit the Udyog Aadhaar/Udyam Registration certificate along with attested copy of a CA certificate (Annexure VIII) applicable for the relevant financial year (latest audited) along with the tender documents in the Part-I bid to avail the applicable benefits.

Date to be reckoned for determining the deemed validity will be the date of bid opening (Part-I in case of two-part bid and three-part bid).

Documents have to be notarized/attested by a Gazetted officer and must be valid as on the date of part I bid opening for the vendors to be eligible for the benefits applicable for MSE vendors. Please note that no benefit shall be applicable if any deficiency in the above required documents are not submitted before the price bid opening/Reverse Auction. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal.

Bidders to however note the documents that shall be furnished in order to establish credentials as MSE vendor should be as per the extant statutory requirements specified by the Ministry of Micro, Small and Medium Enterprises.

PURCHASE PREFERENCE FOR MSE VENDORS:

MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 25% of the requirement against this tender provided

1. The MSE vendor matches the L1 price.
2. L1 price is from a non MSE vendor.
3. L1 price will be offered to the vendor nearest to L1 in terms of price ranking (L2 - nearest to L1). In case of non-acceptance by the MSE vendor (L2), next ranking MSE vendor will be offered who is within the L1 + 15% band (if L3 is also within 15% band).
4. 3% of the 25% will be earmarked for women owned MSEs.
5. 25% of the 25% (i.e., 6.25% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) & (2) are fulfilled.
6. In case where no SC/ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, the 6.25% of earmarked quantity for SC/ST owned MSE firms will be distributed among the other eligible MSE vendors who have participated in the tender.
7. In case after the bid opening it is seen that no MSE has become L1, then depending on the nature of the item, if it is not possible to split the tendered items/quantities on account of reasons like customer contract requirements of supplying one make for a given project or technical reasons like the tendered item being a system etc., then BHEL would not counter offer the L1 prices even though there may be MSE bidders within the +15% band of L1. Such information that tendered quantity will not be split shall be indicated in the SCC.

J. INTEGRITY COMMITMENT IN THE TENDER PROCESS, AND EXECUTION OF CONTRACTS:

1. Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the Tender process and execution of the Contract. BHEL will, during the tender process, treat all bidder / suppliers in a transparent and fair manner, and with equity.
2. Commitment by Bidder(s)/ Contractor(s):
 - a. The Bidder(s)/ Contractor(s) commit(s) to take all measures to prevent corruption and will not directly or indirectly try to influence any decision or benefit which he is not legally entitled to.
 - b. The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding or any actions to restrict competition.

- c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant Acts. The Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain or pass on to others, any information or document provided by BHEL as part of business relationship.
- d. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to the relevant guidelines issued from time to time by Government of India/ BHEL.

If the Bidder(s) / Contractor(s), before award or during execution of the Contract commit(s) a transgression of the above or in any other manner such as to put his reliability or credibility in question, BHEL is entitled to disqualify the Bidder(s) / Contractor (s) from the tender process or terminate the contract and/ or take suitable action as deemed fit.

K. Integrity Pact (IP):

- a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner.
A panel of independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.
The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial bid. Only those Bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- b) Please refer Section-8 of the IP for Role and Responsibilities of IEMs (Annexure IX). In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

Note: No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department."

Annexure

Annexure I
Guidelines for Indian Agents

- **Definition of Indian Agent:** An Indian Agent of foreign principal is an individual, a partnership, an association of persons, a private or public company, that carries out specific obligation(s) towards processing of BHEL tender or finalization or execution of BHEL's contract on behalf of the foreign supplier.

In case of yes, vendor to note the following and reply accordingly:

- i. BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
- ii. It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
- iii. The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
- iv. Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- v. Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- vi. In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives / associate / consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- vii. The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure - 'A' shall apply in all such cases.

- viii. The supply and execution of the Purchase Order (including indigenous supplies/ service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on 'total cost to BHEL'. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of Supplier Evaluation, Approval & Review Procedure (SEARP), before opening of price bids. In this regard, details may be checked as per Annexure-B (copy enclosed). It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on www.bhel.com.

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

—X—

Vendor's Signature with Seal

Guidelines for Indian Agents of Foreign Suppliers

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BHEL shall apply for registration in the registration form in line with SEARP.
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the Principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainership being paid by the principal to the agent before the placement of order by BHEL.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
- 2.0 **Disclosure of particulars of agents/ representatives in India, if any.**
- 2.1 Tenderers of Foreign nationality shall furnish the following details in their offers:
 - 2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by BHEL in Indian Rupees only.
- 2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:
 - 2.2.1 The Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the Tenderer for himself.
 - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by BHEL in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BHEL. Besides this there would be a penalty of banning business dealings with BHEL or damage or payment of a named sum.

ANNEXURE - II
LIST OF INTERNATIONAL GATEWAY AIRPORTS

For air based consignment, terms of delivery will be on FCA basis from following listed airports only. Vendors are requested to verify this list for use before submission of offer.

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD. CHETLAM
D04	UK	GBP	BRISTOL. WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
D06	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND
D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

ANNEXURE – III

DISCREPANCY IN WORDS & FIGURES – QUOTED IN PRICE BID

Following guidelines will be followed in case of discrepancy in words & figures-quoted in price bid:

(a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

(d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

ANNEXURE - IV
Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): ☐ CREATE ☐ CHANGE

BHEL Vendor / Supplier Code:

Company Name :

Permanent Account Number(PAN):

Address

City:

PINCODE

STATE

Contact Person(s)

Telephone No:

Fax No:

e-mail id:

1 Bank Name:

2 Bank Address:

3 Bank Telephone No:

4 Bank Account No:

5 Account Type: Savings/Cash Credit

6 9 Digit Code Number of Bank and branch

appearing on MICR cheque issued by Bank

7 Bank IFSC Code(applicable for NEFT)

8 Bank IFSC code(applicable for RTGS)

(Indian Financial System Code)

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone No. with STD Code

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date:

(.....)

Place:

Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call concerned purchase executive.

ANNEXURE - V
PRESENT PROCEDURE FOR SALE IN TRANSIT (HIGH SEA SALES)

In case of High Sea Sales, vendor should submit following documents:

1. ORIGINAL HIGH SEA SALES AGREEMENT

- Sale agreement (on Rs. 200/- non-judicial stamp paper & notarised with 2 witnesses with identity) has to be signed between BHEL and the Party importing material. The date of the sale documents should be in between the date of House Air Way Bill / Bill of Lading and before landing of the goods in Indian origin.
- Following shall be included in the High Sea Sales Agreement:
"THE BUYER ALSO UNDERTAKE DISCHARGES, THE OBLIGATION AND FULFILLMENT OF CONDITIONS, IF ANY, ATTACHED TO THE IMPORTATION, ASSESSMENT AND CLEARANCE OF THE GOODS IN TERMS CUSTOMS TARIFF ACT 1975, THE CUSTOMS ACT 1962 & RULES & REGULATIONS MADE THERE UNDER AND OTHER RELEVANT ACTS, ORDERS, NOTIFICATIONS".

2. ORIGINAL INVOICES: INDIGENOUS RUPEE INVOICE & FOREIGN CURRENCY INVOICE

- Prices should be C.I.F., designated airport/seaport basis.
- I.E.C., C.S.T., K.S.T. Nos. to be mentioned.
- Description of item (Nomenclature), Unit & Quantity in both the Foreign Currency & the Indigenous Invoice in Rupee shall be exactly as per Purchase Order Description of item, Quantity and Unit. The Indigenous Invoice value shall be exactly as per Purchase Order value.
- Seller should give Foreign Currency Invoice from the original consignor. The Foreign Currency Invoice value should be at least 2% (two per cent) less than the Indigenous Rupee Invoice value in equivalent foreign currency.

4. ORIGINAL HOUSE AIR WAY BILL/ BILL OF LADING

- The sale agents should duly endorse House Air Way Bill (HAWB) for air shipments or original Bill of Lading (O.B.L.) for sea shipments and Foreign Currency Invoice in favour of BHEL-EDN.

5. ORIGINAL CARGO ARRIVAL NOTICE FROM FORWARDER.

6. ORIGINAL DELIVERY ORDER ISSUED IN NAME OF BHEL-EDN.

7. ORIGINAL PACKING LIST.

8. A LETTER TO THE COMMISSIONER OF CUSTOMS FOR EFFECTING ABOVE SALE.

9. A LETTER TO THE DEPUTY ASSESSOR (OCTROI) FOR EFFECTING ABOVE SALE IN FAVOUR OF BHEL.

REMARKS: In case vendor needs any clarifications on the above, the same may be sought in writing.



ELECTRONICS DIVISION, BANGALORE

Annexure-VI

BHEL MEMBER BANKS (LIST OF CONSORTIUM BANKS)

Bank Guarantee (BG) shall be issued from the following banks only:

Sl. No.	Nationalised Banks	Sl. No.	Public Sector Banks
1	Allahabad Bank	18	IDBI
2	Andhra Bank		
3	Bank of Baroda	Sl. No.	Foreign Banks
4	Canara Bank	19	CITI Bank N.A
5	Corporation Bank	20	Deutsche Bank AG
6	Central Bank	21	The Hongkong and Shanghai Banking Corporation Ltd. (HSBC)
7	Indian Bank	22	Standard Chartered Bank
8	Indian Overseas Bank	23	J P Morgan
9	Oriental Bank of Commerce		
10	Punjab National Bank	Sl. No.	Private Banks
11	Punjab & Sindh Bank	24	Axis Bank
12	State Bank of India	25	The Federal Bank Limited
13	Syndicate Bank	26	HDFC Bank
14	UCO Bank	27	Kotak Mahindra Bank Ltd
15	Union Bank of India	28	ICICI Bank
16	United Bank of India	29	IndusInd Bank
17	Vijaya Bank	30	Yes Bank

Note:

- All BGs must be issued from BHEL consortium banks listed above.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.
- Bank Guarantees issued by Co-operative Banks/Financial Institutions cannot be accepted under any circumstance.

Annexure-VII

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at _____² hereinafter referred to as the ' Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs --⁶ (Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

WeBANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier 's liabilities.

This Guarantee shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁸we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE

⁸ DATE OF EXPIRY OF CLAIM PERIOD

Annexure – VIII
(Applicable only for MSE suppliers)
Certificate by Chartered Accountant on Letter Head

This is to certify that M/s
.....(hereinafter referred to as 'Company')
having its registered office at is registered under MSMED Act 2006,
(Entrepreneur Memorandum No (Part-11 dtd
Category: (Micro/Small) (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as
per the latest audited financial year..... as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original
cost excluding land and building and the items specified by the Ministry of Small
Scale Industries vide its notification No.S.O.1722 (E) dated October 5, 2006:
Rs.....Lacs.
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and
building and furniture, fittings and other items not directly related to the service
rendered or as may be notified under the MSMED Act, 2006:
Rs.Lacs.

The above investment of Rs.Lacs in within permissible limit of
Rs.....Lacs for.....Micro / Small (Strike off which is not
applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (**Strike off which is
not applicable**) and the date of graduation of such enterprise from its original category is
..... (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of
such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013
published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name:

Membership Number:

Seal of Chartered Accountant

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions:

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and will await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to

demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 - Equal treatment of all Bidders/ Contractors / Sub-contractors

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 - Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality in line with Non- disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organisation.
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/ Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidders 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal

(Office Seal)

Place-----

Date-----

Witness:_____

(Name & Address) _____

For & On behalf of the Bidder/

Contractor

(Office Seal)

Witness:_____

(Name & Address) _____

Annexure-X

Restrictions under Rule 144(xi) of General Financial Rules, 2017 amendment dt: 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means :-
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation--

 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE: PR: 002- Rev 02

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT

These 'General Commercial Conditions for Contract for Purchase' herein after referred to as GCC apply to all enquiries, tenders, requests for quotations, orders, contracts and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited and any of its units, regions or divisions (hereinafter referred to as "BHEL" or the Purchaser) or its projects/ customers.

Any deviations from or additions to these GCC require BHEL's express written consent. The general terms of business or sale of the vendor shall not apply to BHEL. Acceptance, receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the vendor have been accepted.

Orders, agreements and amendments thereto shall be binding if made or confirmed by BHEL in writing. Only the Purchasing department of BHEL is authorized to issue the Purchase Order or any amendment thereof.

Definitions: Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- a) 'The Purchaser' means Bharat Heavy Electricals Limited, Electronics division, Mysore road, Bangalore 560 026, a Unit of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act having its registered office at BHEL House, Siri Fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- b) 'The vendor' means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the vendor's successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor or Supplier.
- c) 'Contract' shall mean and include the Purchase Order incorporating various agreements, viz. tender/ RFQ, offer, letter of intent/acceptance/ award, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection/ Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided by BHEL or his authorized nominee and the samples or patterns if any to be provided under the provisions of the contract.
- d) 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.

Order of Precedence:

In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI / LOA, Special Conditions of Contract and General Conditions of Contract for commercial conditions; and specific agreement on technical conditions, RFQ/offer and specification for Technical Conditions.

Interpretation:

In the contract, except where the context requires otherwise:

- a) words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;

- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

1. **Price Basis:** All prices shall be firm until the purchase order is executed / completed in all respects. No price variations / escalation shall be permitted.
2. **Ordering and confirmation of Order:** Vendor shall send the order acceptance on their company letter head/ through e-mail within a week from the date of receipt of Purchase Order or such other period as specified/ agreed by BHEL. BHEL reserves the right to revoke the order placed if the order confirmation differs from the original order placed. The acceptance of goods/services/supplies by BHEL as well as payments made in this regard shall not imply acceptance of any deviations.
The purchase order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified/agreed by BHEL) from the date of receipt of the purchase order.
3. **Documentation:** After receipt of Purchase Order, vendor should submit necessary documents (if & as applicable) like drawings specified, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/ Customer.
At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents / specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.
4. **Penalty:**
 - a. **For delay in documentation:** In the event of delay in submission of complete set of specified documents ((like drawings, bill of materials, datasheets, catalogues, quality plan etc. as called in tender specifications including soft copies wherever applicable) in required sets beyond two(02) weeks (or as agreed/indicated in the SCC/Purchase Order) from the date of receipt of Purchase Order (by email), penalty at 0.5% (half percent) per week or part thereof, limited to a maximum of 5% (five percent) of the basic material value of the Purchase Order will be applicable.

Penalty for delayed documentation if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.
 - b. **For delay in delivery:** In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5 % (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of undelivered portion (basic material cost) will be applicable. Delivery will commence from the date of issue of Manufacturing clearance along with approved document. The date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. In the absence of furnishing such document indicated above as proof of completion of manufacturing along with inspection call, actual date of inspection will be considered as date of deemed delivery and BHEL will not be responsible for delay in actual date of inspection.

~~Penalty for delayed delivery if applicable, shall be deducted at the time of first supply payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted. GST as applicable will be recovered along with penalty amount.~~

5. Contract variations (Increase or decrease in the scope of supply): BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be the basis for such additional work. Vendor shall not perform additional work before BHEL has issued written instructions/ amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
6. Inspection: Prior written notice of at least 10 days shall be given along with internal test certificates/COC and applicable test certificates. Materials will be inspected by BHEL-EDN-QS/CQS or BHEL nominated Third Party Inspection Agency (TPIA) or BHEL authorized Inspection Agency or Customer / Consultant or jointly by BHEL & Customer / consultant. All tests have to be conducted as applicable in line with approved Quality plan or QA Checklist or Purchase specification and original reports shall be furnished to BHEL-EDN, Bangalore for verification/acceptance for issue of dispatch clearance. BHEL reserves the right for conducting repeat test, if required.
All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.
7. ~~Transit Insurance: Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency (as mentioned in dispatch instructions issued by BHEL) through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.~~
8. Mode of dispatch:
Indigenous Scope: By road on Door Delivery Consignee Copy attached basis through your approved transporter (unless otherwise indicated in Dispatch Instructions), only on receipt of Despatch Clearance from BHEL.
~~Imported Scope: By Air/Sea through BHEL approved Freight Forwarder/supplier approved Consolidator respectively as per agreed contractual terms, only on receipt of Dispatch Clearance from BHEL.~~
9. Changes in Statutory levies:
If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the execution of Contract, which was or will be assessed on the bidder in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be. However, these adjustments would be restricted to direct transactions between BHEL and the bidder /agent of foreign bidder (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the bidder /agent.
10. Availing duty/tax exemption benefits by bidder, wherever applicable: BHEL shall issue the required Certificate/s, as per relevant policies of the Govt. of India, to facilitate the bidders to avail any such benefits under the Contract. In case of failure of the bidders to receive the benefits partly or fully from the Govt. of India and/or in case of any delay in receipt of such benefits, BHEL shall neither be liable nor responsible in any manner whatsoever.

11. Taxes against sub-vendor dispatches: All taxes/levies, as applicable in respect of all components, equipments and material to be despatched directly from the sub-vendor's works to Site irrespective of the fact whether such taxes and levies are assessable and chargeable on Vendor or the BHEL, shall be to the vendor's account and no separate claim in this regard will be entertained by BHEL.
12. High Sea Sales (HSS): Customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors.
Any delay in submission of complete/correct HSS documents to BHEL may incur demurrage charges. All demurrage charges on account of incomplete /incorrect HSS documents submission by vendor will be to vendor's account and all such charges will be recovered from any of the available vendor bills with BHEL.
13. Packaging and dispatch: The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea/ Air / Rail/ Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures/ hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.
The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw/ solid wood packing material should be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitary/ Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment.
Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (LxBxH) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated in the packing list.
Separate packing & identification of items should be as follows.
 1. Main Scope - All items must be tagged with part no. & item description.
 2. Commissioning accessories/spares - All items must be tagged with part no. & item description.
 3. Mandatory spares - All items must be tagged with part no. & item description.
 Nevertheless, vendor shall adhere to dispatch & packing instructions issued by BHEL at the time of dispatch.
14. Assignment of Rights & Obligations; Subcontracting: Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
15. Progress report: Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.
16. Non-disclosure and Information Obligations: Vendor shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal any specified confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.
17. Cancellation /Termination of contract: BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination.
BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so on account of any decline, diminution, curtailment or stoppage of the business.

18. Risk Purchase Clause: In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services not supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.

In case of items demanding services at site like erection and commissioning, vendor should send his servicemen/representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase/service including additional handling charges due to the change.

19. Shortages: In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages, caused by supplier's act or omission, shall be made good at free of cost within a reasonable time that BHEL may allow from such intimation.

Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, supplier shall make good of all such damages within a reasonable time from such intimation by BHEL. ~~In case BHEL raises an insurance claim, the cost of material limited to insurance settled amount less handling charges will be reimbursed to supplier.~~

20. Remedial work: Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.

21. Indemnity Clause: Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment.

22. Product Information, Drawings and Documents: All specified drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract.

Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.

All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the Contract shall continue to be the property of the disclosing party.

23. Intellectual Property Rights, Licenses: If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods/related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged)

claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.

24. **Force Majeure:** Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence, provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance.

A party affected by an event of force majeure which may include fire, tempest, floods, earthquake, riot, war, damage by aircraft etc., shall give the other party written notice, with full details as soon as possible and in any event not later than seven (7) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

Notwithstanding above provisions, in an event of Force Majeure, BHEL reserves for itself the right to cancel the order/ contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules.

25. **Warranty:**

Wherever required, and so provided in the specifications/ Purchaser Order, the Seller shall ensure that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance.

Unless otherwise specified in SCC, warranty period shall be applicable for a period of 24 months from the date of delivery of goods or 18 months from the date of commissioning of goods, whichever is earlier.

The warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery. Unless otherwise specifically provided in the Purchase Order, Vendor's liability shall be co terminus with the expiration of the applicable warranty period.

26. **Limitation of Liability:** Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or wilful misconduct.

The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.

27. **Liability during warranty:** Vendor shall arrange replacement / repair of all the defective materials / services under its obligation during the warranty period. The rejected goods shall be taken away by vendor and replaced / repaired. In the event of the vendor's failure to comply, BHEL may take appropriate action including disposal of rejections and replenishment by any other sources at the cost and risk of the vendor. In case, defects attributable to vendor are detected during Warranty period or where the commissioning call is issued within the warranty period, vendor shall be responsible for replacement/ repair of the goods as required by BHEL at vendor's cost even after expiry of warranty period.

Further if the equipment or any part thereof cannot be used by reason of such defect and/or making good of such defect, the warranty period of the equipment or such part, as the case may be, shall be extended by a period equal to the period during which the equipment or such part cannot be used by BHEL because of any of the aforesaid reasons. Upon correction of the defects in the facilities or any part thereof by repair/replacement, such repair/replacement shall have the warranty period for a period of twelve (12) months from the time such replacement/repair of the equipment or any part thereof has been completed.

28. **Liability after warranty period:** At the end of the warranty, the Vendor's liability ceases except for latent defects. For the purpose of this clause, latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the warranty Period, but later. The Contractor's liability for latent defects warranty for the equipment including spares shall be limited to a period of six months from the end of the warranty period of the respective equipment including spares or first time commissioning, whichever is later but not later than one (01) year from the date of expiry of warranty period.

29. Compliance with Laws: Vendor shall, in performing the contract, comply with all applicable laws. The vendor shall make all remittances, give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the laws in relation to the execution and completion of the contract and for remedying of any defects; and the Contractor shall indemnify and hold BHEL harmless against and from the consequences of any failure to do so.
30. Settlement of Disputes: Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies/work/services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply/work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).
31. Arbitration Clause in case of Contract with vendors other than Public Sector Enterprise (PSE) or a Government Department:

ARBITRATION & CONCILIATION

The parties shall attempt to settle any disputes or difference arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, or in connection with this contract through friendly discussions. In case no amicable settlement can be reached between the parties through such discussions, in respect of any dispute; then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL–EDN. Such Sole Arbitrator appointed, shall conduct the arbitration in English language.

The Arbitrator shall pass a reasoned award and the award of the Arbitration shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bangalore.

The cost of arbitration shall be borne as decided by the Arbitrator upon him entering the reference.

Subject to the Arbitration Clause as above, the Courts at Bangalore alone shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the parties shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and efficiency in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

Arbitration Clause in case of Contract with a Public Sector Enterprise (PSE) or a Government Department:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either party for Arbitration to the Sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any Party aggrieved by such Award may make further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.'

32. Applicable Laws and Jurisdiction of Courts: Prevailing Indian laws both substantive and procedural, including modifications thereto, shall govern the Contract. Subject to the conditions as aforesaid, the competent courts in Bangalore alone shall have jurisdiction to consider over any matters touching upon this contract.
33. General Terms: That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

That the headings used in this agreement are for convenience of reference only.

That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.