

	BHARAT HEAVY ELECTRICALS LIMITED SOLAR BUSINESS DIVISION	EOI Ref: BHEL/SBD/BESS/EOI/01
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BHEL SBD Herewith Publishes

Expression of Interest

(EOI)

and

Invites Prospective vendors to partner with BHEL

for

SUPPLY OF CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS

Ref: BHEL/SBD/BESS/EOI/01 Dated 03.08.2024

Due Date of Receiving duly filled EOI: 13.08.2023 14:00 Hrs

About BHEL

BHEL is India's largest engineering and manufacturing enterprise, operating in the energy, industry and infrastructure sector. Company was established in the year 1964 and since then it has been "Making in India" offering comprehensive products, systems, and services in various areas including power generation (thermal, hydro, gas, nuclear, and solar PV), transmission, transportation, defence, aerospace, oil and gas, and emerging sectors like battery energy storage systems and electric vehicle chargers. BHEL has been instrumental in developing the country's power generation capacity, contributing to core industrial and strategic sectors since the time of its humble beginning. The company's commitment toward its customer is evident through wide range of product portfolio, development and absorption of new technologies, consistent investment of more than 2.5% of its revenue on R&D and innovation, establishment of world-class manufacturing facilities and offering sustainable business solutions. Apart from serving customers, BHEL has been supporting communities through programs like skill development, promoting health, hygiene, education, cleanliness and environmental protection, thus contributing to the society as a whole.

The purpose of publishing this EOI is to provide opportunities to probable vendors who can partner with BHEL for SUPPLY OF CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS.

Note: BHEL reserves its right to independently verify the documents submitted and visit the vendor works for assessment. Necessary arrangements shall be made by the prospective vendors

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Queries:

Bidders to note that any queries related with EOI are to be submitted online only at Email ID provided in Table A with CC to **k.manoj@bhel.in**. Queries/clarifications received in any other form are liable to be unanswered. A reply from the concerned will be given on the same Email ID.

Table A

Description	Email Id
For Technical Queries	ravana@bhel.in
For General & Commercial Queries	k.manoj@bhel.in
For submission of offers against EOI	<u>technicalbid-epd@bhel.in</u>

Submission of EOI

Offers against EOI to be submitted on Email address to **technicalbid-epd@bhel.in** with subject as Ref: **BHEL/SBD/BESS/EOI/01 Dated 03.08.2024 "SUPPLY OF CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS."** (Mail size should not be more than 20 MB. In case the size is larger, offer can be submitted partwise in multiple mails).

Following documents to be attached while submitting EOI:

1. Annexure I (Duly filled, signed, stamped on official letterhead)
2. Annexure II- Non-Disclosure Agreement (Duly filled, signed, stamped on official letterhead)
3. Documents in support of Pre-Qualification Requirements- Technical
4. Technical offer, comprising of technical specification/Product Catalogues/Datasheets/Drawings/ QAP/ Test report etc
5. Documentary evidences for Manufacturing capabilities
6. Any other documents

Note: Bidders may adopt this mode at their own risk. BHEL does not own any responsibility /liability for delays in receipt / loss of secrecy of such offers.

No physical offers for EOI will be accepted.

Plant Location details:

BHARAT HEAVY ELECTRICALS LTD
SOLAR BUSINESS DIVISION
Prof. CNR Rao Circle,
Opp. Indian Institute of Science,
Malleswaram Bangalore – 560012 India

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ANNEXURE – I

FORMAT FOR SUBMISSION OF EOI

(to be printed on the official letterhead of the APPLICANT)

To,

Mr. Vinay Kumar
AGM-Materials Management
BHEL SBD Bengaluru-560012

Dear Sir,

Subject: Submission of Expression of Interest Ref: BHEL/SBD/BESS/EOI/01 Dated 03.08.2024 “SUPPLY OF CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS”

With reference to your EOI inviting notice Ref: BHEL/SBD/BESS/EOI/01 Dated 03.08.2024 and after examining the detailed documents and other details mentioned in the EOI document, I/We hereby offer to submit my /our Expression of Interest.

1. All the annexures and documents necessary in this connection are enclosed hereto. All the documents/ photocopies of the documents have been self-attested by me/us and BHEL is free to reject our offer if any of the documents/photocopies of the documents is/are found to be false or forged.
2. I/we, hereby also declare(s) that I/we have read all terms and conditions in the EOI and all terms and conditions mentioned in the EOI are acceptable. I herewith submit duly signed and accepted Non Disclosure Agreement as per Annexure II.
3. I/we, hereby also declare(s) that my/our organisation/firm is not debarred/ blacklisted by any Central/State Govt. department, agency, PSUs/ Institution/ Agencies/ Autonomous organization.
4. The information sought from me as per the EOI notice is enclosed to this letter.

Yours Faithfully,

(Signature & Stamp of Authorised Signatory)

Name

Designation:

Date:

Place:

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ANNEXURE II

NON-DISCLOSURE AGREEMENT

I, _____, on behalf of the _____ (Name of Company),

acknowledge that the information received or generated, directly or indirectly, while working with BHEL on contract is confidential and that the nature of the business of the BHEL is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL all documents and property of BHEL including: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL, EPD's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL and are reasonable given the nature of the business carried on by the BHEL. I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Place: - _____ Date: - _____

Name

Company

Signature

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PRE-QUALIFICATION REQUIREMENTS (For category I)

	Particulars	Bidder's Confirmation
1	The offer shall be quoted only by the original Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators .	Name of Original Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators address & contact details with email address, website to be provided.
2	The bidder (Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators)should have manufactured / assembled and supplied the Battery or other storage chemistry of 50kWH (culminative at SOL)in the past five financial years from the Date of bid opening. The above is clarified as : Bidders importing cells and subsequently assembling/manufacturing battery modules/racks for any chemistry and the other parts of the containerized solutions are eligible to participate.	Supporting documents to be provided (PO copy with LR copy / client certificates/ shipping documents) Customers details to be provided and BHEL reserves the rights for the verification of submitted credentials.

PRE-QUALIFICATION REQUIREMENTS (For category I , II)

	Particulars	Bidder's Confirmation
1	The offer shall be quoted only by the original Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators .	Name of Original Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators address & contact details with email address, website to be provided.
2	The bidder (Battery OEM or other storage chemistry OEM / Cell to Module or Rack integrators)should have manufactured / assembled and supplied the Battery or other storage chemistry of 250kWH (culminative at SOL)in the past five financial years from the Date of bid opening. The above is clarified as : Bidders importing cells and subsequently assembling/manufacturing battery modules/racks for any chemistry and the other parts of the containerized solutions are eligible to participate.	Supporting documents to be provided (PO copy with LR copy / client certificates/ shipping documents) Customers details to be provided and BHEL reserves the rights for the verification of submitted credentials.



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Digitally signed by
Punam Mishra-SDGM
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**TECHNICAL SPECIFICATION FOR
TC- MOU FOR
SUPPLY OF CONTAINERSIED SOLUTION OF
BATTERY MODULES, BMS AND EMS**


ಸರಾವಣ ಭವನ್ ರಾಜ್., ಹಿರಿಯ ಎಂಜಿನಿಯರ್/ಎಸ್.ಪಿ. & ಪಿ.ವಿ.-ಕೆ.ಎಸ್.ಎಸ್.
सरवण भवन आर., वरि. अभियंता/एस.सी. & पी.वी.-पी.वी.एस.एस.
SARAVANA BHAVAN R., Depty Manager /SC & PV-PVSS
BHEL- SBD , BENGALURU-560026

**Punam
Mishra
-SDGM**
Digitally signed by
Punam Mishra-SDGM
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Mishra-SDGM,
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CONTAINERISED SOLUTION OF BATTERY MODULES, BMS and EMS

0) INTRODUCTION:

Battery modules are the building blocks of a Battery Energy Storage Systems (BESS), typically consisting of several individual cells connected in series and/or parallel to achieve the desired voltage range and Discharge capacity over the period of years as per project requirement. Battery modules and Battery Management Systems (BMS) , Energy Management system (EMS) , Power conditioning unit (PCS) are integral components of BESS, playing crucial roles in managing and optimizing battery performance, safety, and longevity.

In this specification, the technical requirements of a containerized solution which consists of Battery modules, BMS, EMS, HVAC system, fire suppression systems, and other necessary equipment are provided.

1) TECHNICAL REQUIRMENTS:

1.1 Battery Modules:

Sl. No	Description	Requirement	Parameters
1	Battery Chemistry	Modules can be configured with lithium-ion cells, lead-acid cells, Vanadium Flow batteries or other chemistries depending on the application's requirements. Each cell /system type has different characteristics in terms of energy density, cycle life, Degradation, Discharge capability and safety considerations.	Lithium-ion, Lead-acid, Flow batteries, Sodium-sulfur, Zinc based , Vanadium redox or other chemistries. Or Shall be as per customer requirement
2	Voltage and Capacity	Modules are designed with specific voltage and capacity ratings, which can vary based on the number and type of cells / Modules used. This allows for scalability and customization of the BESS to match	Typical values: Nominal Voltage: Eg. typical for Li ion For Cell: 3.2 V or more For Battery Module: 51.2V or better (16S and 1 P)

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		the project Requirement (including O&M)	Capacity: 280 Ah or better Rated energy (Wh): 14336 Wh or better . For other chemistries : System configuration with parameters value shall be mentioned.
3	Cycle Life	Number of Cycles: Specifies how many charge-discharges cycles the module can endure before capacity drops significantly	Shall be as per customer / Project requirement. Minimum one cycle per day shall be considered, if not specified.
4	Power Output	Maximum Discharge Power: Indicates the maximum power the module can deliver instantaneously, measured in kilowatts (kW) or megawatts (MW). Maximum Charge Power: Specifies the maximum power at which the module can accept charging.	Shall be as per customer / Project requirement
5	Operating Temperature Range:	Temperature Range: Specifies the ambient temperature range within which the module operates optimally. Outside this range, performance and longevity may be affected.	Tentative values: Charge: -20 to 55 degrees C Discharge: -20 to 55 degrees C And Shall be as per customer requirement.
6	Dimensions and Weight	Physical Size: Defines the module's dimensions (length, width, height) and weight. Important for	To be provided by Bidder with Drawings.

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		determining installation space and transport logistics.	
7	Safety Features:	Shall have following protections: Overcurrent Protection: Prevents excessive current flow that could damage cells. Temperature Management: Includes mechanisms for cooling or heating to maintain optimal operating temperatures. Fault Detection: Systems to detect and isolate faulty modules to prevent damage to the entire battery system. Other protections or any other safety features required to be incorporated as per latest Industry practice/standards.	Shall be as per customer requirement. Bidder shall provide their System protection and other related features.
8	Environmental Considerations:	Enclosure Rating: Specifies the module's protection against dust, water ingress (IP rating), and other environmental factors. Lifecycle and Recycling: Considerations for sustainability, including ease of recycling and environmental impact.	Shall be as per customer requirement. Bidder shall provide their System IP ratings and other related features.
9	Certifications and Standards:	Safety Standards: Compliance with relevant safety standards (e.g., UL, IEC) to ensure safe operation and regulatory compliance.	Shall be as per customer requirement.

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		IEC-61427, UL1973, UL 1642, IEC 62133, IEC 62485-2, IEC 61508, IEC 62619, IEC 62281, UL9540 Grid Connectivity Regulations Battery management and Handling rules, 2001 Ministry of Environment, Forests and Climate Change. Any amendments in above standards and any future regulations pertaining BESS systems and sub components shall be complied.	Bidder shall provide their BESS system complying standards.
10	Integration Compatibility:	Interface Compatibility: Ability to integrate with Battery Management Systems (BMS), inverters, and other components of the BESS. Scalability: Ability to scale up by adding more modules and other systems as needed to increase capacity or power output.	To be provided by Bidder. (Bidder shall provide their standard communication protocol.)
11	Thermal Management	Effective thermal management within modules is essential to maintain optimal operating temperatures and ensure longevity. This may involve integrated cooling systems, heat sinks, or passive cooling methods to dissipate heat generated during charging and discharging cycles.	To be provided by Bidder. (Bidder shall provide one of the thermal management studies.)
12	Mechanical Design	Modules are constructed with robust mechanical enclosures to protect cells from physical damage and to facilitate easy installation and maintenance.	To be provided by Bidder

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1.2 Battery Management System (BMS):

The Battery Management System (BMS) is responsible for monitoring, managing, and protecting battery modules. Here are the key specifications and functionalities required in a BMS.

Sl. No	Description	Requirement	Parameters
1	Voltage Monitoring	Cell Voltage: Monitors voltage levels of individual cells within battery modules to prevent overcharging or deep discharging that could damage cells. Pack Voltage: Monitors the overall voltage of the battery pack.	To be provided by Bidder.
2	Current Monitoring	Charge/Discharge Current: Measures the current flowing into or out of the battery pack to ensure it stays within safe limits and optimize charging efficiency.	To be provided by Bidder.
3	Temperature Monitoring	Cell Temperature: Monitors the temperature of individual cells to prevent overheating and manage thermal runaway risks. Ambient Temperature: Monitors the ambient temperature to adjust charging/discharging rates accordingly.	To be provided by Bidder.
4	State of Charge (SoC) and State of Health (SoH) Estimation	SoC Calculation: Estimates the remaining energy capacity in the battery pack based on voltage, current, and temperature measurements. SoH Monitoring: Tracks the degradation of battery cells over time to predict longevity and plan maintenance.	To be provided by Bidder. (BMS shall automatically determine the State of Charge (SOC) and State of Health (SOH) of the

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			battery individual cell/module.)
5	Cell Balancing	Active Balancing: Equalizes the charge/discharge of individual cells within a module to maximize performance and extend overall battery life.	To be provided by Bidder.
6	Safety Features	Overvoltage Protection: Disconnects charging sources when cell voltages exceed safe limits. Undervoltage Protection: Cuts off discharge when cell voltages drop below safe limits. Overcurrent Protection: Limits current flow to prevent overheating and damage. Temperature Protection: Implements measures to prevent overheating or excessive cooling. Short Circuit Protection: Detects and isolates faults to prevent damage to the battery pack. And any other relevant features required for the system safety.	To be provided by Bidder.
7	Communications Interface	Data Logging: Records operational data for performance analysis and diagnostics. Minimum one-year data storage shall be provided. Communication Protocols: Interfaces with external systems such as inverters, energy management systems (EMS), and supervisory control and data acquisition (SCADA) systems using protocols like CAN bus, Modbus, Ethernet, or wireless communication.	To be provided by Bidder. Suitable protocols as compatible under prevalent industry practice/standards shall be mentioned.

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8	User Interface and Controls	Display: Provides real-time information on battery status, alarms, and operational parameters. Control Logic: Implements control algorithms for optimal charge/discharge cycles based on operational conditions and external commands.	To be provided by Bidder.
9	Environmental and Compliance	Environmental Ratings: Designed to operate within specified environmental conditions (e.g., temperature, humidity). Safety Standards: Compliance with relevant standards such as UL 1973, IEC 62619, or other local regulatory requirements for safety and performance.	To be provided by Bidder.
10	Redundancy and Reliability	Fault Tolerance: Includes redundant sensors or circuits to ensure continuous monitoring and protection. Reliability: Designed for high reliability to minimize downtime and ensure safe and efficient operation of the BESS.	To be provided by Bidder.
11	Fault Detection and Diagnostics	Detects abnormalities such as cell degradation, imbalance, or malfunction, and provides diagnostics to identify issues before they affect overall system performance.	To be provided by Bidder.

1.3 ENERGY MANAGEMENT SYSTEM(EMS) (If applicable):

The Energy Management System (EMS) plays a crucial role in managing and optimizing the storage and usage of electrical energy stored in batteries. Here are the key specifications and functionalities required in a BMS.

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Sl. No	Description	Requirement	Parameters
1	Monitoring and Control	Real-time Monitoring: The EMS continuously monitors the status of the battery bank, including state of charge (SoC), state of health (SoH), temperature, and voltage levels. Data Acquisition: It collects data from various sensors and meters within the BESS to understand the current operating conditions.	To be provided by Bidder.
2	Optimization	Charge and Discharge Control: The EMS optimizes the charging and discharging of the battery based on electricity prices, grid demand, and other factors to maximize economic benefit. Dispatch Strategy: It determines the optimal dispatch strategy, deciding when to charge from the grid (during off-peak hours when electricity is cheaper) and when to discharge (during peak demand periods when electricity is more expensive).	To be provided by Bidder. (Bidder shall provide the inbuilt technology features of their EMS)
3	Grid Integration	Frequency Regulation: The EMS helps regulate grid frequency by injecting or absorbing power as needed, stabilizing the grid. Grid Support: It provides ancillary services such as voltage support, reactive power compensation, and grid stabilization, contributing to grid reliability.	To be provided by Bidder.
4	Safety and Maintenance	Fault Detection: The EMS monitors for any faults or abnormalities in the battery system and takes corrective actions to prevent damage or failures.	To be provided by Bidder.

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		Maintenance Scheduling: It assists in scheduling maintenance tasks and optimizing battery usage to prolong battery life and reliability.	
5	Reporting and Analysis	Performance Analysis: The EMS provides historical data and performance metrics, allowing operators to analyze and optimize system performance over time. Reporting: It generates reports and alerts for operators and stakeholders, providing insights into energy savings, performance improvements, and compliance with regulations.	To be provided by Bidder.

1.4 CUBE / CONTAINER

Sl. No	Description	Requirement	Parameters
1	Design of the Cube/Container layout	Design the Cube/Container layout to accommodate the battery modules, BMS, HVAC systems, fire suppression systems, and other necessary equipment. Plan the layout to optimize space utilization, thermal management, and safety. Containers shall be designed for outdoor application	To be provided by Bidder. ((Bidder shall provide their typical Cube/Container layout))
2	Plan for safety and security	Incorporate safety measures, such as fire suppression systems, gas and smoke detectors, and emergency ventilation. Also, ensure proper access control and surveillance systems to protect the BESS from unauthorized access or vandalism.	To be provided by Bidder.
3	Thermal management	Design an effective HVAC system to maintain optimal operating temperatures for the batteries and	To be provided by Bidder.

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		other components. The thermal management system should be energy-efficient and capable of maintaining temperature uniformity within the container. (<u>UL9540A</u>)	(Bidder shall provide one of the thermal management studies.)
4	Electrical design	Design the electrical system to include Battery modules, battery management systems (BMS) and protection devices. Ensure proper grounding, short circuit protection, and fault detection.	To be provided by Bidder.
5	Monitoring and control	Incorporate a supervisory control and data acquisition (SCADA) system to monitor and control the BESS remotely. The SCADA system should collect real-time data and provide alerts and notifications for any anomalies or maintenance needs. Data storage over cloud shall be provided.	To be provided by Bidder.
6	Transportability and modularity	The container may be designed for easy transportation and deployment. Consider using standard ISO container or any customized sizes and modular components that can be easily expanded or replaced as needed.	To be provided by Bidder.
7	Modular auxiliary systems	Design auxiliary systems, such as HVAC, fire suppression, and monitoring systems, to be modular as well. This allows for easy replacement or expansion of these components without disrupting the overall system	To be provided by Bidder.
8	CCTV system	The container shall have provisions for mounting CCTV system and connecting cable at prominent points.	To be provided by Bidder.

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1.5 Operation and maintenance

Sl. No	Description	Requirement	Parameters
1	Energy Guarantee , Warranty , AMC	As per Project requirement – The BESS system need to be designed considering the battery degradation and O&M energy guarantee.	Bidder shall provide their terms and conditions on O&M energy guarantee , warranty , AMC.
2	Monitoring, controlling, troubleshooting, maintaining of records, registers	As per Project requirement – The BESS system need to meet the guaranteed energy requirement during O&M.	Bidder shall provide their preventive maintenance and Breakdown maintenance checklists / schedule.
3	O&M Support	Man and material supply during O&M to meet the guaranteed energy requirement.	Bidder shall provide their usual O&M practices.

1.6 Grid Studies

Sl. No	Description	Requirement	Parameters
1	Energy Guarantee	As per Project requirement – Grid compliance study with Power Plant Controller as per CEA technical standard to grid connectivity and latest guideline of LDC first charging clearance. May be required.	Bidder shall provide their capability / support to grid studies.
2	PCS / EMS	PCS and EMS need to be as per CEA / Grid requirement	Bidder shall provide their PCS , EMS details with make , model.
3	RTE	As per Project requirement – DC to DC RTE will be mentioned as per customer requirement.	Bidder shall mention their DC – DC RTE with any limitations.

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1.7 Miscellaneous

Sl. No	Description	Requirement	Parameters
1	Type of supplier	As per Project requirement – Class I , II , non local need to be mentioned	Bidder shall provide their suitable class (Battery + BMS + EMS+PCS)
2	FAT	As per Project Requirement – Customer may demand for BESS entire system FAT (at lesser MWHr scale)	Bidder shall provide their capability to provided BESS entire system FAT.
3	Minimum MWHr		Bidder shall provide their minimum Project MWHr requirement for Quoting.
4	Installation and commissioning		Bidder shall provide their terms and conditions on Installation and commissioning support
5	Auxiliary power consumption	As per Project Requirement – Customer may demand for BESS Auxiliary consumption within limits	Bidder shall provide their Auxiliary consumption at various ambient
6	BESS Ideal Duration	As per Project Requirement –BESS containers need to be ideal till civil works completed.	Bidder shall provide their BESS Initial Ideal duration and related information.
7	Delivery condition	As per Project Requirement – customer may need maximum of 6 -12 months for the start of BESS system supply.	Bidder shall provide their BESS delivery duration range.
8	Production capability		Bidder shall provide their Prodcution capability per annum with necessary documents.

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1.5 INTEGRATION AND CONSIDERATIONS:

1. Compatibility: Ensure compatibility between battery modules, BMS and arrangement inside container along with other systems to maximize efficiency and performance.
2. Scalability: All components like modules, BMS, EMS and containers should be scalable to accommodate future expansions or changes in energy storage capacity.
3. Reliability and Redundancy: Implement redundancy in BMS components and ensure reliability to minimize downtime and ensure continuous operation of the BESS.
4. Regulatory Compliance: Ensure that the BMS meets relevant safety standards and regulatory requirements for the jurisdiction where the BESS is deployed.

In summary, battery modules and the BMS are essential components of BESS projects, working together to optimize performance, ensure safety, and extend battery life. Proper selection, integration, and monitoring of these components are critical for the overall success and efficiency of the energy storage system. EMS integrates with grid operations, optimizes energy usage, ensures system safety, and provides valuable data for performance analysis and decision-making.

1.6 Categories of BESS capacity:

The following categories of BESS capacities are identified, for which Bidders can quote for one or more categories.

Category	Project Requirement at Point of coupling (POC) at SOL (start of Life)	Supplier Confirmation (Yes/No)
I	Upto 2.5 MWhr	
II	2.5 to 10 MWhr	
III	10 to 25 MWhr	
IV	25 MWhr and above	

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2) QUALITY ASSURANCE

All the components inside container (Battery module, BMS and EMS) Quality Plan, Data Sheet and GTP shall be subject to customer’s approval. Each lot of Racks / container shall be subject to Pre-Shipment Inspection (PSI) by BHEL and BHEL customer or any third party as per requirement.

Quality plan will include the following:

- I. Incoming Quality Checks on bought out item
- II. In-process Quality Checks
- III. Sample tests on final product by the customer

Detailed quality plan if any, will be published with individual enquiry.

3) E waste Regulations

The regulations of “E-waste (management) rules-2016 Ministry of Environment, Forest and Climate Change” shall be followed.

4) GENERAL CONDITIONS

- a) Battery modules or racks shall be manufactured/assembled at the vendor’s works only.
- b) Manufacturing clearance shall be given only after approval of Data Sheet, Bill of Material, manufacturing quality plan, Pre-Shipment inspection plan by BHEL’s customer.

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5) ENCLOSURES:

Sl. No.	Document
1	Self-declaration letter for Battery module and BMS manufacturing capacity from OEM.
2.	Signed copy of BHEL Specification BESS-4-02-0002 for confirming to supply as per BHEL Specification.
3.	Necessary Certifications and type test reports
4.	Over all assembly drawing indicating mounting details & data sheet for Battery modules and BMS
5.	Installation and O&M manual

6) CONFIRMATION BY THE BIDDER:

Sl. No.	Item	Reply/ Acceptance by the bidder
1	Battery module and BMS model numbers offered	
2	Availability of test certificates and IEC Test reports.	
3	Adherence to Manufacturing Quality Plan and Pre-Shipment Inspection	
4	Bill of materials as per subset of the CDF of the IEC Certificates	

7) COMPLIANCE

Sl. No.	Particulars	Bidder's Confirmation
1.	Confirmation to BHEL Specification BESS-4-02-0002	Yes / No <i>Please indicate deviations, if any.</i>


 ಸರಾವಣ ಭವನ್ ಆರ್., ಡಿಪ್ತಿ ಮ್ಯಾನೇಜರ್/ಸಿ & ಪಿ-ಎಸ್
 SARAVANA BHAVAN R., Deputy Manager/SC & PI-PSS
 BHEL- SBD, BENGALURU-560026

Signature of Tenderer with stamp

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Annexure-Job Specific details

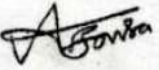
S.N O.	Parameters	Details	Remarks
General Information			
1	Project Name		
2	Project Description		
3	Project Location name		
4	Project location co ordinates		
5	Project land Total area		
6	Customer Name		
7	Customer contact details	—	
8	Customer Address	—	
Project Information			
9	Type of Application		
10	Electrical Load Detail (MVA/MW) A. Running with back up time. B. Peak with time .		
11	SLD of the Project	—	
12	Type of Solution required	Complete BESS	
13	Backup Time (in Hours)		
14	Backup energy required from	SOL-Start of Life	
15	Energy required as Usable or Nominal	SOL-Start of Life	
16	Battery Rating (if battery sizing done by customer)		MWHR
17	Power Source availability-1		Grid POC voltage level
18	Power Source availability-2		miscellaneous
19	Connectivity Type	On-grid	
20	Cycle per day		Max cycles per day
21	PCS Rating (if available)		
a	PCS Make & Model No		
b	PCS Power Rating:		
c	Power Factor		PF variation limit
d	Efficiency @ required Load		
e	Output Voltage:		
f	PCS Maximum DC Voltage		
g	PCS Nominal DC Voltage		
h	PCS Minimum DC Voltage		
i	Maximum PCS Output Current for charging the Battery bank		
22	Coupling of the system	AC-coupled	
23	POI/POC/PCC Voltage		

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24	Other Points (if any)		
25	BESS Life cycle required		Customer requirement
26	scope of work	CONTAINER WITH BATTERY FFS HVAC EMS	
27	BESS system warranty		
28	Uses Pattern / Load Pattern		Constant Voltage & Constant Power or variable voltage & variable power
29	PPC requirement		
30	Grid studies Requirement		
31	Thermal Management - tender requirement		
32	Communication protocol - tender requirement		
33	Standards Compliance – tender requirement		
34	Scada and other communication – tender requirement		
35	Special requirement as per tender		
36	Temperature (in °C) A. Maximum B. Minimum		50 or higher (Max) 10 or higher (Min)
37	Humidity (%)		
38	Altitude (m)		
Installation			
39	Space available for BESS (sqm)		Outside building area, preferred Container solutions.
40	Installation Type		
41	Group map location photo with planned cable route		
42	BESS distance from PCC/POI/POC Panel		
Communication			
43	Communication required with Existing SCADA, EMS, Inverter		LDC communication and other requirements
44	Communication protocol of existing system		Modbus or other
Miscellaneous			
45	Aux power will be provided by customer		Yes/ No
46	Total O&M year requirement by customer		
47	RTE (DC - DC) tender requirement		
48	RTE (AC - AC) tender requirement		
49	Scada interfacing tender topology		

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50	Charging / discharging methodology		
51	Tender PG test requirement		
52	Tender annual BESS degradation allowance		
53	Tender metering point		
54	Tender Each Year Energy requirement during O&M		
55	Class of Supplier		
56	Civil works		
57	Bess Auxiliary power		
58	O&M guaranteed generation		
59	PQC tender requirement		
60	Proveness criteria tender requirement		


ಸರಾವಣ ಭವನ್ ಆರ್., ಹಿರಿಯ ಮಂಡಳಿಯರ್/ಎಸ್.ಸಿ. & ಪಿ.ವಿ.-ಪಿ.ವಿ.ಎಸ್.ಎಸ್.
सरवण भवन आर., वरि. अभियंता/एस.सी. & पी.वी.-पी.वी.एस.एस.
SARAVANA BHAVAN R., Depty Manager /SC & PV-PVSS
BHEL SBD, BENGALURU-560026

Punam
Mishra
-SDGM

Digitally signed by
Punam Mishra-SDGM
DN: cn=Punam
Mishra-SDGM,
o=BHEL, ou=SBD,
email=punammishra
@bhel.in, c=IN
Date: 2024.08.01
17:22:34 +05'30'

	SOLAR BUSINESS DIVISION (SBD)	SPECIAL CONDITIONS OF CONTRACT (SCC)	ITEM: SUPPLY OF CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS Ref No: MANBES0001
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These Conditions shall be read in conjunction with General Condition of Contract (GCC Rev R0) enclosed along with the tender enquiry. In case of any conflict or inconsistency, the requirement of SCC shall prevail over the GCC.

The name of our Plant/ Unit may please be read as SOLAR BUSINESS DIVISION (SBD) as it was changed from ELECTRIC & PHOTOVOLTAIC DIVISION (EPD)

1.	Type of Contract	Tender invitation- Expression of Interest for Entering into TC-MOU (Techno-commercial Memorandum of Understanding) for CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS
2.	Item Details	CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS as per following documents : 1. Technical Specifications DOC NO: BESS-4-02-0002 Rev: 03 2. PRE-QUALIFICATION REQUIREMENTS- DOC NO: BESS-4-02-0004 Rev: 00 3. Annexure-Job Specific details- DOC NO: BESS-4-02-0003 Rev: 00
3.	Consignee address	Shall be informed at the time of floating of NIT (Purchase Inquiry). Consignee address in LR should be strictly as per above.
4.	Buyer and Paying Authority	BHARAT HEAVY ELECTRICALS LIMITED - SOLAR BUSINESS DIVISION (SBD), (Formerly known as ELECTRIC & PHOTOVOLTAIC DIVISION) PROF. CNR RAO CIRCLE, SCIENCE INSTITUTE POST, MALLESWARAM, BANGALORE-560012.
5.	Buyer IEC CODE/ GST No.	IEC CODE: 0588138690 / GST No: 29AAACB4146P1ZB
6.	Buyer Email ID	For Commercial Clarifications: k.manoj@bhel.in ; For Technical Clarifications: ravana@bhel.in ;
7.	Mode of Dispatch	By Road/Rail. Note: It is Vendor's responsibility to ensure availability of Trucks/Train/Flights/Ships schedule etc. well in advance for dispatch of material to meet contractual delivery requirement. • Part shipment is allowed. • Transshipment is not allowed. It is also the vendor's responsibility to ensure material is dispatched through shortest possible route. By ROAD/RAIL/AIR/SHIP

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8.	Price basis	BHEL will finalize TC MOU with qualified and registered bidders. Subsequently, based on BHEL requirement, NIT (purchase enquiries) shall be floated for obtaining offer including price bids. (Note: price Bid is not to be submitted along with TC MOU offer) Price Basis for such enquiries floated against TC MOU shall be as follows: Indigenous purchase – Ex-WORKS, inclusive of packing & forwarding charges. Taxes and duties to be paid in line with GCC. Material to be dispatched on freight pre-paid basis to the consignee address as per clause no. 3 above as mentioned in the enquiry. Insurance is in the scope of BHEL. All the other applicable taxes including Income Taxes (TDS) as per Indian law shall be deducted from the payables & paid to Government by BHEL.
9.	Evaluation of Offer	Shall be specified later during floating the NIT (Purchase Inquiry)
10.	Change of Scope	The same will be communicated only to the bidders who have participated in the tender. The techno-commercially qualified bidders shall be asked to submit Impact Price bid, if applicable.
11.	Quantity Splitting	Shall be specified later during floating the NIT (Purchase Inquiry)
12.	Reverse Auction	Shall be specified later during floating the NIT (Purchase Inquiry)
13.	Delivery Period	Shall be specified later during floating the NIT (Purchase Inquiry)
14	Transit Insurance	In BHEL Scope. Insurance details shall be informed along with the NIT / Purchase Order. Prior Dispatch, intimation shall be issued to Insurance agency by the supplier about the value of consignment, dispatch details, along with one set of documents consisting of LR copy, Packing List, Challan indicating the items dispatched (with their weights).
15	Unloading at SBD/project site and transportation from Indian port to consignee address in case of imports	In the scope of BHEL.
16	Payment terms	Shall be specified later during floating the NIT (Purchase Inquiry)

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17	Documents to be Submitted by Seller / Contractor for Claiming Payment	Shall be specified later during floating the NIT (Purchase Inquiry)
18	Guarantee period	As per technical specification
19	Submission of Performance Bank Guarantee (PBG) or Security Deposit (SD), hereafter referred as Performance Security (PS)	Applicable PERFORMANCE SECURITY (PS) shall be submitted by the bidder for an amount equivalent to 5% of the contract value including Taxes & Duties on FOR Destination price. Performance security shall be valid for Product Warranty period i.e. 10 years from the date of Supply. Performance Bank Guarantee (PBG) or Security Deposit (SD), hereafter referred as performance security shall be submitted by the successful bidder after the award of contract. Modes of deposit: Performance security may be furnished in the following forms: - Local cheques of Scheduled Banks (subject to realization)/ Pay Order/Demand Draft/ Electronic Fund Transfer in favour of BHEL. - Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL. - Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL). - Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL). - Insurance Surety Bond. (Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith) Performance security is to be submitted within 10 days from the date of Letter of Intent (LOI)/ Purchase Order (PO) and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations Forfeiture of Performance Security:

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		The performance security will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier. PS should be refunded to the contractor without interest, after he duly performs and completes the contract in all respects but not later than 60(sixty) days of completion of all such obligations including the warranty under the contract. The Performance Security shall not carry any interest. In case of delay in submission of Performance security, enhanced Performance security which would include interest (SBI MCLR rate+6%) for the delayed period, shall be submitted by the bidder. Further, Performance security is not submitted till such time the first bill becomes due, the amount of Performance security due shall be recovered as per terms defined in Tender/contract, from the bills along with due interest
20	Integrity Pact	APPLICABLE – Shall be specified later during floating the NIT (Purchase Inquiry)
21	Organization Chart	The bidder shall submit the overall organization chart along with contact details/mobile no. of officials dealing with this contract package for engineering, supply, Quality, etc. along with TC-MOU offer.
22	Delivery Failure and Termination/ Liquidated Damages	Applicable as per Cl. No. 16 (Page 17 of 28) of GCC R0. Clause No. 16.2.1 of GCC to be read as: Purchaser reserves the right to recover from the Seller/Contractor, as agreed, liquidated damages and not by way of penalty, a sum equivalent to half (½) percent of undelivered portion per week or part thereof, subject to a maximum of ten (10) percent of the total contract price (including elements of taxes, duties and freight) if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/Contract. NOTE: 1. LR/RR date for indigenous supplies shall be treated as the date of delivery for levying LD as per Clause 16. 2. In case of any amendment/revision, LD shall be linked to the amended/revised contract value and delivery date(s). 3. If Order/ Contract involves two or more Units/ Sets/ Lots, then Liquidated Damages shall be for order/ contract value of the delayed Unit/ Set/ Lot, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot wise, however total LD amount shall be limited to 10% of total order value. (including taxes, duties and freight)

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23	Preference to Make in India	This Tender is governed by Circular No. P-45021/2/2017-B.E.-II dated 15.06.2017, 28.05.2018, 29.05.2019 & 04.06.2020 issued by Govt. of India (copy enclosed). "For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018, 29.05.2019 , 04.06.2020 , 16.09.2020 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ POI WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable." Preference to Make in India including counter offering will be as per the Public Procurement (Preference to Make in India), Order 2017 available in the following links: https://dipp.gov.in/sites/default/files/publicProcurement_MakeinIndia_15June2017.pdf https://dipp.gov.in/sites/default/files/Revised-PPP-MII-Order-2017_28052018.pdf https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf https://dipp.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf https://dipp.gov.in/sites/default/files/PPP%20MII%20Order%20dated%2016%2009%2020_20.pdf Certification (as applicable) giving the percentage of local content, in line with PPP-MII order, to be submitted as per attached Annexure-1(A) for procurement value from Rs. 5.00 Lac to Rs. 10.00 Crore or Annexure-1(B) for procurement value more than Rs. 10.00 Crore. Amendments/addendums/circulars/Revisions thereto if any from Government or Statutory bodies or agencies shall be applicable if not explicitly stated above from time to time. It is the responsibility of the bidders to keep updated themselves of the same. The bidders shall submit their offers in compliance.
24	Purchase from SEZ in India	Purchase from SEZ in India shall be considered as Indigenous purchase for the purpose of Purchase Preference to Make in India Policy, Price Basis, Payment term & delivery terms. However, additional taxes, duties including Safe Guard Duty if any shall be considered while evaluating the bid.
25	Inspection Agency	As Applicable by BHEL/BHEL's Customer/BHEL Nominated Agency

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26	TAXES AND DUTIES (Clause No. 4.1, 4.2 & 4.3) (Applicable only for Indian Bidders)	Clause No. 4.1, 4.2 & 4.3 of GCC to be read as: 4.1 CGST/SGST/UTGST/IGST 4.1.1 Seller/ Contractor is required to ensure that CGST/SGST/UTGST/IGST (whichever is applicable) is quoted as per the existing tariff on the date of the offer and all benefits as per existing laws have been considered. 4.1.2 It is the responsibility of the seller/contractor to issue the Tax Invoice strictly as per the format prescribed under the relevant applicable GST law (CGST Act/SGST Act/UTGST Act/IGST Act). Vendor to indicate the proper GSTN Registration/ HSN code in their tax invoice. 4.1.3 The purchaser is registered in the State of Karnataka vide following GST registration number: 29AAACB4146P1ZB . 4.1.4 Seller/contractor is required to mention the above registration number in their tax invoice unless stated otherwise in NIT/SCC. 4.1.5 CGST/SGST/UTGST/IGST shall be paid at actuals against Tax Invoice but restricted to the amount and percentage in the order/contract.
27	OTHER TAXES & LEVIES (Clause No. 4.4) (Applicable only for Indian Bidders)	Clause No. 4.4 of GCC to be read as: 4.2 OTHER TAXES & LEVIES 4.2.1 All taxes/duties/Cess other than CGST/SGST/UTGST/IGST shall be deemed to be included in the Ex-Works prices unless specified otherwise by the bidder in the price bid. No variation in other taxes and duties shall be payable by Purchaser.
28	CUSTOMS DUTY (Clause No. 4.5 of GCC) (Applicable only for Indian Bidders)	Clause No. 4.5 of GCC to be read as: 4.3 CUSTOMS DUTY 4.3.1 Customs Duty/IGST/Goods and Services compensation cess under Goods and Services Tax (Compensation to States) Act, 2017 element for imported items as per Special Conditions of Contract shall be included in the Ex-Works prices. 4.3.2 Seller/ Contractor shall arrange for his own import license, if required, since Purchaser will not provide any import license. Therefore, Seller/ Contractor alone shall be responsible for any delay in getting import license or non-availability of the same or completion of other related formalities. Purchaser shall not be responsible for any financial liability, whatsoever, on this account. 4.3.3 Essentiality Certificate or Project Authority Certificate (PAC) as per Import Policy, if required to avail concessional customs duty, shall be clearly specified in the offer. Import content (CIF value in rupees) with

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		list of items, quantity, foreign currency, Country of origin etc., shall be submitted by the bidder as part of Price bid.
29	DIRECT TAXES (Clause No. 4.6 of GCC) (Applicable only for Indian Bidders)	Clause No. 4.6 of GCC to be read as: 4.4 DIRECT TAXES 4.4.1 Purchaser shall not be liable towards income tax of whatever nature including variations thereof, arising out of this Order/ Contract, as well as tax liability of the Seller/ Contractor and his personnel. 4.4.2 Deductions of Tax at source at the prevailing rates shall be effected by the Purchaser before release of payment, as a statutory obligation, if applicable. TDS certificate will be issued by the Purchaser as per statutory provisions.
30	STATUTORY VARIATION (Clause No. 5.0 of GCC) (Applicable only for Indian Bidders)	Clause No. 5.0 of GCC to be read as: 5.0 STATUTORY VARIATION 5.1 If any rates of Tax or duty are increased or decreased, a new Tax or duty is Introduced, an existing Tax or duty is abolished, or any change in interpretation or application of any Tax or duty occurs in the course of the execution of Contract including Delivery period extensions (if any), 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. 5.2 For variation after the agreed completion periods, the seller/contractor alone shall bear the impact for the upwards revisions and adjust the price in their basic price in such a manner that total price with tax or duties matches with the ex- works with taxes of Purchase Order/Contract. For downward revisions, purchaser shall be given the benefit of reduction in CGST/SGST/UGST/IGST. This will be without prejudice to the levy of penalty for delay in delivery/completion schedule.

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31	New Clause of GCC (Applicable only for Indian Bidders)	Vendor/Supplier will intimate & upload the Tax invoice along with LR/RR (as applicable) on web portal & intimate BHEL immediately on removal of goods from vendor/supplier works. In case of Services, Vendor is required to upload the Tax invoice on Web Portal immediately after raising the invoice. BHEL will issue the delivery order/instruction to dispatch the material to the customer as indicated in SCC. All payments against Tax Invoice to vendors/contractors shall be released only after: Vendor/contractor declaring such invoice in GSTR-1 within the prescribed timeline as per the relevant Act. The tax component charged by the vendor in the invoice should be matched with the details uploaded by vendor in GSTR-1. Confirmation of payment of GST thereon by vendor on GSTN portal In case, any GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry to timeline prescribed in the relevant Act for availing such ITC, or any other reasons not attributable to BHEL, tax amount shall be recoverable from the vendor/contractor along with interest levied/leviable on BHEL. GST liability arises on BHEL under reverse charge, any interest levied/leviable due to any reasons not attributable to BHEL shall be recovered from the vendor/contractor.
32	New Clauses of GCC	a) In case of discrepancy in CGST/SGST/UTGST/IGST rate corresponding to HSN code and quotes rates, the evaluation shall be done on quoted price and correct CGST/SGST/UTGST/IGST rate shall be considered for ordering (limited to quoted FOR Site Price) b) The bidder should have been registered with the appropriate authority under relevant GST laws. c) The bidder to specify in their offer (part 1 bid) the category of registration under GST i.e. registered dealer and composite dealer d) No CGST/SGST/UTGST/IGST will be reimbursed to composite dealer. In the event of any GST quoted by composite dealer, the same shall be considered for evaluation purpose. However, the ordering will be done without considering the tax. In the event of any change in the status of vendor from composite to regular dealer after the submission of the bid but before the supply, no reimbursement of CGST/SGST/UTGST/IGST will be made. However, the vendor has to raise the invoice strictly, as per the law, by adjusting their ex-works price.

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33	Conflict of Interest among Bidders/ Agents	"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if: a) they have controlling partner (s) in common; or b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or c) they have the same legal representative/agent for purposes of this bid; or d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more than one bid; or f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following: 1. The principal manufacturer directly or through one Indian agent on his behalf; and 2. Indian/foreign agent on behalf of only one principal, or g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "
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34	NOTE	Delivery Challans & Invoices /Service Entry Sheet in the format as specified under GST laws mentioning your GSTIN No, item HSN/SAC No should accompany supply. 1. GST portion of invoice shall be released only upon vendor declaring such invoice in his GSTR-1 return and receipt of goods/services and tax and confirmation of payment of GST thereon by vendor on GSTN Portal. 2. Bank Guarantee of appropriate value may be obtained from vendor which shall be valid at least one month after the confirmation of payment date by vendor on GST portal and receipt of Tax invoice and receipt of goods, whichever is later. [if (a) above could not be complied]. 3. 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 shall be recoverable from vendor along with interest levied/BG of appropriate value may be obtained from vendor alternatively payment covering GST portion including interest thereon shall be release to vendor only upon completion of these requirements. In case vendor delays declaring such invoice in his return & GST credit by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST Law shall be recoverable from vendor/contractor along with interest levied/leviable.be obtained from vendor alternatively payment covering GST portion including interest thereon shall be released to vendor only upon completion of these requirements.
35	Arbitration & Conciliation Clause	The Conciliation Scheme 2018 attached as <u>Annexure-A</u> shall be applicable. The Signed & Stamped copy of the same to be attached along with the offer as a mark of acceptance. Arbitration & Conciliation Clause: a) In case of contractors/vendors /consultants other than Public Sector Enterprise (PSE) or a Government Department: 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/SBD. 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.

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		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. b) in case of Contract with contractors/vendors /consultants when they are 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.”
36	Provisions vendors for MSE	PROVISIONS APPLICABLE FOR MSE VENDORS (MICRO AND SMALL ENTERPRISES) Benefits/facilities as applicable for Micro and Small Enterprises (MSEs) shall be available to MSE vendors 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.

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	Vendors have to submit the Udyog Aadhaar Memorandum (UAM)/UDYAM Registration Certificate along with attested copy of a CA certificate [Annexure-2(A) / Annexure-2(B)] 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 (MSME). PURCHASE PREFERENCE FOR MSE VENDORS: (For Items which are divisible in nature) 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 MSE's. 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. (For Items which are not divisible in nature)
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		MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 100% 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. No distribution shall be done specifically to women owned MSEs or SC/ST owned MSEs in such cases. Documents to be submitted for claiming MSE status and intended benefits: Submission of updated Udyam Registration Certificate along-with Techno-commercial bid is required mandatorily. MSE suppliers can also receive payment through TReDS platform operated.
37	Breach of contract, Remedies and Termination	In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is at least 10% of the contract value, the same will be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, any other amount payable to vendor from any units of BHEL, etc. with BHEL) or legal remedies shall be pursued. The balance scope shall be got done independently without Risk & Cost of the failed supplier/ contractor. Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract. In any case of Breach of contract amount equivalent to 10% of the contract value in shall be recovered from the contractor.
38	Compliance to order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI	Compliance to order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI to be submitted in the bidder's letter head as per attached Annexure-4 Note: Non-compliance of MoP Order and its subsequent amendment(s), (if any), by vendor shall lead to rejection of their offer or cancellation of contract, which is awarded by BHEL.

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39	e-Invoicing under GST	E-Invoicing under GST to be done in line with the latest guidelines of GOI. It is the responsibility of the bidders to keep updated themselves of the guidelines. In case the vendor delays or fails to provide all the documents as per the Purchase Order at the time of submitting Tax Invoice to BHEL, any subsequent financial loss to BHEL on account of vendor shall be to vendor's account. BHEL has further right to take necessary steps to protect its interest at the time of release of payment.
40	Declaration by bidder regarding protection of commercial interests of BHEL	The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). 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. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.
41	Note	1. In place of EPD, Bangalore, it may be read as SBD Bangalore. 2. Any vendor who has been banned by BHEL or against whom action due to non-performance has been initiated by BHEL are not eligible for participation. Such offers will not be considered for evaluation and will be rejected. 3. Bidders shall confirm acceptance of technical specification which is part of the tender document (If Applicable). Any deviation from technical specification can be rejected at BHEL's discretion. 4. Amendments/addendums/circulars/Revisions thereto if any from Government or Statutory bodies or agencies shall be applicable if not explicitly stated above from time to time. It is the responsibility of the bidders to keep updated themselves of the same. The bidders shall submit their offers in compliance.
42	Pre-Qualification Requirement (PQR)	Applicable. Technical Pre-Qualification Requirement (PQR) - As per Tender document Financial Pre-Qualification Requirement (PQR) – Shall be specified later during floating the NIT (Purchase Inquiry)
43	MOU FORMAT	The MOU Format attached with the NIT is tentative. The same will be finalized with the qualified bidders on mutually agreed contract and legal terms and conditions.
44	Tax Deducted at Source (TDS)	This has reference to the newly inserted Section 194Q under Income Tax Act 1961 (applicable w.e.f. 01.07.2021) for deduction of tax at source by a buyer of goods at the time of amount paid or credited for purchase of goods exceeding Rs. 50 lacs. The gist of the provisions of Section 194Q are as follows:

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		Tax is required to be deducted at source by a purchaser of goods whose turnover for previous FY has exceeded Rs. 10 Crs. The seller should be a resident of India. TDS @ 0.1% shall be applicable on the amount paid /credited in case purchases from a seller exceeds Rs. 50 Lacs during a financial year. In case PAN of seller is not available or seller is a Specified person (Non-filer), TDS shall be deducted @ 5%. This provision shall not be applicable where tax is deductible under any other provision of I.T Act, 1961. Also, in case a particular transaction qualifies for deduction of TDS u/s 194-Q and the purchaser has deducted the TDS then the same transaction shall not attract TCS u/s 206C(1H). W.e.f. 01.07.2021, as per the above-stated provisions of I. Tax Act, 1961, BHEL HAVING PAN : AAACB4146P IS LIABLE TO DEDUCT TAX AT SOURCE UNDER SECTION 194Q OF THE INCOME TAX ACT AND ACCORDINGLY TDS AT APPLICABLE RATE ON THE PRESCRIBED VALUE UNDER SECTION 194Q WOULD BE DEDUCTED UNDER TAN : BLRB04342C BEFORE MAKING PAYMENT FOR PURCHASE OF GOODS. Thus, all the BHEL Partners are requested not to levy TCS w.e.f. 01.07.2021
45	Quote with multiple options	Vendor's can quote for multiple options having different type as per Technical specifications.
46	Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017	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 failing 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: 1. An entity Incorporated, established or registered in such a country; or 2. A subsidiary of an entity Incorporated, established or registered in such a country; or 3. An entity substantially controlled through entities incorporated, established or registered in such a country; or 4. An entity whose beneficial owner is situated in such a country, or 5. An Indian (or other) agent of such an entity; or

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		6. A natural person who is a citizen of such a country; or 7. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above IV. The beneficial <i>owner</i> 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 shareholder's 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.
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		VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. * The above clause is not applicable to the bidders from those countries (even if sharing a land border with India) to which the GoI has extended lines of credit or in which the GoI is engaged in development projects. * List of countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (https://www.mea.gov.in/) Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 to be submitted on the bidder's letterhead as per Annexure-D(i) or Annexure-D(ii) – as applicable.
47	Compliance to order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI	Applicable
48	Evaluation in case of more than one L-1 bidder	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.
49	Submission of Supplier registration Form	Qualified Bidders shall be required to register with BHEL as per BHEL SEARP guidelines available on www.bhel.com and https://supplier.bhel.in/index.jsp. BHEL shall be entering into TC-MOU with registered suppliers.



**SOLAR BUSINESS DIVISION
(SBD)**

**SPECIAL CONDITIONS OF
CONTRACT (SCC)**

**ITEM: SUPPLY OF CONTAINERISED SOLUTION OF BATTERY
MODULES, BMS AND EMS**

Ref No: MANBES0001

50	Quantity Variation	BHEL Reserves the right to plus or minus 30% within contract period. The Purchaser shall have the right to increase or decrease quantities and scope upto the above extent of value and Seller/Contractor shall be bound to accept the same at the contracted prices without any escalation.
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TECHNO COMMERCIAL MEMORANDUM OF UNDERSTANDING (EXCEPT PRICE)
FOR CONTAINERSIED SOLUTION OF BATTERY
MODULES, BMS AND EMS

BETWEEN

M/S. BHEL, SOLAR BUSINESS DIVISION, BANGALORE - 560012

&

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- 1.1 This Techno commercial MOU is signed for the CONTAINERSIED SOLUTION OF BATTERY MODULES, BMS AND EMS as per the agreed specifications & commercial terms & conditions.
- 1.2 The various aspects covered in this MOU are as follows & it is agreed to follow the same without any deviation.
 - 1.2.1 Commercial Requirements as per GCC R0 & SCC R0.
 - 1.2.2 Technical Specifications DOC NO: BESS-4-02-0002 Rev: 03
 - 1.2.3 PRE-QUALIFICATION REQUIREMENTS- DOC NO: BESS-4-02-0004 Rev: 00
 - 1.2.4. Annexure-Job Specific details- DOC NO: BESS-4-02-0003 Rev: 00
- 1.3 The party II agrees to take no deviation while submitting the offer, other than deviations agreed by BHEL with or without %age of cost of withdrawal as agreed in TC-MOU.
- 1.4 Same cost of withdrawal will be loaded in quote at the time of evaluation of price in enquiry, however bidder can withdraw such deviation in offer at the time of enquiry.

VENDOR'S SIGNATURE WITH SEAL

BHEL SBD

- 1.5 If any deviation is taken in the technical, commercial & quality points in the offer submitted by party II, the offer will be rejected straight away. Any request for revaluation will not be entertained.
- 1.6 If BHEL has any other requirement/deviation from the MOU for a particular enquiry, it shall be clearly given in the enquiry itself. Confirmation for that requirement/deviation alone is to be given by the bidder. All other terms & conditions shall be as per the MOU. Such deviations/requirements, if any, shall pertain to that enquiry alone and MOU shall be followed for all other enquiries unless otherwise specified.
- 1.7 This MOU shall be valid from _____.
- 1.8 The MOU shall stand valid for TWO (02) years from the date of finalization of the MOU. The MOU validity may be extended eve after the initial period of TWO years if required by BHEL, with the consent of party II. However, in case any change is required; the MOU may be amended before the expiry of the validity with mutual consent.