Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)



Ref. Enquiry No.: PE/PG/RTC/E-6609/2020 Dated: 20.02.2021

TENDER ENQUIRY THROUGH E-PROCUREMENT (CONDITIONAL ENQUIRY)

SUBJECT: TENDER ENQUIRY FOR FRAMEWORK AGREEMENT (RATE CONTRACT) OF THERMAL INSULATION-R MATTRESSES AS PER TECHNICAL SPECIFICATION NO. PE-TS-020-169-M032 REV 00 FOR 5X800MW YADADRI TPS PROJECT

OUR REF: TENDER ENQUIRY NO: PE/PG/RTC/E-6609/2020, DTD-20.02.2021

DUE DATE - 03.03.2021, BY 11.00AM

Dear Sir/ Ma'am,

We are pleased to invite your offer for subject package in two parts strictly as per Clause-2.0 of "Instructions to Bidders" of GCC Rev 07. Please upload your best quotation/ offer on https://eprocurebhel.co.in/ for the requirement strictly as per schedule of price format before above mentioned due date & time. The details of the tender enquiry are as mentioned below:

SI. No	Description for which (Framework Agreement) Rate Contract is desired	Tentative Quantity	Delivery required
1	THERMAL INSULATION-R MATTRESSES - Refer Technical specification no PE-TS-020-169- M032 Rev. No.: 00 for detailed description.	As per BOQ cum price schedule in Annexure-I) cumulative for the Prospective Projects as per Annexure-4.	Within Four (04) months from the date of BHEL manufacturing clearance. Manufacturing clearance may be issued by BHEL lotwise/unit-wise(s)/phase-wise.

Your best quotation/offer for the above requirement, in line with our terms and conditions, should be submitted online via e-procurement system. It shall be the responsibility of the bidder to ensure that the Tender is submitted on or before the due date by 11.00AM. Part-I bids shall be opened at 4.00PM on due date through e-procurement Portal.

Detailed Tender documents can be downloaded from the following websites: -

a) https://eprocurebhel.co.in/ b) www.bhel.com c) https://pem.bhel.com/

Tender submission through e-procurement portal-https://eprocurebhel.co.in/

Note: -

- 1. Please note that Part Supplies offered for tender BOQ shall disqualify the bidder's offer.
- 2. Documents and Credential as per Technical & Financial PQR, Techno Commercial Bids and Price Bids should be uploaded on the e-procurement portal.
- 3. Bidders to ensure that Third party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organisation contact number and email Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.
- 4. "This item/Package/System falls under the list of items defined in Para 3 of Ministry of Finance guideline datedt.20-09-2016 (procurement of items related to public safety, health, critical security operations and equipment's, etc.) & hence criteria of prior experience/turnover shall be same for all the bidders including start up/MSME".

Please refer GCC Rev-07 which is available on https://pem.bhel.com/ You are requested to kindly download the same.

MR SUMEET SAHAY MANAGER/CMM BHEL/PS-PEM POWER PROJECT ENGINEERING INSTITUTE, PLOT NO. 25, SECTOR - 16A, NOIDA (UP) (OFF) 0120-4213532, 09999498202

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TERMS AND CONDITIONS

- This tender is being issued by BHEL PEM for Framework Agreement (Rate Contract) of THERMAL INSULATION-R MATTRESSES required at 5X800MW YADADRI TPS project sites on behalf of various BHEL units. All bidders to note the following –
 - a) As and when requirement arises, the concerned unit of BHEL will place order directly on the supplier against the Framework Agreement (Rate Contract).
 - b) The drawings/ documents submission & approval, submission of BG, submission of invoices, processing and release of payment after supply of material shall be dealt as per Framework Agreement (Rate Contract) contract terms and shall be directly done with BHEL unit which has placed purchase order noted at sl.no. (a) above.
- 2. Bidders to note that their bid shall be conditional, subject to qualify PQR (technical & financial) & registration in PEM and customer approval for subject package before price bid opening.
- 3. Framework Agreement (Rate contract), on PVC basis, will be done for 2 years from placement of Framework Agreement (Rate contract) PO with a provision for further extension after review on mutual consent.
- 4. Rate contract will be done for 100 percent value on L1 vendor for this package. However, ordering for any project on rate contract basis shall be subject to customer approval.
- Framework Agreement (Rate Contract) will be finalized on total lump sum basis instead of item wise evaluation so that the complete requirement against one project is not split amongst various vendors to minimize operational difficulty.
- 6. PVC shall be applicable for the subject package. Also refer Annexure A.
- 7. Following clause will be applicable in line with MII circular Public Procurement (preference to make in India), order 2017 Rev dated-04.06.2020 & 16.09.2020-
 - "For this procurement, the local content to categorize a supplier as 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 India), Order 2017 dated 04.06.2020 & 16.09.2020 issued by DPIT. In case of subsequent order issued by nodal ministry changing the definition of local content for item in NIT, the same shall be applicable even if issued after issue of this NIT but before opening of part-II bids against this NIT."
 - Since this package falls under the category of goods, services or works in respect of which nodal ministry/department has communicated that there is a sufficient local capacity and competition, **only Class-I local suppliers** as defined in the order are eligible to bid.
- 8. Following point to be noted regarding verification of local content-
 - The supplier at the time of tender, bidding or solicitation shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) that the item offered meets the minimum local content, in accordance with para 9 (b) of PP-MII order revision dated-04.06.2020.

Point no 7 & 8 above will supersede point no 26 of ITB of GCC Rev 07

- 9. Bidders to note the following:
 - i. Tender Evaluation Evaluation will be done on overall L1 (Total Cost to BHEL excluding GST) basis with necessary loading as applicable i.e. Evaluation will be on Ex Works + Freight basis for this tender.
 - In case of PBO, the loading (technical/commercial), if any, shall be added by BHEL for evaluation.
 - In case of RA, the loading (technical/commercial), if any, shall be added by bidder while submitting the bid in reverse auction portal.
 - Ordering shall be done after de-loading the commercial/ technical loading from bidder's final price.
 - ii. 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.

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- iii. Bidder to give single (Non Zero) % of freight charges in the freight column. Bidders have to give same % of freight for each line item.
- iv. Bidders to mention applicable GST rate on (total Ex. works + freight) in the specified cells of price schedule on price form at e-procurement portal. However, may please note that GST shall not be considered in evaluation.
- v. Though evaluation is on Ex Works + Freight, but there is % allocation weightage against BOQ quantity of each item which shall be used for arriving at price break up. Bidders need to give only their total ex works price for given BOQ at the specific cells that has been kept opened in the price schedule available in the e-procurement portal (Grand Total ex works price). Price mentioned anywhere else in BOQ or price uploaded anywhere else in the e-procurement portal shall not be taken in cognizance.
- vi. Rest of the prices shall be derived by BHEL in line with allocation fixed for each item. There is formula applied in price schedule form available in e-procurement portal. As soon as bidder fills the cells for Total Ex works, freight percentage and GST percentage, rest values for e.g. unit ex works item wise, total ex works item wise, FOR site price item wise will filled automatically.
- vii. For better clarity to the bidders where value is to be filled is kept open in price form at e-procurement portal and for other columns it will be locked which shall be derived by BHEL as per allocation fixed against each item.
- viii. HSN Code has been mentioned in Price Schedule.
- ix. Incomplete offer shall be summarily rejected.
- x. Pre-Qualifying Requirements (PQR): All the bidders (registered/ non-registered) will be asked to submit documents fulfilling PQR (technical & financial) requirements along with the bid & their further evaluation shall be done accordingly.
- xi. Considering all the above open tender enquiry is proposed to be floated in two parts (Part-I: Techno-Commercial Bid, Part-II: Price Bid) thro' e-procurement for entering into framework agreement (rate contract) for the subject package, all the bids shall be treated conditional as registered vendors have to qualify PQR (technical & financial) & non-registered vendors have to qualify PQR (technical & financial) and get registered with PEM for the package.
- xii. PRE-QUALIFICATION REQUIREMENT: -

Bidders is requested to fill up the details in "TECHNICAL PRE-QUALIFYING REQUIREMENT & FINANCIAL PRE_QUALIFYING REQUIRMENT" as per the conditions mentioned in the PQR (technical & financial) and also to submit the credentials.

Bids of only those bidders shall be evaluated who meet the Technical & Financial pre-qualifying requirements (if applicable). Bidders to ensure that Third party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organisation contact number and email Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.

"This item/Package/System falls under the list of items defined in Para 3 of Ministry of Finance guideline datedt.20-09-2016 (procurement of items related to public safety, health, critical security operations and equipment's, etc.) & hence criteria of prior experience/turnover shall be same for all the bidders including start up/MSME".

- xiii. Bidders to note that their bid shall be conditional subject to qualify PQR (technical & financial) by registered vendors & customer approval & non-registered vendors have to qualify PQR (technical & financial) & get registered with PEM as well customer approval for the package before price bid opening For registration in PEM "Bidders needs to apply & get registered for subject package with PEM before P-2 (price bid opening) & hence you need to apply online for registration on PEM web portal & have to enclose acknowledgement with this effect with the bid documents else your bid may not be considered for evaluation"
- xiv. This enquiry is subject to Conditions/ limits if any imposed in PMD / Vendor registration.

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- xv. Refer Annexure I for tentative quantity of subject package, required for prospective projects. No minimum quantity is guaranteed by BHEL.
- xvi. Quantity variation' on higher side shall be NIL. Please note that quantities indicated in the tender are tentative quantities and 'Quantity variation' on higher side shall be NIL., however no minimum quantity is guaranteed by BHEL.
- xvii. CIF allocation is not applicable for this tender. Bidder to quote accordingly.
- xviii. Tenderers must enclose the Quality Plan in the prescribed format, for approval. Equipment will be dispatched only after Purchaser's / Owner's inspection of the hold points specified in the approved Quality Plan and issue of Material Dispatch Clearance Certificate (MDCC).
- xix. In case of joint bidding, bidders to furnish scope matrix which should be clearly defined between them along with the offer for the complete scope.
- xx. Integrity pact is applicable for this tender

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. Following Independent External Monitors (IEMs) have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SI No.	IEM	Phone & Email
1.	Shri Arun Chandra Verma, IPS (Retd.)	acverma1@gmail.com
2.	Shri Virendra Bahadur Singh, IPS (Retd.)	vbsinghips@gmail.com

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/three part 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. (Refer Annexure-IX for Integrity pact).

Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the any of the IEMs mentioned in the NIT. All correspondence with the IEMs shall be done through email only.

"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 officials whose contact details are provided above in NIT".

OTHER TERMS AND CONDITIONS

- 1. Procurement of the subject package shall be done through e-procurement
- 2. Offers should be uploaded in two parts online at https://eprocurebhel.co.in/ in as follows:
 - a) Part-I Bid: Documents and Credential as per Technical & Financial PQR and Techno-Commercial offer (along with un-priced copy of un-priced bid and un-priced schedule of Technical-Commercial Deviation, Annexure I & II)
 - b) Part II Bid: Price Bid and Priced schedule of Technical-Commercial Deviation
- 3. Terms and conditions: -
 - a) Part I bid will be opened on date & time mentioned in the NIT or subsequent corrigenda/amendments, if any.
 - b) Techno-commercial offer of only those bidders shall be evaluated who will meet the Technical & Financial pre-qualifying requirement of the tender.

All the above Tender Documents shall automatically become a part of the Order/Contract after its finalisation.

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4. Vendors shall quote in accordance with the requirements mentioned in the tender documents. In case of deviations (Technical/ Commercial), the same shall be highlighted separately giving Clause references along with the Cost of withdrawal of Deviations in e-procurement portal, along with reasons for taking such deviations.

Bidder to note all the points mentioned in "Notes" of cost of withdrawal sheet in e-procurement portal.

- 5. Please note the following:
 - a. Compliance to price form available at e-procurement portal.
 - b. SCC enclosed for compliance.

GCC enclosed for compliance. GCC Rev-07 is available on https://pem.bhel.com/. You are requested to kindly download the same. Bidders are requested for furnishing compliance of these documents.

- 6. Tenders shall be submitted strictly in accordance with the requirements of the above tender documents.
- 7. Standard pre-printed terms & conditions of the tenderers shall not be considered valid.
- 8. Validity of offer shall be as per cl.no.7(instruction to bidders) of GCC **Rev 07.**
- 9. Unsolicited fresh/revised Price Bids shall not be entertained.
- 10. Purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any/all tender(s) in part or full without assigning any reason whatsoever.
- 11. Late tenders will be rejected.
- 12. Definition of Terms is also enclosed. These definitions will apply to all the tender documents including this Enquiry Letter.
- 13. Tenders and all correspondence thereof, shall be addressed to the undersigned by name & designation and sent at the following address:

Mr. AJAY JAIN, DGM, CMM	Mr. SUMEET SAHAY, MGR, CMM
M/s Bharat Heavy Electricals Ltd.,	M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,	Project Engineering Management,
Power Project Engineering Institute,	Power Project Engineering Institute,
HRD & ESI Complex,	HRD & ESI Complex,
Plot No 25, Sector-16 A, Noida-201301	Plot No 25, Sector-16 A, Noida-201301
Kind Attn: AJAY JAIN/ CMM	Kind Attn: SUMEET SAHAY/ CMM
E-MAIL: ajayjain@bhel.in	E-MAIL: sumeetsahay@bhel.in
Ph. No. 0120- 4368986 , 9871002977	Ph. No. 0120-4213532 ,09999498202

14. Delivery: The following delivery term for project specific Purchase Orders which will be issued on the basis of subject Rate Contract will be: -

Within Four (04) months from the date of BHEL manufacturing clearance. Manufacturing clearance may be issued by BHEL lot-wise/unit-wise(s)/phase-wise.

BHEL Drawing No	Drawing Title	Primary/ Secondary	Drg Sch for Vendors
PE-QP-XXX-169-M032	QP FOR THERMAL INSULATION PIPE SECTION	Primary	R-0 within 14 days from PO & subsequent revisions incorporating all
PE-QP-XXX-169-M031	QP FOR THERMAL INSULATION R-MATRESS	Primary	the BHEL comments within 10 days of comments received from BHEL BHEL shall furnish comments / approval on

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	each submission within 18
	days from receipt.

Please refer clause no 9 of Sec I Rev 00 Sheet 4 of 5 of Technical Specification no- PE-TS-020-169-M032 REV 00 Following to be made the part of NIT.

- a. The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- b. The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- c. Non-applicable drawings shall be decided during bid evaluation
- d. Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT
- 15. All other terms and conditions shall be as per GCC Rev 07 and Special Conditions of (Framework Agreement)
 Rate Contract. In the event of any contradiction in the terms and conditions mentioned, the order of preference
 shall be as mentioned in clause no 36 of GCTC of GCC (Rev.07).
- 16. All the above Tender Documents shall automatically become a part of the Order/Contract after its finalization.
- 17. **All** corrigenda, addenda, amendments, time extensions, clarifications etc. to the tender will be hosted on BHEL websites only (https://pem.bhel.com/, www.bhel.com & https://eprocurebhel.co.in/ under subject tender reference. Bidders are requested to visit our websites from time to time to keep themselves updated.
- 18. Bidders to submit their offers strictly in line with the form available at e-procurement portal.
- 19. Inspection shall be done by BHEL/ END CUSTOMER/Third party Agency (finalized by BHEL).
- 20. Foreign & indigenous bidders participating through open/limited tender will necessarily have to but class III DSCs issued by the certifying authorities in India. Basic procedure/ checklist is uploaded on www.bhel.com.
- 21. Non-registered bidder to submit the credentials required for Registration in BHEL PEM: -
 - "Online Registration Portal is operational in BHEL. Non-registered Vendors, who wish to apply for registration with BHEL-PEM, have to apply through Online Registration Portal available at www.bhelpem.com vendor section Online Supplier Registration. All credentials and/or documents duly signed and stamped related to registration has to be uploaded on the website and submit the application for registration. One set of hard copy of the filled-up SRF downloaded from Online Registration Portal duly signed and stamped has to be submitted."
- 22. Purchaser reserves the right to split up the scope of the tender enquiry and place the orders for different scope/ items with different bidders and also increase or decrease the quantity.
- 23. RA guideline 2020 shall be applicable for this tender and same is available at http://www.bhel.com/vender_registration/pdf/Guidelines%20for%20Reverse%20Auction-2020.pdf
 Bidders to note following point before quoting-

"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."

Note: - Vendors to note that above RA clause will supersede clause no 13 of " $^{\prime\prime}$ Instruction to bidders " of GCC Rev-07.

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"The Bidders has to quote the Single Price (i.e. Total Cost to BHEL) (excl. GST) in Reverse Auction. Price are to be inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, Freight as applicable, including loading (if any) but excluding GST. De-loading (if any) shall be done in line with NIT terms.

- 24. If any bidder has mentioned the term Not Applicable / Not required / Not Quoted in bidding form. The bidder needs to substantiate the same. If the same item will be required in future for the system same will be supplied free of cost.
- 25. Performance Security (Bank Guarantee) percentage has been reduced from 5% to 3% for our tender enquiry. Rest of the Performance Security (Bank Guarantee) term remain same as per GCC(Rev07). In all contracts where Performance Security has been reduced to 3%, the reduced percentage of Performance Security shall continue for the entire duration of the contract and there should be no subsequent increase of Performance Security even beyond 31.12.2021.
- 26. Successful L1 bidder shall submit mandatorily the GeM Seller ID before placement of Order/Award of contract.
- 27. Inline with Circular No. 15 of 2020-21 dated-08.09.2020 issued by SS&PCOM following terms will be mentioned in the NIT-
 - The evaluation currency for this tender shall be INR.
- 28. 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 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 shareholder's agreements or voting agreements;

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- 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

Note-The above clause shall not be applicable for the bidders from those countries (even if sharing a land order with India) to which the Government of India (GoI) has extended lines of credit or in which the GoI is engaged in development work.

Thanking you,
Yours faithfully,
For and on behalf of BHEL

(Signature of official with Name & Designation)

Enclosure:

- 1. Enquiry Terms & Conditions.
- 2. Price Schedule Annexure-I to NIT (to be filled in e-procurement portal only)
- 3. Cost of withdrawal sheet -Annexure-II to NIT (to be filled in e-procurement portal only)
- 4. Technical Specifications.
- 5. Technical & financial PQR
- 6. SCC Annexure-III to NIT.
- 7. Prospective Project List Annexure-IV to NIT
- 8. Bank Guarantee Format Annexure-V to NIT.
- 9. Integrity Pact (IP) Annexure-VI to NIT
- 10. Annexure VII-Make in India (Local Content) certificate
- 11. Annexure A PVC Formulae

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ANNEXURE I TO NIT REF NO - PE/PG/RTC/E-6609/2020, DTD-20.02.2021

PRICE SCHEDULE FOR THERMAL INSULATION ROCKWOOL MATTRESSES -5X800MW YADADRI

FRAMEWORK AGREEMENT (RATE CONTRACT)

NAME OF VENDOR - (Please fill vendor's name)

SL. NO.	ITEM DESCRIPTION	DENSITY (Kg/m3)	THK (mm)	Quantity (m2)	UNIT EX- WORKS PRICE (DULY PACKED) OF TOTAL EX-WORKS PRICE (INR)	UNIT EX- WORKS PRICE (DULY PACKED) (INR)	FORMULA FOR TOTAL EX- WORKS PRICE (DULY PACKED) (INR)	TOTAL EX- WORKS PRICE (DULY PACKED) (INR)	FREIGHT CHARGES WITHOUT GST @ % OF TOTAL EX WORKS (INR)	APPLICABLE GST RATE % ON (TOTAL EX WORKS + FREIGHT) (INR)	TOTAL FOR SITE PRICE (INR)
1	2	3	4	5	6	7	8	9	10	11	12
A1	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	150	40	1137	0.00007	Derived	0.07653	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
A2	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	150	50	6608	0.00008	Derived	0.52374	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
А3	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	150	60	34587	0.00010	Derived	3.28947	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
A4	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	150	75	76294	0.00010	Derived	7.92126	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
B1	Bonded mineral (Rock) wool mattresses with ONE side SS wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm SS wire	150	75	28612	0.00014	Derived	4.02799	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
C1	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	100	25	6861	0.00004	Derived	0.27187	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
C2	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	100	40	16614	0.00005	Derived	0.85587	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
C3	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	100	50	30837	0.00006	Derived	1.75971	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
C4	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	100	60	49062	0.00006	Derived	3.16905	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
C5	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm GI wire	100	75	60890	0.00008	Derived	4.63730	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
D1	Bonded mineral (Rock) wool mattresses with BOTH side SS wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm SS wire	150	50	23000	0.00013	Derived	2.93837	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
D2	Bonded mineral (Rock) wool mattresses with BOTH side SS wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm SS wire	150	60	65150	0.00014	Derived	9.05711	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
E1	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	150	50	58100	0.00007	Derived	4.09829	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived



ANNEXURE I TO NIT REF NO - PE/PG/RTC/E-6609/2020, DTD-20.02.2021

PRICE SCHEDULE FOR THERMAL INSULATION ROCKWOOL MATTRESSES -5X800MW YADADRI

FRAMEWORK AGREEMENT (RATE CONTRACT)

NAME OF VENDOR - (Please fill vendor's name)

SL. NO.	ITEM DESCRIPTION	DENSITY (Kg/m3)	THK (mm)	Quantity (m2)	UNIT EX- WORKS PRICE (DULY PACKED) OF TOTAL EX-WORKS PRICE (INR)	UNIT EX- WORKS PRICE (DULY PACKED) (INR)	(DULY PACKED) (INR)	(INR)	FREIGHT CHARGES WITHOUT GST @ % OF TOTAL EX WORKS (INR)	APPLICABLE GST RATE % ON (TOTAL EX WORKS + FREIGHT) (INR)	TOTAL FOR SITE PRICE (INR)
1	2	3	4	5	6	7	8	9	10	11	12
E2	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	150	60	216650	0.00008	Derived	17.76593	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
F1	Bonded mineral (Rock) wool mattresses with BOTH side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	40	197150	0.00005	Derived	10.81937	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
F2	Bonded mineral (Rock) wool mattresses with BOTH side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	50	46125	0.00006	Derived	2.88388	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
F3	Bonded mineral (Rock) wool mattresses with BOTH side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	60	500	0.00007	Derived	0.03508	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
G1	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	40	2050	0.00004	Derived	0.08975	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
G2	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	50	451995	0.00005	Derived	23.24391	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
G3	Bonded mineral (Rock) wool mattresses with ONE side GI wire netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	100	60	42925	0.00006	Derived	2.53550	Derived	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived
	GRAND TOTAL (A.1 TO G.				100.0000	Rs X = TO BE QUOTED	TO BE QUOTED IN %AGE	TO BE QUOTED IN %AGE	Derived		
NOTE								X= 1	OTAL EX-WORKS	(IN WORDS) - DEF	RIVED

NOTE:-

^{1.} Bidder to note that evaluation shall be on Total Ex works price + Freight. Bidder to quote grand total Ex works value of the complete package (SI. No F Column 9.i.e Rs X) only as per the BOQ above. The item wise break up of Ex works prices (unit as well as total) for all the items in the BOQ shall be derived as per the formulae indicated above by BHEL. Bidder also need to indicate Freight and GST rate in percentage in the respective column. Freight percentage to be quoted in percentage of Ex works value.

² Value is to be filled only where "to be quoted" is mentioned and for other columns where "derived" is mentioned same shall be derived by BHEL as per % allocation fixed against each item

^{3.} Price mentioned anywhere else in BOQ shall not be taken in cognizance.

^{4.} For any clarification please refer Technical Specification No-PE-TS-020-169-M032 REV 00

^{5.} In case of Reverse Auction, vendor has to quote their Ex Works price+ Freight, that is price quoted above at SI No-F, column 9 i.e. (Rs X) + Freight Value, Rs Y

^{6.} The unit price quoted by bidder shall be binding for quantity variation which is at discretion of purchaser.



ANNEXURE-II: DEVIATION SHEET (COST OF WITHDRAWL)

PACKAGE: - FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS

TENDER ENQUIRY REF NO-- PE/PG/RTC/E-6609/2020, DTD-20.02.2021

NAME OF VENDOR:-

										1		
SL NO	VOLUME/ SECTION	PAGE NO.	CLAUSE NO.	TECHNICAL SPECIFICATION/ TENDER DOCUMENT	COMPLETE DESCRIPTION OF DEVIATION	COST OF WITHDRAWL OF DEVIATION	REFERENCE OF PRICE SCHEDULE ON WHICH COST OF WITHDRAWL OF DEVIATION IS APPLICABLE	NATURE OF COST OF WITHDRAWL OF DEVIATION (POSITIVE/ NEGATIVE)	REASONS FOR QUOTING DEVIATION			
TECHN	TECHNICAL DEVIATIONS											
COMME	RCIAL DEV	<u> IATIONS</u>										
PARTIC	ULARS OF	BIDDERS/ A	UTHORISED R	EPRESENTATIVE								
		NAME		DES	GNATIONS		SIGN & DATE					
NOTE	S:								•			

- 1. Cost of withdrawal of deviation will be applicable on the basic price (i.e. excluding taxes, duties & freight) only.
- 2. All the bidders have to list out all their Technical & Commercial Deviations (if any) in detail in the above format.
- 3. Any deviation not mentioned above and shown separately or found hidden in offer, will not be taken cognizance of.
- 4. Bidder shall submit duly filled unpriced copy of above format indicating "quoted" in "cost of withdrawal of deviation" column of the schedule above along with their Techno-commercial offer, wherever applicable. In the absence of same, such deviation(s) shall not be considered and offer shall be considered in total compliance to NIT.
- 5. Bidder shall furnish price copy of above format along with price bid.
- 6. The final decision of acceptance/rejection of the deviations quoted by the bidder shall be at discretion of the Purchaser.
- 7. Bidders to note that any deviation (technical/commercial) not listed in above and asked after Part-I opening shall not be considered.
- 8. For deviations w.r.t. Credit Period, Liquidated damages, Firm prices if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VII, will apply. For any other deviation mentioned in un-priced copy of this format submitted with Part-I bid but not mentioned in priced copy of this format submitted with Priced bid, the cost of withdrawal of deviation shall be taken as NIL.
- 9. Any deviation mentioned in priced copy of this format, but not mentioned in the un-priced copy, shall not be considered.
- 10. All techno-commercial terms and conditions of NIT shall be deemed to have been accepted by the bidder, other than those listed in unpriced copy of this format.
- 11. Cost of withdrawal is to be given separately for each deviation. In no event bidder should club cost of withdrawal of more than one deviation else cost of withdrawal of such deviations which have been clubbed together shall be considered as NIL.
- 12. In case nature of cost of withdrawal (positive/negative) is not specified it shall be assumed as positive.
- 13. In case of discrepancy in the nature of impact (positive/ negative), positive will be considered for evaluation and negative for ordering.

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BHEL / PEM / CMM

ANNEXURE -III TO NIT - PE/PG/RTC/E-6609/2020, DTD-20.02.2021 SPECIAL CONDITION OF FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5x800MW YADADRI TPS

- BHEL/PEM on behalf of various BHEL units intends to enter into (Framework Agreement) Rate Contract for supply of
 the tendered items for a period of two years. The (Framework Agreement) Rate Contract shall come into force from
 the date of issue of Purchase order for Rate Contract. Validity for ordering shall be two years from the purchase order
 for (Framework Agreement) Rate Contract.
- 2. For this specific tender, Purchaser word referred in GCC Rev 07 shall mean BHEL units which will place project specific purchase order to seller on the basis of framework agreement (rate contract) finalized with this tender.
- Seller to use GSTIN number (wherever required) of Purchaser i.e. BHEL unit who will issue project specific purchase order. GSTIN number mentioned in GCC Rev 07 shall be applicable for all project specific purchase orders issued by BHEL PEM.
- 4. Clause no 7 of GCTC, GCC Rev 07 is applicable for project specific purchase orders issued by BHEL PEM. For other BHEL Unit who will issue project specific purchase order, their respective DMS for drgs/docs submission will be applicable.
- 5. Details of consignee and project site information for dispatch of material shall be intimated at the time of placement of PO for specific project after finalization of (Framework Agreement) Rate Contract
- 6. Transit Insurance is in BHEL scope
- 7. The items will be required against respective projects. Exact quantities and Project information shall be intimated while placing order for a specific project based on the (Framework Agreement) Rate Contract.
- 8. The prices shall be on PVC basis during the period of two years with a provision for further extension after review on mutual consent. All bidders to quote as per the Price Variation Formulae mentioned in PVC Annexure
- 9. Inspection of materials shall be carried out by BHEL/CQA and or by Customer or by an authorized agency at manufacture's works before dispatch, if required. Dispatch of material to be done, only after receipt of BHEL/Customer MDCC. It is responsibility of vendor to for obtain Material Dispatch Clearance Certificate (MDCC) from BHEL or Customer as required before dispatch of material.

Vendor shall give inspection call on BHEL-CQS web site to applicable inspection agency with a copy of inspection call to BHEL for arranging Customer participation (if applicable) in inspection / Joint inspection on the proposed date with an advance notice of 15 working days. Inspection charges shall be paid by BHEL.

Items have to be manufactured as per specification and supplied strictly in accordance with the approved BHEL / Customer's Drawings & Quality Plan. The items/ test certificate of items, which for any reason are not acceptable to BHEL / Customer, shall be required to be retested. No extra charge shall be payable on those account by BHEL.

- 10. Other terms and conditions shall be as per Standard Technical specification no, GCC Rev 07 & Enquiry letter.
- 11. This enquiry is subject to Conditions/ limits if any imposed in PMD/ Vendor registration.
- 12. Tentative quantity is given in enquiry.
- 13. Bidders to submit offer for (Framework Agreement) Rate Contract of said items ONLINE via e-Procurement System only. Bidder to upload tender documents complete in all respects duly signed & stamped on each and every page by the authorized signatory of the bidder as a token of acceptance of all the terms and conditions of tender.
- 14. The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendor/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL web site http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud as soon as it comes to their notice.

ANNEXURE -IV TO NIT - PE/PG/RTC/E-6609/2020, DTD-20.02.2021

TENTATIVE PROJECT LIST FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5x800MW YADADRI TPS

SI.No	Name of Project
1	5x800MW YADADRI TPS



Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)
PROJECT ENGINEERING MANAGEMENT

THERMAL INSUALTION-LRB (ROCKWOOL) MATTRESS/PIPESECTION OF FRAMEWORK AGREEMENT FOR 5X800MW YADADRI

Price Variation Clause:

Ex-works prices shall be variable as per PVC formula given below:

Current Price = Order Price * (0.15+0.4*M1/M0 +0.15*F1/F0 +0.05*S1/S0+0.25 * L1/L0)

Where

M0 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.13.2 (REFRACTORY PRODUCTS) FOR MONTH OF ORDERING.

M1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.13.2 (REFRACTORY PRODUCTS) FOR 1 MONTH PRIOR TO DESPATCH.

FO = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.2 (FUEL & POWER) FOR MONTH OF ORDERING.

F1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.2 (FUEL & POWER) FOR 1 MONTH PRIOR TO DESPATCH

 ${\bf S0}$ = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.14.4 – (MILD STEEL-LONG PRODUCTS) FOR MONTH OF ORDERING.

S1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.14.4 – (MILD STEEL-LONG PRODUCTS) FOR 1 MONTH PRIOR TO DESPATCH

L0 = INDICES AS PER RBI BULLETIN TABLE 19 (CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS) FOR MONTH OF ORDERING.

 ${f L1}$ = INDICES AS PER RBI BULLETIN TABLE 19 (CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS) FOR 1 MONTH PRIOR TO DESPATCH

Total PVC shall be limited to <u>+</u> 10% of Ex-Works Value.

Note: RBI Indices considered for refractory, Fuel &Power, Mild steel are as per base year 2011-12 and for Industrial worker as per base year 2016 of RBI Bulletin. The above PV Clause is subject to change based on latest RBI Bulletin.

ANNEXURE -V TO NIT - PE/PG/RTC/E-6609/2020, DTD-20.02.2021 FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES 5X800MW YADADRI TPS

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No: Date:
To,
NAME & ADDRESSES OF THE BENEFICIARY
Dear Sirs, In consideration of the Bharat Heavy Electricals Limited 1 (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
we,, (hereinafter referred to as the Bank), having registered/Head office at
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 <u>Vendor/Contractor/ Supplier</u> 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 <u>Vendor/Contractors/Supplier</u> 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.
We
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 <u>Vendor/Contractor/Supplier</u> and notwithstanding any security or other guarantee that the Employer may have in relation to the <u>Vendor/Contractor/Supplier</u> 's liabilities.
This Guarantee shall remain in force up to and including
This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the <u>Vendor/Contractor/Supplier</u> 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 the

We,										
a. The liability of the Bank under this Guarantee shall not exceed										
authorized person has full powers to sign this Guarantee on behalf of the Bank. Dated	 a. The liability of the Bank under this Guarantee shall not exceed									
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	Dated	For and on behalf of								
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	Place of Issue	(Name of the Bank)								
3 DETAILS ABOUT THE NOTICE OF AWARD/ CONTRACT REFERENCE 4 CONTRACT VALUE 5 PROJECT/SUPPLY DETAILS	1 NAME AND ADDRESS OF EMPLOYER i.e. Bharat Heavy Electr	ricals Limited								
4 CONTRACT VALUE 5 PROJECT/SUPPLY DETAILS	2 NAME AND ADDRESS OF THE VENDOR / CONTRACTOR / Se	UPPLIER.								
5 PROJECT/SUPPLY DETAILS	3 DETAILS ABOUT THE NOTICE OF AWARD/ CONTRACT REF	ERENCE								
	4 CONTRACT VALUE									
6 BG AMOUNT IN FIGURES AND WORDS	5 PROJECT/SUPPLY DETAILS									

Note:

7 VALIDITY DATE

8 DATE OF EXPIRY OF CLAIM PERIOD

- 1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the vendor.
- 2. The BG should be 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/Contractor/Supplier/Bank issuing the guarantee.
- In line with the GCC, SCC and contractual terms, Unit may carry out minor modifications in the Standard BG Formats.If required, such modifications may be carried out after taking up appropriately with the Unit/Region's Law Deptt.
- 4. In Case of Bank Guarantees submitted by Foreign Vendors-
- a) From Nationalized Public Sector 1 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 the town/ city or at nearest branch where the Unit (New Delhi for POs issued from PEM Noida/ PO issuing agency) is located i.e. Demand can be presented at the Branch located in the town/ city or at nearest branch where the Unit is located.
- From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank) b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified 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 is advisable that all charges for issuance of Bank Guarantee/ Counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - 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 will 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). The BG Format provided to them should clearly specify the same.

or & On behalf of Guarantee issuing bank

(Office Seal)

Name: E-mail ID: Contact number:

ANNEXURE -VI TO NIT - PE/PG/RTC/E-6609/2020, DTD-20.02.2021 FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered

						(India) herein						ssior
						and						
								descrip	tion of the	party	along	with
						ontractor" whi s of the OTHI	650	on unle	ess repugna	int to the	e conte	xt or
						<u>Preamble</u>						
The Pri	incipal	intends	to	award,	under	laid-down	organizatio	onal	procedures	, cont	ract/s	for
				The Prin	ncipal va	lues full comp	oliance with a	all relev	ant laws of	the land	d, rules	and
regulation	s, and th	ne principle	es of e	economic (use of re	sources, and	of fairness a	nd tran	sparency in	its relati	ions wi	th its
Bidder(s)/	Contrac	tor(s).										
In order to	achieve	these go	als, th	e Principal	will app	oint Independ	ent External	Monito	r(s), who wi	II monito	r the te	nder
						nce with the p						
Section 1	- Comr	nitments	of the	Principal								
1.1The Pr	rincipal	commits it	self to	take all r	neasures	necessary t	o prevent co	orruption	n and to oh	serve th	e follo	wing
principies:						,		арио	i una lo ol	Scive til	ie iolio	wirig
1.1.1	No en	nployee of	the Pi	rincipal, pe	rsonally	or through fan	nily members	s, will in	connection	with the	tender	for
or the exe	cution of	a contrac	t, de m	and, take	a promise	e for or accep	t, for self or t	hird per	rson, anv m	aterial or	immat	erial
benefit wh	ich the p	person is n	ot lega	ally entitled	d to.	·			,,	atorial of	mina	Cilai
1.1.2	The P	rincipal wil	II, duri	ng the ten	der proce	ess treat all Bi	dder(s) with	equity a	and reason	The Prin	oinal w	:01 :
particular,	before a	and during	the te	ender proc	ess, prov	vide to all Bide	der(s) the sa	me info	rmation an	ine riii taallaat	cipal w	III III
any Bidde	r(s) conf	idential / a	ddition	nal informa	ation thro	ugh which the	Bidder(s) co	ould ob	tain an adva	antage in	relatio	e to
the tender	process	or the cor	ntract (execution.			350				········	10
1.1.3	The P	rincipal wil	l exclu	de from th	e proces	s all known p	rejudiced per	sons.				
1.2 If the P	rincipal	obtains infe	ormati	on on the	conduct o	of any of its er	nployees wh	ich is a	penal offen	ce under	the Inc	dian

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

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

- 2.1The 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
- The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to 2.1.1 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 IPC/ PC 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 & 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 2The 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 / Sub-contractors

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 Vigillance 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.
- 8.3The 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 4The 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 7The 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 8The 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 organization.
- 8 10ff 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 11The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8 12The 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.
- 9.21f any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

10 1This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

Jeh

Witness: _____(Name & Address)_____

<u>ANNEXURE VII TO NIT REF NO- PE/PG/RTC/E-6609/2020, DTD-20.02.2021</u>

FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS

Letter head of CA/ Statutory auditor / Cost auditor

Ref:	Date:
To, Bharat Heavy Electricals Limited PEM, PPEI Building, Plot No 25, Sector -16A, Noida (U.P)-201301	
Subject: - Certification regarding local content	
Reference: Tender Enquiry No	
Name of Package:	
Dear Sir,	
We hereby certify that items of (package name Name) offered by M/s(bidder's na has local content	ame) having its works/office at
Further, it is also certified that the local content percentage (% of local content given in point no 2 of Public Procurement (Prrevision, having ref. no. P-45021/2/2017-PP(BE-II) dated	reference to Make in India), Order 2017- I 04.06.2020 & 16.09.2020 and M/s
	Thanking You,
F	or (CA/Cost Firm Name with FRN & Seal)
	Chartered/Cost Accountants
	(name of Member)
	(Membership no.)
	(UDIN no.)
	(00114110.)

NIT REF NO-PE/PG/RTC/E-6609/2020, DTD-20.02.2021 FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS

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PRE - QUALIFYING REQUIREMENTS

ENQUIRY NO:	
PROJECT:	RATE CONTRACT
PACKAGE:	THERMAL INSULATION-R MATTRESS

CRITERIA FOR EVALUATION - FINANCIAL:

Amount (in Rs.)

Average annual financial turnover during the last Three Financial Years should not be less than

Rs.10,07,00,000.00

Rupees Ten Crore Seven Lakh(s) Only

Notes:-

- a) The bidder has to submit financial accounts (audited, if applicable comprising of Audit report, Balance Sheet, Profit & Loss A/c Statement and Notes/Schedules pertaining to Turnover/Sales/Revenue), for last three years (or from the date of incorporation, whichever is less) as on tender due date to review the above criteria. In case the incorporation of vendor is less than 3 years, average annual financial turnover shall be calculated based on available information as below:-
- i) If the accounts are available for <= 1 Financial Year, the Average Annual Turnover shall be calculated based on available information divided by 1 (One).
- ii) If the accounts are available for >1 but < = 2 Financial Years, the Average Annual Turnover shall be calculated based on available information divided by 2 (Two).
- iii) If the accounts are available for >2 but <= 3 Financial Years, the Average Annual Turnover shall be calculated based on available information divided by 3 (Three).
- b) Foreign bidder is to submit a latest report from reputed third party business rating agency like Dun & Bradstreet, Credit reform etc. in addition to the documents mentioned at point (a) above for review of above criteria.
- c) Other Income shall not be considered for arriving at Annual Turnover/Sales. For evaluation purpose, Turnover figure excluding taxes shall be considered.
- d) For evaluation of foreign bidder, exchange rate (TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid in case of two part bid) shall be considered.

Standard document No.:PE-TS-999-000-M053

NIT REF NO-PE/PG/RTC/E-6609/2020, DTD-20.02.2021 FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS



PRE - QUALIFYING REQUIREMENTS

DOCUMENT NO: PE-TS-412-000-M053

REVISION NO: 00, DATE: 27.01.2021

SHEET: 1 of 3

Enquiry No. (To be filled by PG):

Project: 5x800MW YADADRI TPS

Package: Thermal Insulation - Bonded Mineral (Rock) Wool Mattresses

CRITERIA FOR EVALUATION (TECHNICAL / FINANCIAL):

- 1. Technical Pre-Qualifying Requirements:
 - 1.1 The bidder (including cases as defined in clause no. 2.1 below) should have designed, in-house manufactured, tested, inspected and supplied thermal insulation Bonded mineral (rock) wool mattresses for use in a power plant or for similar application.

Supply of material through requisite tie-up with specified manufacturing unit(s) shall also be acceptable. In such cases, tied up manufacturing unit(s) shall be binding for the contract and bidder shall meet PQR pertaining to all manufacturing units individually. Manufacturing units quoting through such tie-up shall not be eligible to quote separately or through any other tie-up.

Bidder to provide authorization letter from manufacturing units along with scope matrix in support of such Tie-up.

Manufacturing units, which have tie-up with parties quoting to BHEL, shall not be qualified for separately quoting to BHEL.

- 1.2 The item(s) mentioned in point 1.1 should have performed successfully in similar installations for atleast one year. To establish meeting this requirement, the bidder shall conform to any one of the following clauses:
 - (i) Execution of two purchase orders for different End-users with the item(s) performing successfully for one (1) year from date of commissioning to the date of bid submission as defined by BHEL-PEM in NIT. Different projects of a customer shall be considered as different End-users.
 - (ii) Minimum one (1) repeat contract from two (2) different Purchasers (i.e. 2 Nos of Purchase orders from each purchaser). A contract shall be considered as repeat, when the second contract is given by the same purchaser after lapse of minimum one (1) year from supply completion of first contract.
- (iii) Execution of one (1) purchase order as per sl. no. (i) above from one End-user and one (1) repeat contract from another Purchaser as per sl. No. (ii) above.
- (iv) Three (3) repeat contracts from one (1) Purchaser. Second and third repeat contract shall be after lapse of minimum one (1) & two (2) years respectively from supply completion of first contract.

PREPARED BY:

NAME: DEEPAK
DESIGNATION: MGR.
DEPT.: PS-PEM/ MPL

REVIEWED BY:

NAME: KULDEEP KUMAR DESIGNATION: MGR. DEPT.: PS-PEM/ MPL APPROVED BY:

NAMÉ: B.K. AGARWAL DESIGNATION: DH DEPT.: PS-PEM/ MPL



PRE - QUALIFYING REQUIREMENTS

DOCUMENT NO: PE-TS-412-000-M053

REVISION NO: 00, DATE: 27.01.2021

SHEET: 2 of 3

1.3 The bidder to furnish the following documents, as applicable, in support of the above:

- a) For point 1.2(i): Performance certificates from End-user (duly signed & dated) specifying that the product is performing successfully for one (1) year from date of commissioning along with correlated purchase order(s).
- b) For point 1.2 (ii) & (iv): Purchase order(s), Material dispatch clearance certificate (MDCC)/ Material receipt certificate (MRC)/Lorry receipt (LR)/ Supply invoice.
- 1.4 In addition to above, bidder or its tied up manufacturing units should have the following facilities:
 - a) In-house capability of manufacturing thermal insulation Bonded mineral (rock) wool mattresses of minimum 250 MT per month.
 - b) In-house testing facilities for carrying out tests as per relevant standards & Quality plan. In case, the in-house testing facilities are not available, then bidder shall furnish undertaking that test(s) will be carried out from govt. approved lab or test house recognized by reputed customers.

Bidder to submit supporting documents (Certificate indicating capacity and details/ undertaking of manufacturing & testing facilities) for point (a) & (b) above.

- 1.5 To establish business continuity, bidder to submit minimum two (2) Purchase order for item(s) as specified in points 1.1 in last 3 (three) years prior to the date of bid submission defined by BHEL-PEM.
- 2.0 Bidder to also comply with general points mentioned below.
 - 2.1 Offers of the JV companies/ Joint Bidders/ bidders having collaboration/ licensing agreement/ MOU/ Indian subsidiaries shall be evaluated as follows:
 - a) If bidder happens to be an Indian subsidiaries of foreign OEM, then the credentials of the foreign OEM can also be considered for meeting PQR.
 - b) If bidder happens to be the Joint Venture Company, then the credentials of any of JV partners can be also considered for meeting PQR.
 - c) If bidder happens to be the having valid collaboration agreement/ MOU/ licensing agreement with some other company, then the credentials of collaborator/ MOU partner/ licensing company can also be considered for meeting PQR.

Note: If bidder(s) qualifies on the basis of credentials of his principal/ JV partner/ Collaborator/ joint bidder etc., then the principal/ JV partner/ Collaborator/ MOU partner/ joint bidder shall be responsible for overall design vetting and warranty/ guarantee of the package. The scope

PREPARED BY:

NAME: DEEPAK DESIGNATION: MGR. DEPT.: PS-PEM/ MPL REVIEWED BY:

NAME: KULDEEP KUMAR DESIGNATION: MGR. DEPT.: PS-PEM/ MPL APPROVED BY:

NAME: B.K. AGARWAL DESIGNATION: DH DEPT.: PS-PEM/ MPL



PRE - QUALIFYING REQUIREMENTS

DOCUMENT NO: PE-TS-412-000-M053

REVISION NO: 00, DATE: 27.01.2021

SHEET: 3 of 3

matrix clearly defining their respective roles including design vetting, manufacturing of critical component, E&C etc. and warranty/ guarantee shall be submitted along with the offer.

- 2.2 Bidder to note that the arrangement of bidding (joint bid partners/ collaborator/ MOU partner/licensing company etc.) once offered to BHEL as a part of bidding documents cannot be changed till the execution of contract(s).
- 2.3 Consideration of offer shall be subject to customer's approval of bidders, if applicable.
- 2.4 Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
- 2.5 Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
- 2.6 After satisfactory fulfilment of all the above criterial requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.
- 2.7 Bidder to ensure that Third Party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/ certificate issuing authority such as name & designation of issuing authority and its organization contact number and email-id etc. In case the same found not available, purchaser has right to reject such document from evaluation.

PREPARED BY:

NAME DEEPAK DESIGNATION: MGR. DEPT.: PS-PEM/ MPL REVIEWED BY:

NAME: KULDEEP KUMAR DESIGNATION: MGR. DEPT.: PS-PEM/ MPL APPROVED BY:

NAME: B.K. AGARWAL DESIGNATION: DH DEPT.: PS-PEM/ MPL NIT REF NO-PE/PG/RTC/E-6609/2020, DTD-20.02.2021
FRAMEWORK AGREEMENT (RATE CONTRACT) - THERMAL INSULATION
ROCKWOOL MATTRESSES - 5X800MW YADADRI TPS

FRAMEWORK AGREEMENT FOR THERMAL INSULATION-R MATTRESSES (5x800MW YADADRI TPS)

TECHNICAL SPECIFICATION FOR BONDED MINERAL (ROCK) WOOL MATTRESSES)

SPECIFICATION NO. PE-TS-020-169-M032 Rev. No.: 00



BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, INDIA



TECHNICAL SPECIFICATION BONDED MINERAL (ROCK) WOOL MATTRESSES FRAMEWORK AGRREMENT FOR 5x800MW YADADRI TPS

 SPECIFICATION NO.
 PE-TS-020-169-M032

 REV. NO.: 00
 DATE: 27.01.2021

SHEET 1 OF 1

CONTENTS

SECTION - I

• SPECIFIC TECHNICAL REQUIREMENT

SECTION - II

- DATA SHET- A
- QUALITY PLAN
- COMPLIANCE SHEET



SPECIFICATION NO:PE-TS-020-169-M032

SECTION: I

REV. NO. 00

DATE: 27.01.2021

SHEET 1 OF 5

1.00.00 **GENERAL**

This specification covers the requirements of manufacture, physical & chemical properties, inspection & testing and packing for supply of bonded mineral (rock) wool mattresses having metallic hexagonal wire netting as facing on one or both side, suitable for service temperatures up to 750 deg C.

2.00.00 CODES AND STANDARDS

2.01.00 INDIAN STANDARD

- 2.01.01 The manufacture, physical & chemical properties, inspection and testing of the bonded mineral rock wool mattresses shall conform to the latest editions of the following appropriate standards.
- 2.01.02 IS: 8183 Specification for bonded mineral wool.
- 2.01.03 IS: 3144 Methods of test for mineral wool thermal insulation materials.
- 2.01.04 IS: 3346 Methods for the determination of thermal conductivity of thermal insulation materials (two slab, guarded hot plate method).
- 2.02.00 In case of any conflict between the above standards and this specification, the latter shall be final.

3.00.00 MANUFACTURE

- 3.01. 00 The mattresses shall be made from rock processed from a molten state into fibrous form with minimum organic thermosetting binder, and shall be machine felted, baked and metallic stitched / faced with metallic hexagonal wire netting on one or both sides (as specified in the BOM).
- 3.02.00 The metallic hexagonal wire netting shall be of Galvanized steel (made from wire conforming to IS: 280 medium coated to IS: 4826) / Stainless steel (made from wire to IS: 6528) having wire size and aperture conforming to IS: 3150, as specified in the BOM.
- 3.03.00 The mattress shall be continuously stitched / tied on to the wire netting with minimum 0.4 mm dia. galvanized steel / stainless steel wire, as specified in the BOM. The spacing between the stitching / ties shall not be more than 250 mm along the width and 150 mm along the length.

4.00.00 DIMENSIONS AND DIMENSIONAL TOLERANCES

- 4.01.00 The length and width of the mattresses shall be 1520 mm x 1220 mm or 1640 mm x 1220 mm. Nominal thickness shall be 25, 40, 50, 60, 70, 75 or 80 mm.
- 4.02.00 The method of measuring the dimensions i.e. length, width and thickness shall be as prescribed in IS: 3144. Tolerance on length and width shall be as per IS:8183. Tolerance on thickness shall be +6mm/-2mm.

5.00.00 BULK DENSITY AND TOLERANCES ON DENSITY

5.01.00 The bulk density of the bonded mineral (rock) wool mattresses without the facings, shall be 150 / 100 kg/m³ unless otherwise specified. Tolerances on bulk density shall be +15 % and - 5% when tested as per method prescribed in IS: 3144.



SPECIFICATION NO:PE-TS-020-169-M032

SECTION: I

REV. NO. 00

DATE: 27.01.2021

SHEET 2 OF 5

6.00.00 MATERIAL PROPERTIES

6.01.00 **SHOT CONTENT**:

The method for determination of shot content shall be as prescribed in IS: 3144. The maximum shot content shall be 5% by weight.

Any shot present in the materials shall not be greater than 5 mm in any dimension.

6.02.00 THERMAL CONDUCTIVITY

The thermal conductivity (k-value) of the bonded mineral wool mattresses shall not exceed the values given in IS: 8183 Latest when determined in accordance with the method prescribed in IS: 3346.

K' Value test (for minimum three mean temperatures i.e. 100°C, 200°C & 300°C) results to be provided to BHEL for acceptance in accordance with conditions given below: -

If 'K' Value test has been conducted against any BHEL order, on sample collected within 12 months prior to the date of present inspection, the related test results may be provided. Otherwise, the test will be carried out on samples identified and sealed by customer / BHEL authorized representative and related test results to be provided. The test will be carried out at govt. approved labs or test houses (at CBRI – Roorkee, IIT – Chennai, PIBCO R & D Centre - N. Delhi, NIRMA University, Ahmedabad) recognized by reputed customers.

6.03.00 **HEAT RESISTANCE**

When a sample of mattress is heated to the maximum recommended temperature of use (550 °C for 100 kg/m³ density and 750 °C for 150 kg/m³ density) as per method prescribed in IS:3144 (test for maximum recommended temp), the material shall not suffer visible deterioration of the fibrous structure, any fusion of fibers and shall not show any evidence of internal self-heating. Any colour change shall not be considered as visible deterioration in fibrous structure.

6.04.00 **OTHER TESTS**

The following tests are to be conducted as per IS:3144/IS:8183 and the acceptance norms shall be as per IS:8183.

- a. Moisture content
- b. Moisture Absorption
- c. Incombustibility
- d. Sulphur content
- e. Recovery after Compression
- f. Alkalinity



SPECIFICATION NO:PE-TS-020-169-M032
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SHEET 3 OF 5

- g. Chloride Content
- h. Fibre Diameter
- i. Resistance to vibration
- j. Resistance to jolting

7.00.00 PACKING AND MARKING

7.01.00 Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching.

To account for looseness in packing (if any) due to machine stitching, the bags shall be properly stacked and tightly fastened during transportation to avoid any possible damage due to relative movements. Sharp edges of wire netting shall be bent inwards to avoid damage to packing.

- 7.02.00 Each bag of mattresses shall be serial numbered. Also, printed sheets indicating the nominal thickness, density and wire netting details (i.e. material and size) shall be placed below the wire netting.
- 7.03.00 For easy identification of mattresses as per density & wire netting material, following colour codes for the HDPE bags is to be followed:
 - a) Yellow bags with marking as shown in Fig 1 (Page 5 of 5) for 150 kg/m3 with Galvanized steel wire netting
 - b) White bags with marking as shown in Fig 1 (Page 5 of 5) for 100 kg/m3 with Galvanized steel wire netting
 - c) Yellow bags with marking as shown in Fig 1 (Page 5 of 5) for 150 kg/m3 with SS wire netting
 - d) In case of both side SS/ GS wire meshing, additional marking "BOTH SIDE MESH" is to be provided.
- 7.04.00 Following details shall be legibly and indelibly marked on the packages.
 - a) Project Name
 - b) Vendor name:
 - c) Purchase Order No. and Date
 - d) SI. No. of package/Batch No:
 - e) Size of mattresses (Thickness x Length x Width)
 - f) Density of mattresses
 - f) Wire netting material and size
 - g) Weight of the package
 - h) No. of mattresses in the package
 - i) A caution note "Always store under covered shed and on raised platforms"



SPECIFICATION NO:PE-TS-020-169-M032
SECTION: I
REV. NO. 00
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SHEET 4 OF 5

8.00.00 INSPECTION AND TESTING

- 8.01.00 Bonded mineral wool mattresses to be supplied under this specification shall be of tested quality and workmanship. Inspection and testing of thermal insulation materials shall be as per this specification / quality plan enclosed. Manufacturer shall conduct all tests and stage inspections as per the approved quality plan to ensure that the material conforms to the requirements of this specification and of applicable standards. All shop tests shall be conducted in the presence of BHEL's / BHEL's customer's representative, on the samples identified by him / them.
- 8.02.00 The Quality Plan enclosed with this specification specifies minimum quality control requirement. During contract stage vendor shall furnish this Quality Plan duly signed & stamped for BHEL approval. Quality plan shall be approved by BHEL and customer. Inspection and testing shall be carried out as per Quality Plan by BHEL/ BHEL representative and customer (as applicable). In case inspection is by both BHEL and their customer, then the inspection can be carried out jointly or separately, which will be informed later. In case of the foreign bidder, inspection shall be carried out by reputed third party.
- 8.03.00 The charges for third party inspection (Lloyds, TUV or equivalent) for foreign bidders shall be included in the base price of the item by the bidder. This third party agency shall be approved by BHEL. Bidder to inform the same in the offer and mention the same in Quality Plan.

Note: There may be minor changes in quality plan depending on customer/consultant comments which will HAVE TO BE ACCOMMODATED BY VENDOR AT NO EXTRA COST.

9.00.00 DOCUMENTS TO BE SUBMITTED AFTER AWARD OF CONTRACT:

- 1. Quality plan duly signed and stamped.
- 2. Datasheet for Approval by BHEL/Customer.

Approval of Quality plan/ Data sheet shall be required for manufacturing clearance and the same shall be considered for delay analysis by BHEL.



SPECIFICATION NO:PE-TS-020-169-M032 SECTION : I REV. NO. 00 DATE: 27.01.2021 SHEET 5 OF 5

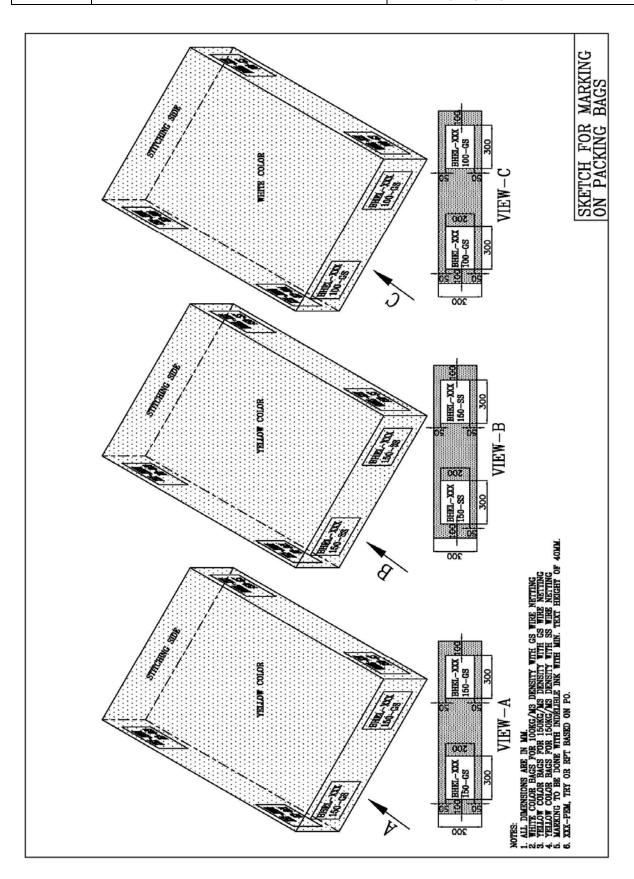


Fig 1: Sketch for marking on bags



DATA SHEET- A

BONDED MINERAL (ROCK) WOOL MATTRESS FRAMEWORK AGRREMENT FOR 5x800MW YADADRI TPS

SPECIFICATION NO. PE-TS-020-169-M032

SECTION: II

REV. NO.: 00 DATE: 27.01.2021

SHEET 1 OF 1

B.O.M.

S. No.	MATERIAL	DENSITY (Kg/m³)	THK (mm)	Qty. for Station (m ²)
	Bonded mineral (Rock) wool		40	1136.55
1	mattresses with ONE side GI wire	150	50	6608.27
1	netting of 13 mm x 0.71 mm size	150	60	34586.52
	stitched with 0.4 mm GI wire		75	76293.78
2	Bonded mineral (Rock) wool mattresses with ONE side SS wire netting of 13 mm x 0.71 mm size stitched with 0.4 mm SS wire	150	75	28611.80
			25	6860.84
	Bonded mineral (Rock) wool		40	16614.08
3	mattresses with ONE side GI wire netting of 13 mm x 0.71 mm size	100	50	30836.97
	stitched with 0.4 mm GI wire		60	49061.52
			75	60890.01
4	Bonded mineral (Rock) wool mattresses with BOTH side SS wire	150	50	23000.00
-	netting of 13 mm x 0.56 mm size stitched with 0.4 mm SS wire	100	60	65150.00
5	Bonded mineral (Rock) wool mattresses with ONE side GI wire	150	50	58100.00
J	netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire	130	60	216650.00
	Bonded mineral (Rock) wool		40	197150.00
6	mattresses with BOTH side GI wire netting of 13 mm x 0.56 mm size	100	50	46125.00
	stitched with 0.4 mm GI wire		60	500.00
	Bonded mineral (Rock) wool		40	2050.00
7	mattresses with ONE side GI wire	100	50	451995.00
	netting of 13 mm x 0.56 mm size stitched with 0.4 mm GI wire		60	42925.00

Note:-

• Quantity tolerance shall be (+) 0 / (-) 15 m² for each density/thickness.

	MANUFACTURER/I	BIDDER/VENDOR			OUALI	TY PLAN			SPEC. N	O : PE-	DATE: 27/01/2021			
त्ती एच ई एन	NAME & ADDRESS		CUSTOMER: TELENGANA STATE POWER GENERATION CORPORATION LTD.							PE-QP	DATE: 27/01/2021			
HHEL	BHEL/Customer App	proved Suppliers					R 5x800MW YADA		PO NO.:		-020-1	. U)-IVI	7.5.1	DATE:
MARKE				THERMAL INSUL			ED MINERAL (ROC		SECTIO					SHEET 1 OF 3
SL NO.	COMPONENT & OPERATIONS	CHARACTERIST- ICS	CLASS	TYPE OF CHECK	QUAN OF CI		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMA RECO		AGENCY			REMARKS
1	2	3	4	5	6	5	7	8	9	*		**		10
					М	C/N				D	M	С	N	
1.0 MATE	FRIAI	•		•	•	· · · · · · · · · · · · · · · · · · ·		<u> </u>	-	•	•			•
1.1	CHEMICAL COMPOSITION (RAW MATERIAL)	CHEMICAL PROPERTIES	MA	CHEMICAL	ONE SAMPLE PER LOT	ONE SAMPLE PER LOT	MANUFACTURER STANDARD	MANUFACTURER STANDARD	TC	1	P	V	V	
1.2	GS WIRE	1.DIMENSIONS	MA	MEASUREMENT	IS 3150 Appendix A	IS 3150	IS 3150	IS 3150/ BHEL/CUSTOMER APPROVED DATA SHEET	IR	1	P	W #	V	#Witness shall be carried out at the stage of Clause 3.1.
		2.GAUGE DIAMETER	MA	MEASUREMENT			IS 280	IS 280/ BHEL/CUSTOMER APPROVED DATA SHEET	IR	1	P	W #	V	or clause 3.1.
		3. CHEMICAL	MA	LAB. TEST		l	IS 280	IS 7887	TC	V	P	V	V	
		4. COATING TEST	MA	LAB. TEST			IS 280	IS 4826	TC		P	V	V	
		5. TENSILE TEST	MA	LAB. TEST			IS 280	IS 280	TC		P	V	V	
		6. WRAPPING TEST	MA	LAB. TEST			IS 280	IS 280	TC		P	V	V	
		7. BEND TEST	MA	LAB. TEST			IS 280	IS 280	TC		P	V	V	
1.3	SS WIRE	1.DIMENSIONS	MA	MEASUREMENT	IS 6528	IS6528	IS 3150	IS 3150/ BHEL/CUSTOMER APPROVED DATA SHEET	IR	1	P	W #	V	#Witness shall be carried out at the stage of Clause 3.1.
		2.GAUGE DIAMETER	MA	MEASUREMENT	IS 3150	IS 3150	IS 6528	IS 6528/ BHEL/CUSTOMER APPROVED DATA SHEET	IR	1	P	W #	V	311
		3.CHEMICAL ANALYSIS	MA	LAB. TEST	16 6528	IS 6258	IS 6528	IS 6528	TC	√	P	V	V	
		4.TENSILE TEST	MA	LAB. TEST	IS 6528	IS6528	IS 6528	IS 6528	TC	V	P	V	V	
		5. REVERSE BEND TEST	MA	LAB. TEST	IS 6528	IS6528	IS 6528	IS 6528	TC	√	P	V	V	
		6. WRAPPING TEST	MA	LAB. TEST	IS 6528	IS6528	IS 6528	IS 6528	TC		P	V	V	
		7. TORSION TEST	MA	LAB. TEST	IS 6528	IS6528	IS 6528	IS 6528	TC		P	V	V	
2.0 IN-PR	OCESS INSPECTION													
2.1	FINISHED MATTRESS	DIMENSION & TOLERANCE	MA	MEASUREME NT	IS 8183	IS 8183	IS 3144	IS 8183/ BHEL/CUSTOMER APPROVED DATA SHEET	TC	1	P	V	V	
3.0 FINAL 1	INSPECTION		1	1	l			1	l	1	I	I	I	I

BHEL									
	ENGINEERING			QUALITY					
	Sign & Date	Name		Sign & Date	Name				
Prepared by:	Dey & Digitally signed by DEEPAK Date: 2021.01.29	Deepak	Checked by:	Ashish Panigrahi District Control by Action Foregoing District Control by Pengade, United St. District Control by Control	Ashish				
Reviewed by:	Digitally signed by KULDEEP KUMAR	Kuldeep Kumar	Reviewed by:	Ritesh Kumar Jaiswal Digitally signed by 80 with Kumar Memor Allerand States (See Nature Allerand States) (See Nature Allerand State	R K Jaiswal				

	BID	DER/ SUPPLIER
	Sign & Date	
	Seal	
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FOR CUSTOMER REVIEW & APPROVAL								
Doc No:								
	Sign & Date	Name	Seal					
Reviewed by:								
Approved by:								

	MANUFACTURER/B NAME & ADDRESS	SIDDER/VENDOR	CUSTOMER: TELENGANA STATE POWER GENERATION CORPORATION LTD.						SPEC. NO	O : PE	DATE: 27/01/2021			
बीएच ईएल									QP NO.:	PE-QP	DATE: 27/01/2021			
RHFI	BHEL/Customer Appr	roved Suppliers	PROJECT	: FRAMEWORI	K AGREE	MENT FO	R 5x800MW YADAI	DRI TPS	PO NO.:					DATE:
			ITEM: T		ATION – F	RESIN BONI	DED MINERAL (ROCI	K) WOOL	SECTION	N: II				SHEET 2 OF 3
SL NO.	COMPONENT & OPERATIONS	CHARACTERIST- ICS	CLASS	TYPE OF CHECK	QUAN OF CH		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT RECOL		A	GENC	CY	REMARKS
1	2	3	4	5	6	5	7	8	9	*		**		10
					M	C/N				D	М	С	N	
3.1	BONDED MINERAL (ROCK) WOOL MATTRESSES	1. DIMENSIONS	MA	MEASUREMENT	IS 8183	IS 8183	IS 3144	IS 8183/ BHEL/CUSTOMER APPROVED DATA SHEET	IR	V	P	W	V	
	(FINISHED	2. APPEARENCE	MA	VISUAL	IS 8183	IS 8183	IS 3144	SHALL BE FREE FROM VOIDS, CRACKS	IR					
	PRODUCT)	3. BULK DENSITY	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	IS 8183/	TC	√	P	W	V	
		4.SHOT CONTENT	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	BHEL/CUSTOMER APPROVED DATA SHEET	TC	1	P	W	V	
		5. SULPHUR CONTENT	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	1	TC	√	P	W	V	
		6. ALKALINITY	MA	LAB. TEST	IS 8183	IS 8183	IS 8183	1	TC	√	P	W	V	Routine tests
		7. CHLORIDE CONTENT	MA	LAB. TEST	IS 8183	IS 8183	IS 3144		TC	√	P	W	V	
		8. MOISTURE CONTENT	MA	LAB. TEST	IS 8183	IS 8183	IS 3144		TC		P	W	V	
		9.THERMAL CONDUCTIVITY (K VALUE)	CR	LAB. TEST	IS 8183	IS 8183	IS 3346	IS 8183/ BHEL/CUSTOMER APPROVED DATA SHEET	TC		P	W	V	Type test REFER NOTES 4 & 5
		10. HEAT RESISTANCE	MA	LAB. TEST	IS 8183	IS 8183	IS 3144		TC	V	P	W	V	
		11.MOISTURE ABSORPTION	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	<u> </u>	TC		P	W	V	
		12. RECOVERY AFTER COMPRESSION	MA	LAB. TEST	IS 8183	IS 8183	IS 8183	IS 8183/ BHEL/CUSTOMER	TC		P	W	V	
		13. INCOMBUSTIBILITY	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	APPROVED DATA SHEET	TC		P	W	V	Type tests
		14.RESISTANCE TO VIBRATION	MA	LAB. TEST	IS 8183	IS 8183	IS 3144	1	TC		P	W	V	REFER NOTE 6
		15. RESISTANCE TO JOLTING	MA	LAB. TEST	IS 8183	IS 8183	IS 3144		TC		P	W	V	
		16. FIBRE DIAMETER	MA	LAB. TEST	One for each density	density	IS 3144		TC	√	P	W	V	
3.2	PACKING & MARKING	PACKING TYPE AND IDENTIFICATION MARKING	MA	VISUAL	RANDOM	RANDOM	BHEL/CUSTOMER APPROVED DATA SHEET/PACKING PROCEDURE	BHEL/CUSTOMER APPROVED DATA SHEET/ PACKING PROCEDURE	SOFT COPY OF PHOTO GRAPH	√	Р	W	-	REFER NOTE 2

	BHEL									
	ENGINEERING			QUALITY						
	Sign & Date	Name		Sign & Date	Name					
Prepared by:	Deyck Digitally signed by DEEPAX Date: 2021.01.20 11:51:32 +05:30	Deepak		Ashish Panigrahi Capitally-signed by Adult Periodic College C	Ashish					
	Digitally signed by KULDEEP KUMAR Date: 2021.01.29 11:57:59 +05'30'	Kuldeep Kumar	ite viewed by.	Ritesh Kumar Cigkully signed by Filteeh Kumar Jalinnal City Confident Confi	R K Jaiswal					

	BID	DDER/ SUPPLIER
	Sign & Date	
	Seal	
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FOR CUSTOMER REVIEW & APPROVAL							
Doc No:							
	Sign & Date	Name	Seal				
Reviewed by:							
Approved by:							

	MANUFACTURER/BIDDER/VENDOR NAME & ADDRESS				QUALIT	ΓY PLA	N		SPEC. N	O:PE	-TS-020-169-M032	DATE: 27/01/2021
			CUSTOMER: TELENGANA STATE POWER GENERATION CORPORATION LTD.			QP NO.: PE-QP-020-169-M031		DATE: 27/01/2021				
BHEL	BHEL/Customer Approved Suppliers			PROJECT: FRAMEWORK AGREEMENT FOR 5x800MW YADADRI TPS			PO NO.:		DATE:			
	ITEM: THERMAL INSULATION – RESIN BONDED MINERAL (ROCK) MATTRESSES					WOOL	SECTIO	N: II		SHEET 3 OF 3		
SL NO.	COMPONENT & OPERATIONS	CHARACTERIST- ICS	CLASS	CLASS TYPE OF QUANTUM CHECK OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMA RECO		AGENCY	REMARKS	
1	2	3	4	5	6		7	8	9	*	**	10
					M	C/N				D	M C N	1

NOTES:

- 1. In case of foreign supplier, all test certificates shall be furnished by the supplier, duly witnessed/verified by supplier's TPI.
- Following to be noted for packing:
 - a. Material shall be packed suitably in order to avoid damage during transit and also during storage at site in tropical climate conditions for a period of 15-18 months.
 - Photographs of the packing (with LR No.) as per approved packing procedure (if applicable) just before dispatch.
- BHEL reserves the right for conducting repeat test, if required.
- 'K' Value test will be carried out on samples identified and sealed by BHEL Inspector once in twelve (12) months irrespective of ongoing projects. The tests will be carried out at govt. approved labs (at CBRI -Roorkee, IIT - Chennai or PIBCO R & D Centre, N. Delhi, NIRMA University, Ahmedabad). 'K' Value test will be carried out for at least three mean temperatures i.e. 100 0C, 200 0C & 300 0C for each density.
- Thermal conductivity type test reports shall be submitted to BHEL Engineering for review and approval.
- Type tests (except thermal conductivity) shall be done once in 3 months in the presence of BHEL/BHEL AIA.
- The latest revisions/year of issue of all the IS indicated in the QP shall be referred.

LEGENDS:

*D: Records, identified with "Tick" ($\sqrt{ }$) shall be essentially included by supplier in QA Documentation.

** M: Supplier/ Manufacturer/ Sub-Supplier C: Main Supplier/BHEL/ Third Party Inspection agency N: Customer P: Perform W: Witness V: Verification

MA: Major Characteristic MI: Minor Characteristic CR: Critical Characteristic

IR: Inspection Report TC: Test Certificate

BHEL							
	ENGINEERING		QUALITY				
	Sign & Date	Name		Sign & Date	Name		
Prepared by:	Dept & Digitally signed by DEEPAK Date: 2021.01.29 12:06:35 405:30'	Deepak	Checked by:	Ashish Panigrahi Digitally-signed by Admit Panigrahi (Six conditable Panigrahi collect), Say Pillit conditable political, Say Pillit conditable pillitation on the Collection (SEC) (2.011 (6.010 - OCT NO	Ashish		
Reviewed by:	Digitally signed by KULDEEP KUMAR Date: 2021.01.29 11:58:24 +05'30'	Kuldeep Kumar	ite vie wearby.	Ritesh Kumar Jaiswal Copitally signed by Ritech Kumar Jaiswal Copitall	R K Jaiswal		

BID	DDER/ SUPPLIER	
Sign & Date		Doc No:
Seal		
		Reviewed
		Approved

	FOR CUSTOMER REVIEW & APPROVAL						
Doc No:							
	Sign & Date	Name	Seal				
Reviewed by:							
Approved by:							

STANDARD TECHNICAL DATA SHEET FOR LIGHT RESIN BONDED MINERAL (ROCK) WOOL MATTRESSES

PROJECT-FRAMEWORK AGRREMENT FOR \$x800MW YADADRI TPS QP NO.PS-Q-20-20-169-M031 SPECIFICATION NO: PET-S-020-169-M032 5. No. CHARACTERISITCS ACCEPTANCE/PERMISSIBLE LUMIT 1. MATERIAL RER Rock wool mattresses confirming to IS:8183/Latest. 1. Bulk Density 1. 100 Kg/m² & I.50 Kg/m² with (+)15% & (-)5% tolerance. 1. 640mm x 1220mm / 1220mm x 1220mm 4. Thickness 5. Service Temperature Up to 400° C - 100 Kg/m3 Above 400° C - 100 Kg/m3 Abov		•							
S. No. CHARACTERISITCS ACCEPTANCE/PERMISSIBLE LIMIT 1 MATERIAL RB Rock wool mattresses confirming to IS:8183/Latest. 100 Kg/m³ & 150 Kg/m³ with (+)15% & (+)5% tolerance. 3 Mattresses Size 1640mm x 1220mm/1220mm x 1220mm/ 150mm x 120mm/ 150mm x 120mm x 120mm/ 150mm x 120mm x 120m			5x800MW \	ADADRI TPS					
S. No. CHARACTERISITCS ACCEPTANCE/PERMISSIBLE LIMIT 1 MATERIAL IRB Rock wood mattresses confirming to IS:8183/Latest. 2 Bulk Density 100 kg/m² & 150 kg/m² with (+15% & (-)5% tolerance. 3 Mattresses Size 1640mm x 1220mm/1520mm x 1220mm 4 Thickness 25,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/-2mm. 5 Service Temperature Up to 400° C - 100 kg/m³ Above 400° C - 150 kg/m³ Above 400° C - 150 kg/m³ Above 400° C - 150 kg/m³ (Group 3) 6 Thermal Conductivity as per IS 8183/93 (Group 3/Group 4) 4 Navalue in mW/cm.*C (Max) K value in mW/cm.*C (Max) 100° C 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52		·							
1 MATERIAL 2 Bulk Density 1 100 kg/m³ & 150 kg/m³ with (+)15% & (-)5% tolerance. 3 Matresses Size 1 1640mm x 1220mm/1520mm x 1220mm 4 Thickness 2 5,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/-2mm. 5 Service Temperature Up to 400°C - 100 kg/m³ Above 400°C - 150 kg/m³ Nean 1 Thermal Conductivity as per IS 8183/93 (Group 3/Group 4) Temp. 1 Salasiny (Group 3/Group 4) Temp. 1 K value in mW/cm.*C (Max) 1 Temp. 1 Chloride content 1 O.01 % max. 8 Shot content Shot shall not exceed 5% maximum by weight. Shot shall not be greater than 5mm in any dimension. 9 Sulphur content 10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to joilting 13 Resistance to joilting 14 Alkalinity 7-10 pH 15 Recovery After Compression 16 Fibre Diameter 17 Siver netting (above 400 deg.C) 19 Giff wire netting (above 400 deg.C) 20 Gi Tieing/Stitching wire (above 400 deg.C) 30 Gi Tieing/Stitching wire (above 400 deg.C) 31 Giff wire netting (up to 400 deg.C) 32 Giff Tieing/Stitching wire (above 400 deg.C) 34 Sper IS-2828 & 3150, Aperture 13mm & Wire Dia 0.71mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 35 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.71mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 36 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 36 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 37 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 38 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 38 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/ Both sides wire netting as per BOM). 39 Or As per IS-280 & 3150, Aperture 13mm & Dia 0.56mm. (Wire Dia and single side/			4.00507441	OF ADEDA ALCOHOL E LIDALE					
2 Bulk Density 100 Kg/m³ & 150 Kg/m³ with (+)15% & (-)5% tolerance. 3 Mattresses Size 1640mm x 1220mm x 1220mm x 1220mm 4 Thickness 2540,56,6,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/-2mm. 5 Service Temperature Up to 400° C - 100 Kg/m³ Group 3			·						
4 Thickness 1640mm x 1220mm/1520mm x 1220mm 25,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/.2mm. 45,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/.2mm. 45,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/.2mm. 45,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/.2mm. 45,40,50,60,75mm (Thickness values as per BOM) 50,50,50,50,50,50,50,50,50,50,50,50,50,5					-				
Thickness 25,40,50,60,75mm (Thickness values as per BOM) Tolerance on thickness shall be +6mm/-2mm. 100 to 400° C - 100 Kg/m³ Above 400° C - 150 Kg/m³ Above 400 deg. C) 20 GI Tieling/Stitching wire (above 400 deg. C) Above 400 deg. C) 21 Packing, Marking &other requirement Above 400 deg. C) 22 Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of a least 0.2mm thickness. The marking and other details Technical specification is to be referred.		·			tolerance.				
+6mm/-zmm. Up to 400° C - 100 Kg/m3 Above 400° C - 100 Kg/m3 Above 400° C - 100 Kg/m3 Above 400° C - 150 Kg/m3 Temp. K value in mW/cm.**C (Max) K value in mW/cm.**C (Max) 100° C 0.52 200° C 0.73 0.68 300° C 0.95 0.93 0.93 7 Chloride content O.01 % max. Shot content Shot shall not exceed 5% maximum by weight. Shot shall not be greater than 5mm in any dimension. O.68 max 2 max	3			·					
5 Service Temperature	4	Thickness							
Above 400° C - 150 kg/m3 Thermal Conductivity as per IS 8183/93 (Group 3/Group 4) Hemp.		Sarvica Tamparatura	•						
Thermal Conductivity as per S 8183/93 (Group 3/Group 4) Temp. K value in mW/cm.*C (Max) K value in mW/cm.*C (Max) 150 Kg/m³ (Group 4) Temp. K value in mW/cm.*C (Max) 150 Kg/m³ (Group 4) 150° C 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.93 0.68 0.90° C 0.95 0.93 0.93 0.68 0.95 0.93 0.93 0.68 0.95 0.93 0.95 0.93 0.95 0.93 0.95 0.93 0.95 0.93 0.95 0.95 0.93 0.95 0	5	Service remperature	•	-					
S 8183/93 (Group 3/Group 4) Temp. K value in mW/cm.*C (Max) 100° C 0.52 0.52	6	Thermal Conductivity as per			150 Kg/m³ (Group 4)				
200° C 0.73 0.68									
7 Chloride content O.01 **max.* Shot content Shot shall not exceed 5% maximum by weight. Shot shall not be greater than 5mm in any dimension. 9 Sulphur content O.6% max 2 **max 10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to jolting 3 **max 14 Alkalinity 7-10 pH 15 Recovery After Compression 16 Fibre Diameter 7.0 Micron max. SS wire netting (above 400 deg.C) As per IS:6528 & 3150, Aperture 13mm & Wire Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). 20 Gi Tieing/Stitching wire (up to 400 deg.C) 19 Packing, Marking & Other Figurement Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine with a caution note			100° C	0.52	0.52				
7 Chloride content 8 Shot content Shot shall not exceed 5% maximum by weight. Shot shall not be greater than 5mm in any dimension. 9 Sulphur content 0 .6.6% max 10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to joiting 13 Resistance to joiting 14 Alkalinity 7-10 pH 15 Recovery After Compression 16 Fibre Diameter 7.0 Micron max. 17 SS wire netting (above 400 deg.C) 18 SS Tieing/Stitching wire (above 400 deg.C) 19 Gi wire netting (up to 400 deg.C) 19 Gi wire netting (up to 400 deg.C) 20 Gi Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking &other requirement 20 Gi Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking &other requirement 25 Stack of mattresses shall be packed in unfolded condition and sealed in polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.			200° C	0.73	0.68				
Shot shall not exceed 5% maximum by weight. Shot shall not be greater than 5mm in any dimension. 9 Sulphur content Moisture Content (Weight gain by moisture absorption) 10 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to jolting 3 % max 14 Alkalinity 7-10 pH 15 Recovery After Compression 16 Fibre Diameter 7.0 Micron max. 17 SS wire netting (above 400 deg.C) 4 SP FIS:6528 & 3150, Aperture 13mm & Wire Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). or As per IS:6528 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Vire dia 0.40mm As per IS:280. 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Or As per IS:280 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). Stack of mattresses shall be packed in unfolded condition and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.			300° C	0.95	0.93				
Shot shall not be greater than 5mm in any dimension. 9 Sulphur content 10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to vibration 14 Alkalinity 7-10 pH 15 Recovery After Compression 16 Fibre Diameter 7.0 Micron max. 17 SS wire netting (above 400 deg.C) 18 SS Tieing/Stitching wire (above 400 deg.C) 19 GI Wire netting (up to 400 deg.C) 19 GI Tieing/Stitching wire (up to 400 deg.C) 20 GI Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking & Other requirement 22 Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting as dother details Technical specification is to be referred.	7	Chloride content	0.01 % max	K .					
9 Sulphur content 10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to jolting 14 Alkalinity 17-10 pH 15 Recovery After Compression 16 Fibre Diameter 17 SS wire netting (above 400 deg.C) 18 SS Tieing/Stitching wire (above 400 deg.C) 19 GI wire netting (up to 400 deg.C) 19 GI Wire Diameter 19 GI Tieing/Stitching wire (above 400 deg.C) 20 GI Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking &other requirement 22 Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.	8	Shot content	Shot shall r	not exceed 5% maximum by weigh	t.				
10 Moisture Content (Weight gain by moisture absorption) 11 Incombustibility Test (loss of weight after test) 12 Resistance to vibration 13 Resistance to joiting 13 Resistance to joiting 13 Max 14 Alkalinity 17-10 pH 15 Recovery After Compression 16 Fibre Diameter 17 SS wire netting (above 400 deg.C) 18 SS Tieing/Stitching wire (above 400 deg.C) 19 Gi Wire netting (up to 400 deg.C) 19 Gi Wire netting (up to 400 deg.C) 20 Gi Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking & Other Packing wire (up to 400 deg.C) 21 Packing, Marking & Other Packing wire (up to 400 deg.C) 21 Packing, Marking & Other Packing wire (up to 400 deg.C) 21 Packing, Marking & Other Packing wire (up to 400 deg.C) 22 Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags sail be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.			Shot shall r	not be greater than 5mm in any dir	mension.				
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14 Alkalinity 7-10 pH 15 Recovery After Compression 90% minimum after compression to 75% of the original Thickness. 16 Fibre Diameter 7.0 Micron max. 17 SS wire netting (above 400 deg.C) As per IS:6528 & 3150, Aperture 13mm & Wire Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). 18 SS Tieing/Stitching wire (above 400 deg.C) Wire Dia 0.40mm As per IS:6528 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). 19 GI Tieing/Stitching wire (up to 400 deg.C) 20 GI Tieing/Stitching wire (up to 400 deg.C) 31 Packing, Marking & Other requirement Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.	12	Resistance to vibration	1 % max						
14 Alkalinity 7-10 pH 15 Recovery After Compression 90% minimum after compression to 75% of the original Thickness. 16 Fibre Diameter 7.0 Micron max. 17 SS wire netting (above 400 deg.C) As per IS:6528 & 3150, Aperture 13mm & Wire Dia 0.71mm.(Wire Dia and single side/ Both sides wire netting as per BOM). 18 SS Tieing/Stitching wire (above 400 deg.C) Wire Dia 0.40mm As per IS:6528 & 3150, Aperture 13mm & Dia 0.56mm.(Wire Dia and single side/ Both sides wire netting as per BOM). 19 GI Tieing/Stitching wire (up to 400 deg.C) 20 GI Tieing/Stitching wire (up to 400 deg.C) 21 Packing, Marking & Other requirement Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.	13	Resistance to jolting	3 % max						
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Packing, Marking & Stack of mattresses shall be packed in unfolded condition and sealed in polythene requirement Stack of mattresses shall be packed in unfolded condition and sealed in polythene bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical specification is to be referred.	20	GI Tieing/Stitching wire (up to							
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BIDDER/SUPPLIER BHEL	21		bags of at least 0.2mm thickness. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP Woven netting bags and sealed by machine stitching. Packing to be duly marked with a caution note "Always store under covered shed and on raised platforms". For marking and other details Technical						
BIDDER/SUPPLIER BHEL									
		BIDDER/SUPPLIER		В	HEL				



Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)
PROJECT ENGINEERING MANAGEMENT

THERMAL INSUALTION-LRB (ROCKWOOL) MATTRESS/PIPESECTION OF FRAMEWORK AGREEMENT FOR 5X800MW YADADRI

Price Variation Clause:

Ex-works prices shall be variable as per PVC formula given below:

Current Price = Order Price * (0.15+0.4*M1/M0 +0.15*F1/F0 +0.05*S1/S0+0.25 * L1/L0)

Where

M0 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.13.2 (REFRACTORY PRODUCTS) FOR MONTH OF ORDERING.

M1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.13.2 (REFRACTORY PRODUCTS) FOR 1 MONTH PRIOR TO DESPATCH.

FO = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.2 (FUEL & POWER) FOR MONTH OF ORDERING.

F1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.2 (FUEL & POWER) FOR 1 MONTH PRIOR TO DESPATCH

 ${\bf S0}$ = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.14.4 – (MILD STEEL-LONG PRODUCTS) FOR MONTH OF ORDERING.

S1 = INDICES AS PER RBI BULLETIN TABLE 21 SL NO.: 1.3.14.4 – (MILD STEEL-LONG PRODUCTS) FOR 1 MONTH PRIOR TO DESPATCH

L0 = INDICES AS PER RBI BULLETIN TABLE 19 (CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS) FOR MONTH OF ORDERING.

L1 = INDICÉS AS PER RBI BULLETIN TABLE 19 (CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS) FOR 1 MONTH PRIOR TO DESPATCH

Total PVC shall be limited to <u>+</u> 10% of Ex-Works Value.

Note: RBI Indices considered for refractory, Fuel &Power, Mild steel are as per base year 2011-12 and for Industrial worker as per base year 2016 of RBI Bulletin. The above PV Clause is subject to change based on latest RBI Bulletin.



COMPLIANCE SHEET BONDED MINERAL (ROCK) WOOL MATTRESSES FRAMEWORK AGRREMENT FOR 5x800MW YADADRI TPS

SPECIFICATION NO. PE-TS-020-100-M003						
SECTION: II						
REV. NO.: 00	DATE: 27.01.2021					
Sheet 1 of 1						

I hereby comply/not comply (*) to all the requirements of this technical specification in totality.

* In case the bidder does not comply to the technical specification, the deviations shall be explicitly listed in the technical deviation sheet of GCC. Deviations listed in technical deviation sheet shall only be considered.

Name of Bidder / Authorized Representative: -	
Designation: -	
Signature: -	
Company Seal: -	
Date :-	

PARTICULA	ARS OF BIDDER / A	RESENTATIVE		
NAME	DESIGNATION	SIGNATURE	DATE	COMPANY SEAL