

**Project Engineering Management****Bharat Heavy Electricals Limited****(A Govt. Of India Undertaking)**

Enquiry		Phone	1204368960	
Notice Inviting Tender		Email	akashverma@bhelpem.co.in	
TWO PART BID	Enquiry Number	E-5632/2017	Due date	12/06/2017
Tender to be submitted in two parts	Enquiry date	01/06/2017	Due time	10:00 hrs
Nature of enquiry		OPEN TENDER ENQUIRY		
Mode of enquiry		E PROCUREMENT		
Project		2X660 MW ENNORE SEZ		
Package		DC NI CD BATTERIES		
PRICES		Prices are Firm		
Detail tender documents are uploaded on websites		WWW.BHELPEM.COM WWW.BHEL.COM WWW.EPROCURE.GOV.IN WWW.BHELEPS.BUYJUCTION.IN		

(1) Bidders are requested to quote the Enquiry number, date and due date in all your correspondences. This is only a request for quotation and not an order. Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is uploaded on our website www.bheleps.buyjunction.in before due date and due time

(2) If any bidder uploads price bid in the unpriced section (techno-commercial attachment page) of the tender in e-procurement, in that case bidder(s) shall only be responsible for such mistake and any consequences thereof. Hence all bidders are requested to be more careful at the time of uploading the Unpriced and Price Bid for Part-I and Part- II respectively to avoid mismatch.

S.NO	Description	Quantity	Delivery
1	DC NI CD BATTERIES	As per BOQ cum price schedule	Delivery shall be Four (04) months from drgs. /docs. approval in CAT-I issued by BHEL subject to bidder's 1st submission of drawing/docs within two weeks from the date of P.O. Vendor to re-submit documents within 10 days only, taking care of all the comments of BHEL. Any deficiency in documents submitted w.r.t. agreed specification/ comments from BHEL shall be treated as non-submission and no. of days delay in submission of complete documents during approval process, on account of this, would be reduced from the delivery. Mandatory Spares are to be delivered in last consignment of MAIN batteries within contractual delivery period. Delivery for Electrolyte: Within 02 months from the date of BHEL clearance for dispatch by BHEL PEM.
2	Brief Scope	As per Tech spec no PE-TS-412-508-E004, Rev 00	

Important points to be taken care during submission of offer

1	The offers of the bidders who are on the banned list as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site http://www.bhel.com/vender_registration/vender.php .
2	All corrigenda, addenda, amendments, time extensions, clarifications, etc. to the tender will be hosted on BHEL website (www.bhel.com) & BHEL-PEM website (www.bhelpem.com) only. Bidders should regularly visit websites to keep themselves updated. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.
3	Your best quotation/offer for the above requirement, in line with our terms and conditions (hosted on our website, as indicated above), should be uploaded on www.bheleps.buyjunction.in :

Terms and condition

Vendors are requested to read the following points / guidelines / instructions and ensure that the offer is prepared and submitted strictly as per the requirements. Offers with insufficient details would not be considered for evaluation. The following points / guidelines / instructions are part and parcel of the tender and non-compliance will result in rejection of offer.

1	General Guidelines and instructions while submitting offer	Bidders are advised to go through the GCC Rev-06 while submitting the offers. Bidders may download GCC Rev 06 from following link (http://bhelpem.com/Documents/GCC/GCC-Rev.06.pdf)	
2	Integrity pact	Integrity Pact Not Applicable	
3	Address for any correspondence	Name: 1. AKASH VERMA. M/s. Bharat Heavy Electricals Ltd., Project Engineering Management, Power Project Engineering Institute, HRD & ESI Complex, Plot No 25, Sector-16 A, Noida-201301, U.P., INDIA E-MAIL: akashverma@bhelpem.co.in Ph. No. 0120-4368960	Name: 2. Mr. SHREEDHAR SINGH M/s. Bharat Heavy Electricals Ltd., Project Engineering Management, Power Project Engineering Institute, HRD & ESI Complex, Plot No 25, Sector-16 A, Noida-201301, U.P., INDIA E-MAIL: shreedharsingh@bhelpem.co.in Ph. No. 0120-4368720
3	Pre-Qualifying Requirements	Bidders have to provide the required details as per TECHNICAL PRE-QUALIFICATION REQUIREMENT CRITERIA (enclosed as NIT Tender Documents) in their Techno-Commercial offer. Bids of only those bidders shall be evaluated who meet the Technical Pre-Qualifying requirements.	
4	Submission of offer	Bidders have to submit their offers in line with clause no. 2.0 of "Instructions to Bidders" of GCC Rev. 06.	

Ashwini
11/6/17



Project Engineering Management

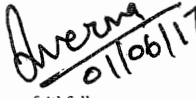
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5	Conditional Enquiry	Bidders have to note that this is a conditional OPEN Tender enquiry. Price bid (Part-II) opening/RA participation of those bidders, who are not approved by end Customer, shall be subjected to following: a) Approval of bidder by the customer. Same shall be taken up by BHEL with the customer based on the credentials/reference list being submitted by the bidder. b) Clause no. 2.2 of GCC Rev06.		
6	Reverse Auction (RA)	Reverse Auction is applicable as per guidelines uploaded on http://www.bhel.com/vender_registration/pdf/Guidelines%20for%20Reverse%20Auction-2016.pdf Bidders have to note that BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. For details refer clause no. 13.0 of "Instructions to Bidders" of GCC Rev. 06. The Bidders has to quote the Single Price (i.e. Total Cost to BHEL) in Reverse Auction. Price are to be inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, ED + cess, CST against C-form/VAT, Freight as applicable, etc. including loading (if any). De-loading (if any) shall be done in line with SCC of the project. Following Condition in Reverse Auction shall be treated as follows: Case-I (Taxes & duties and freight are identical in Reverse Auction & Conventional Price Bid) Resolution: - Ordering shall be done on lower of the two bids (RA closing price & Conventional Price Bid). After successful completion of reverse auction L1 bidder shall be asked to submit break up in line with taxes & duties, freight quoted in their Conventional Price Bid. Case-II (In case Bidder has quoted 'CST' in Conventional Price Bid and applicable Tax is 'VAT') Resolution: - "Total Cost to BHEL shall be maintained by reducing proportion amount in Ex-works quoted by Bidder". Case-III (In case Bidder has quoted 'VAT' in Conventional Price Bid and applicable Tax is 'CST') Resolution: - Conventional Bid/RA quoted Prices shall be reduced and CST will be allowed. Statutory variation shall be applicable. Any new tax structure (like Goods & Services Tax) as and when implemented by the Government shall become applicable in addition to or in lieu of existing tax structure. Note: - Applicable taxes & duties shall be determined as per location of works of bidder.		
7	CIF	CIF is not available for subject package of subject project. For any import, if any, shall be on merit basis.		
8	Fraud Prevention Policy	The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.		
9	Evaluation	Evaluation shall be done on total cost to BHEL		
10	Part of tender document	Bidders to note that following forms the part of Tender Documents : A) General Conditions of Contract (GCC) Rev. 06 B) Technical Specification PE-TS-412-508-E004 C) Price format D) Special Conditions of Contract Rev 01 E) Technical PQR. F) NIT CONDITIONS & other Enclosures G) RA Guidelines uploaded on www.bhel.com. Please refer link "http://www.bhel.com/vender_registration/pdf/Guidelines%20for%20Reverse%20Auction-2016.pdf" to download the same. Bidders to note that offers shall be submitted strictly in accordance with the requirements of the above Tender Documents & all the above Tender Documents along with post-bid agreements/MoMs (during Techno-Commercial evaluation) shall automatically become the part of the Order/Contract after its finalisation.		
11	Deviations (if any) in Annexure II	Bidders to note that Deviations (if any) are to be listed only in 'Annexure II: Deviation Sheet' of GCC Rev. 06. Any deviation mentioned or shown separately or found hidden in offer, will not be taken cognizance of.		
12	Foreign bidders quoting along with their Authorised Indian associates	Foreign bidders quoting along with their Authorised Indian associates to comply with BHEL corporate circular AA:MM:AGENCY dated 06th August 2010 for the guidelines regarding dealings with Indian agents of Foreign bidders (as enclosed).		

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13	Online Registration Portal	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. Bharat Heavy Electricals Ltd. Project Engineering Management PPEI Building, HRD & ESI Complex, Plot No. 25, Sector - 16A, NOIDA - 201 301 (U.P.)																																		
14	Basis for quotation	Indigenous Bidders to quote on FOR site basis and foreign bidders to quote on C&F Indian Sea Port basis (INSURANCE shall be in BHEL scope as per clause no 17.0 of GCC Rev 06). However FOR site price for foreign bidder will be calculated by loading their C&F Indian sea port price as per GCC rev 06.																																		
15	Digital Signature	Foreign and indigenous bidders participating in subject tender will necessarily have to buy class III DSCs (Digital Signature Certificate) issued by the certifying authorities in India. Basic procedure /checklist is uploaded on www.bhel.com for participating in future tender enquires through e procurement.																																		
16	Bank Guarantee	Bank Guarantee (if applicable, as per GCC rev-06) is to be submitted as per enclosed Annexure-B																																		
22	Cost of electrolyte	Cost of electrolyte should be '7% or more' of total ex works of battery. If quoted price of electrolyte is less than 7% of battery cost (Total Ex works/Total C&F) then the electrolyte cost will be made as 7% of battery cost (Total Ex works/Total C&F) while maintaining the total quoted price unchanged.																																		
All other terms and condition shall be applicable as per GCC Rev 06, SCC Rev 01 of project, NIT, subsequent corrigendum (if any) and Technical specification																																				
Thanking You.  Yours faithfully, For and on behalf of BHEL Enclosures: <table border="1"><tr><td>1</td><td>Technical Specification No</td><td>PE-TS-412-508-E004</td><td>Rev 00</td></tr><tr><td>2</td><td colspan="3">BOQ cum price schedule</td></tr><tr><td>3</td><td>Special Conditions of Contract</td><td colspan="2">REV 01</td></tr><tr><td>4</td><td colspan="3">Technical PQR.</td></tr><tr><td>5</td><td colspan="3">BHEL corporate circular AA:MM:AGENCY dated 06th August 2010</td></tr><tr><td>6</td><td colspan="3">GCC REV 06 available on www.bhelpem.com.</td></tr><tr><td>7</td><td colspan="3">Annexure-B of bank Guarantee</td></tr><tr><td>7</td><td colspan="3">RA Guidelines uploaded on www.bhel.com. Please refer link "http://www.bhel.com/vender_registration/pdf/Guidelines%20for%20Reverse%20Auction-2016.pdf" to download the same</td></tr></table>					1	Technical Specification No	PE-TS-412-508-E004	Rev 00	2	BOQ cum price schedule			3	Special Conditions of Contract	REV 01		4	Technical PQR.			5	BHEL corporate circular AA:MM:AGENCY dated 06th August 2010			6	GCC REV 06 available on www.bhelpem.com .			7	Annexure-B of bank Guarantee			7	RA Guidelines uploaded on www.bhel.com . Please refer link " http://www.bhel.com/vender_registration/pdf/Guidelines%20for%20Reverse%20Auction-2016.pdf " to download the same		
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SPECIAL CONDITIONS OF CONTRACT (REV 01)

**FOR 2 X 660 MW ENNORE SEZ COAL BASED STPP AT ASH DYKE OF
NCTPS, CHENNAI, Job No. 412**

These Conditions shall be read in conjunction with General Condition of Contract (GCC) enclosed along with the tender enquiry. In case of any conflict or inconsistency, the requirement of SCC shall prevail over the GCC.

1.0	Project Name	2 X 660 MW ENNORE SEZ COAL BASED STPP
2.0	Ultimate Customer (TANGEDCO)	Tamilnadu Generation and Distribution Corporation (TANGEDCO)
3.0	Location of Plant	Site for main plant is located near ennore port (approx. 5 km) and approx. 5 km from Athipattu Pudunagar, State : Tamil Nadu, Nearest Airport: Chennai (60 km), Nearest Seaport: Ennore Port (Approx. 5 km), Nearest Railway Station: Athipattu Pudunagar (Approx. 5 kms), Site is adjacent to the Chennai-Howrah broad gauge line. Access to site: Distance from Chennai city is 35 km. All weather roads from Pattamandri on the Thiruvottiyar district highway.
4.0	Consignee Address / BHEL Site Office Address	Construction Manager BHEL Site-Office 2 x 660 MW Ennore SEZ Supercritical Thermal Power Project at Ash Dyke of NCTPS Vayalur Village, Ambathur Taluk, Thiruvallur District, Tamil Nadu.
	Notes:	1. Consignee address in LR should be strictly as per Sl. No. 04. 2. Vendor to note that to effect "Sale in Transit", BHEL shall issue "Delivery Note" to the Transporter for transferring the ownership from BHEL to customer (TANGEDCO). 3. It is Vendor's responsibility to ensure availability of trucks well in advance for dispatch of material to meet contractual delivery requirement. Delivery note shall be carried by transporter along with other dispatch documents
5.0	Buyer and Paying Authority	A) <u>For Inter-State sales (where CST is applicable):</u> 1. For those packages, for which PO is placed by BHEL-PEM - <u>PEM, Noida</u> . 2. For those packages for which PO is placed by BHEL-PSSR & LOA is issued by BHEL-PEM - <u>BHEL-PSSR, Chennai</u> .

(Signature)

(Signature)

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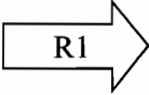
		B) FOR Intra-State sales (where VAT is applicable): 1. For those packages, for which PO is placed by BHEL-PEM- <u>Paying Authority shall be BHEL-PEM, Noida. However Buyer will be BHEL HPBP, TIRUCHIRAPALLI.</u> Detailed requirements are enclosed as Annexure I which are to be followed strictly. 2. For those packages for which PO is placed by BHEL-PSSR & LOA is issued by BHEL-PEM - <u>Paying Authority shall be BHEL-PSSR, Chennai. However Buyer will be BHEL HPBP, TIRUCHIRAPALLI.</u> Detailed requirements are enclosed as Annexure I which are to be followed strictly.
6.0	Mode of Dispatch	By Road/Rail/Sea on Door Delivery and freight Pre-Paid Basis.
7.0	Road Permit Required	Not applicable
8.0	Transit Insurance	In BHEL Scope. Vendor shall inform the following details of dispatches to the Underwriter (refer details below) under intimation to BHEL-PEM and BHEL Site office: (1) Policy No. (2) Consignee Name. (3) Consignment Details (items with their weights and value (in INR)). (4) Project Name and P.O. No. (5) LR No. and date, Despatch origin and destination details, Inv. No..
	Policy No. R1 →	SCE - 500300/44/15/04/40000004 MARINE - 500300/21/15/02/00000005 Policy period : 15/04/2015 - 14/04/2018
	Underwriters R1 →	M/s. United India Insurance Company – New Delhi D-24 & E-25, 2nd Floor Himalaya House 23 KG Marg, Connaught Place, New Delhi
9.0	BHEL-PEM TIN No.	09765702874
10.0	Customer CST & VAT Nos.	TANGEDCO CST No. - 1248670 TANGEDCO TIN / VAT No. - 33181706465 TANGEDCO TAN No. - CHET 11 952 D TANGEDCO PAN No. - AADCT4784E
11.0	Unloading at site	- By BHEL site office for Supply packages. (The Vendor shall furnish LR wise Gross Wt. and net weight of the consignment for the purpose of handling the consignment by BHEL site loading/unloading contractor). - By Vendor for Turnkey i.e. Supply and Erection & Commissioning Packages.

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12.0	Storage at site	- By BHEL site for Supply packages. - By Vendor for Turnkey i.e. Supply and Erection & Commissioning Packages.
13.0	Movement of Material within Site	- By BHEL site for Supply packages. - By Vendor for Turnkey i.e. Supply and Erection & Commissioning Packages.
14.0	Provision of facilities at Site (Applicable for Turnkey Packages) 	Construction Power: HT power supply (33KV/433 V or 11KV/433 V) shall be made available for erection work at the rates prevailing at the time of usage on chargeable basis as per HT tariff V (Temporary construction supply) rates applicable as per TNERC tariff order. Fuel and start-up power required during testing, commissioning, PG testing, re-testing etc. shall be provided at free of cost. Construction Water: Construction water shall be available at one point within the plant boundary on chargeable basis subject to availability.
15.0	Inspection Agency (Domestic supplies)	Later
	Inspection Agency (Imported supplies)	Later

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16.0	Dispatch Documents required (to be furnished by Vendor for payment)	<u>For Despatch Payment</u> For materials originating from Indian Territory (a). One (1) original and Six (6) copies of the clean rail/lorry receipt. For payment Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes original / copy. (b). One (1) original and Six (6) copies of signed Invoices (Paying Authority along with TIN No. should be mentioned, for VAT cases Annexure-I to be followed). (c). One (1) original and Seven (7) copies of Challan and Packing List (clearly showing number of packages, gross weight and net weight). (d). Six (6) copies of inspection certificate, if any issued by the customer. (e). Eight (8) copies of Customer/BHEL MDCC. (f). Six (6) copies of Approved Test Certificates if any. (g). Delivery order- Two (2) copies. (h). Guarantee Certificate – One (1) Original + One (1) copy. (i). Insurance Intimation - Two (2) copies. (j). CQIR / Inspection Reports – One (1) Original + One (1) copy. (k). PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies. For materials originating from non-Indian Territory (a). Three (3) original and Seven (7) copies of clean bill of lading or One (1) clean original Airway Bill & Four (4) copies, in case of air freight. (b). One (1) original and Six (6) copies of signed Invoices (Paying Authority along with TIN No. should be Mentioned). (c). One (1) original and Seven (7) copies of Packing List (clearly showing number of packages, gross weight and net weight).
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		(d). Six (6) copies of certificate of country of origin. (e). Eight (8) copies of Customer/BHEL MDCC. (f). Six (6) copies of inspection certificate, if any, issued by the customer/his authorised representative. (g). Six (6) copies of certificate from the vendor to the effect that drawings and catalogues for customs clearance purpose have been kept with the packages for shipment. (h). Six (6) copies of certificate from the vendor to the effect that the contents in each case are not less than that entered in the invoices and guaranteed as new and as per the relevant technical specifications. (i) Shipping Specification – One (1) copy. (j). Quality Certificate – One (1) copy. (k). Approved Test Certificates if any. - Six (6) copies. (l). Guarantee Certificate – One (1) Original + One (1) copy. (m). Inspection Reports – One (1) Original + One (1) copy. (n). PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies. For Claiming Freight, MRC & Services Payments refer GCC.
17.0	Material Receipt Certificate (MRC).	FOR Packages wherever E&C is in the scope of Vendor, The vendor shall arrange Material Receipt Certificate from the project site, duly signed by Customer and BHEL-Site after receipt & physical verification of the material at site. FOR Supply Packages, Material Receipt Certificate shall be arranged by BHEL-PEM. Vendor to provide copy of receipted LR's to enable BHEL-PEM to obtain MRC from site.




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18.A	Taxes & Duties (For Domestic Bidder) (Concessional Custom Duty against EC except for packages mentioned at sr. no. 18 C)	All bidders/vendors to note that this project is a Non-Mega (ICB) power Project. However Essentiality certificate shall be issued by TANGEDCO (Ultimate customer) for availing concessional custom duty under Project Import Regulations. Essentiality certificate shall be issued by TANGEDCO (Ultimate customer) for the specified items to be imported by the vendor, limited to CIF content mentioned in the NIT, for availing concessional custom duty. The bidder has to indicate in their offer, the import contents (if any) for the package i.e. list of items along with qty., currency of import, country of import & CIF value. The benefits availed in concessional custom duty must be passed onto BHEL in their offer. Availability of CIF for the packages, if any, shall be intimated in NIT.
		Concessional Sales Tax against issuance and exchange of form 'C' & 'E1/E2' / VAT, as applicable, are to be quoted by the bidder in their offer. Bidders has to note that in order to derive the total Landed Cost to BHEL following pricing elements shall also be considered in evaluation: i. ED (as applicable on self-manufactured items)- Except for packages mentioned at Sr. no. 18C. ii. CST/VAT (as applicable), iii. Service Tax (For Supply Packages). iv. Freight (including service Tax), However R1 i. Service tax quoted in case of Turnkey packages shall not be considered for evaluation purpose. However same shall be considered for ordering purpose. VAT for Intra-state dispatch shall be paid subject to conditions specified in Annexure I. "Wherever cenvat credit, if applicable could not be availed by BHEL within statutory time limit of six months(as per cenvat credit rule,2014) due to delay in submission of invoices or for any other reason attributable to bidder/contractor, liability towards loss of such cenvat credit(Excise duty/service tax etc) should be passed on to bidders/contractors." Entry Tax/ Octroi: Not Applicable.

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18.B	Taxes & Duties (For Order Directly to Foreign Bidders)	In case of Order on foreign supplier, the dispatches shall be FOB (Port of Dispatch) basis and the Taxes Duties in the country of dispatch shall be borne by Foreign Bidder & to be accounted in the prices quoted to BHEL/PEM/NOIDA. Evaluation shall be done as per provisions of GCC.
18.C	Custom duty (CD) & Excise duty ED for water treatment plant. R1 →	Custom duty (CD) & Excise duty (ED) are exempted against exemption certificate for following packages as per GOI notification 14/2004-Custom dated 08/01/2004 and 3/2004-Central Excise dated 08/01/2014 respectively :- 1. Oxygen dosing system 2. Chemical Dosing system 3. Condensate polishing unit 4. Pre-Treatment plant 5. Effluent treatment plant 6. Electrolytic Chlorination plant 7. Sewage Treatment plant Necessary documents shall be facilitated by TANGEDCO from concerned Government authorities for availing relevant exemption by BHEL. Exemption certificate shall be arranged by BHEL and provided to vendor for their self-manufactured as well as sub-vendor items directly dispatchable to site. Vendor should quote their price considering benefits of NIL Custom duty and NIL Excise duty. However vendor shall indicate the list of imported items, quantity and value of imported items in Indian Rupee and Foreign currency, amount of CD, rate of CD alongwith the country of import in their bid.
19.0	Packing, Identification & marking	• The supplier shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during handling & transport by air, sea, rail and road. • All packing shall allow for easy removal and checking at site. Special precaution shall be taken to prevent rusting of steel and iron parts during transit by sea. Gas seals or other materials shall be adopted by the Contractor for protection against moisture during transit. • The number of each package in a shipment shall be shown in fraction, numerator showing number of the package and the denominator showing total number of packages in a lot / consignment. The packages number shall be generally prepared in the sequence in which they will be required for erection. • Each package delivered under the Contract shall be marked by and at the expense of the supplier and such marking must be distinct and in English language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name and

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address of consignee, the gross weight and net weight of the package, the name of the Contractor with a distinctive number of mark sufficient for purposes of identification. All markings shall be carried out with such materials as to ensure quickness of drying, fastness and indelibility. Each equipment or parts of equipment shall, when shipped or railed or otherwise dispatched be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the Contractor, the number and date of contract and the name of the office placing the contract, nomenclature of the stores and include a schedule of parts for each complete equipment giving the part numbers with reference to the assembly drawing and the quantity of each part, drawings nos. and tag numbers.

- Rotor bearings should not be used as a support while packing.
- Besides wherever necessary, packing shall bear a special marking "TOP", "BOTTOM", "DO NOT TURN OVER", "KEEP DRY", "HANDLE WITH CARE", etc.
- All packing cases, containers (excluding marine container), packing and other similar materials shall be new.
- Notwithstanding anything stated in this clause, the Contractor shall be entirely responsible for loss, damage or depreciation or deterioration to the materials & supplies due to faulty and/or insecure packing.
- One copy of respective standard manufacturer's erection instruction/operation instruction manual shall be kept in each package/container for immediate reference.
- Each and every package box shall be marked with the following, as a minimum:

(i). Name and address of Consignee :

(ii). Project reference :

(iii). Contract No.:

(iv). Packing No.: (1/10, 2/10, 3/10 when there are 10 packages For one consignment)

(v). Net Weight/Gross Weight :

(vi). Port of Loading :

(vii). Destination Port : Ennore Port

(viii). Packing Mark : [symbols indicating "TOP" and other special markings as per

clause 10.10.(4) & 10.10.(6) above]

(ix). Type of Equipment :

"E" (for Equipment supply)

"T" (for Tools & Tackles)

"S" (for Mandatory Spares)

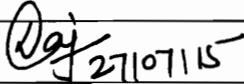
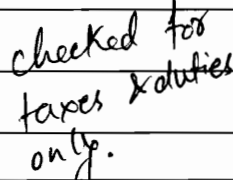
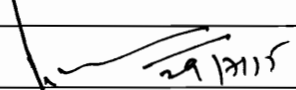
- Two copies of packing list should be kept in case/package No. 1 of each consignment of the goods and four copies in each case (three inside the box and one copy in a special packet at the outer side of the box).

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Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
POWER SECTOR, PROJECT ENGINEERING MANAGEMENT
Power Project Engg. Institute, Plot No. 25, Sector 16 - A,
HRDI & ESI Complex, NOIDA 201 301 (UP)



20.0	Commissioning spares	The commissioning spares shall be properly packed separately in separate box and each spare shall be properly tagged giving details (to match the description given in the packing slip) to facilitate their proper identification. Three copies of packing list is to be kept inside the box and one copy in a special packet at the outer side of the Box.		
21.0	Mandatory Spares	The Mandatory spares shall be properly packed separately in separate box indicating Mandatory Spares in bold letters and each spare shall be properly tagged giving details i.e. item number of the equipment in line with the Ultimate Customer Contract & Number per item (to match the description given in the packing slip) to facilitate their proper identification by ultimate customer M/s TANGEDCO. Three copies of packing list along with Manufacturing drawing no. Reference, Catalogue reference etc. is to be kept inside the box and one copy in a special packet at the outer side of the Box.		
22.0	Submission of Final Drawing / Documents along with O&M Manual, Type Test Certificates (if any)	As per GCC/ Technical specification/ Kickoff meeting.		
	Prepared By	Checked & Reviewed By	Vetted By Finance	Approved By
Name:	RAJEEV KUMAR	ANUJ KUMAR	SWATI NAIR	PERMINDER SINGH
Designation:	SR.ENGINEER	DGM	checked for taxes & duties only.	AGM/DH
Signature:				
Date:	27/07/15	27/7/15	28/7/15	29/7/15

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
POWER SECTOR, PROJECT ENGINEERING MANAGEMENT
Power Project Engg. Institute, Plot No. 25, Sector 16 - A,
HRDI & ESI Complex, NOIDA 201 301 (UP)



Annexure-I

SPECIAL CONDITIONS OF CONTRACT (REV 01)

2 X 660 MW ENNORE SEZ COAL BASED STPP, Job No. 412

In order to avail the benefit of input tax credit available to BHEL in case of VAT leviable on intra-state transaction between BHEL and vendor, & to fulfill the compliances as per requirements of applicable State's VAT law, the following modality shall be applicable:

BHEL has identified a nodal agency in each State to take care of VAT compliances in the State in which project is located. For the subject project nodal agency shall be:

BHEL HPBP, TIRUCHIRAPALLI – 620014, Tamil Nadu
VAT TIN No. 33243560005

Nodal agency is defined as Buyer in such cases, where VAT is applicable.

Vendors' original tax invoice for intra State transactions is one of important documents for availing Input Tax credit. In this regard the following may be noted by all vendors for strict compliance:

- As a general rule, a tax invoice must be original, must contain vendor's TIN No with full address, invoice no & date, product description with unit rate, quantity, value, VAT rate, VAT amount, gross value of bill, **buyer i.e. BHEL's address with TIN No.** (as given above) special marking like "Original" and/or "valid for input credit"/ Buyer can take credit against this" etc as per applicable State VAT law.
- Please note that BHEL's address and TIN to be mentioned in vendors tax invoice shall be **principal place of business & applicable TIN No. of nodal agency of BHEL, as given above.** In no case the vendors, invoices shall be addressed to BHEL PEM nor shall they contain our TIN as buyer.
- As original tax invoice of vendors are to be furnished to nodal unit for assessment/VAT audit purposes, extra copy of Original invoice is required to be submitted by vendors for retaining with bank payment voucher.
- Original tax invoice along with extra copy of Original Tax invoice in line with respective state VAT law shall be essential document to be submitted by vendor for claiming payment.
- Vendor shall also furnish a certificate/statement/document as prescribed under applicable State VAT law. Please note that some of the States requires additional certificate/documents e.g. Haryana requires certificate in form C-4 in addition to original tax invoice.
- Please note that reimbursement/payment of VAT shall be subject to furnishing of Vat complaint tax invoice and other certificate/document as per applicable State VAT law.
- Tax invoice must show Vat rate & VAT amount separately and in no case all inclusive prices is to be shown in the tax invoice since input credit is not admissible in case VAT is not indicated separately.
- In case vendor is unable to furnish Vat compliant tax invoice & other certificate/document, VAT shall not be reimbursed by BHEL.

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Where the supplies are made from within the same state where the project is located, the vendor has to provide VAT tax invoice for such supplies even if the price quoted is all inclusive.

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Swati

**TAMIL NADU GENERATION & DISTRIBUTION
CORPORATION LIMITED**

2 X 660 MW ENNORE SEZ SUPERCRITICAL TPP.

VOLUME – II

**TECHNICAL SPECIFICATION
FOR
*220V DC Ni-Cd BATTERY***

SPECIFICATION NO: *PE-TS-412-508-E004*



**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, UP (INDIA) – 201301**



**TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY**

SPECIFICATION NO. PE-TS-412-508-E002

VOLUME II

REVISION 0 | **DATE : 23.05.2017**

SHEET 1 OF 1

CONTENTS

<u>S. NO.</u>	<u>CONTENTS</u>	<u>NO. OF SHEETS</u>
1)	COMPLIANCE CERTIFICATE	01
2)	SECTION – I	
a)	SPECIFIC TECHNICAL REQUIREMENTS	03
b)	DATA SHEET-A	01
c)	DATA SHEET-C	02
d)	ANNEXURE-I (SINGLE LINE DIAGRAM FOR 220V DC SYSTEM)	03
e)	ANNEXURE-II (LOAD DUTY CYCLE)	01
f)	ANNEXURE-III (DRAWING/ DOCUMENT SCHEDULE)	01
g)	ANNEXURE-IV (Layout Dwgs)	02
3)	SECTION – II	
a)	STANDARD TECHNICAL REQUIREMENTS	07
b)	QUALITY PLAN	05

TOTAL NO. OF SHEETS =28 (INCLUDING COVER/ SEPARATOR SHEETS)



TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

SPECIFICATION NO. PE-TS- 412-508-E004

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SHEET 1 of 1

COMPLIANCE CERTIFICATE

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same.
2. There are no deviation with respect to specification other than those furnished in the 'schedule of deviations'.
3. Only those technical submittals which are specifically asked for in NIT to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the description/ quantities from those given in Annexure-A [BOQ-Cum-Price schedule] enclosed with NIT shall not be considered (i.e., technical description & quantities as per specification shall prevail).

BIDDER'S STAMP & SIGNATURE



**TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY**

SPECIFICATION NO. PE-TS- 412-508-E004

VOLUME II

SECTION I

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SHEET 1 OF 3

**SECTION –I
SPECIFIC TECHNICAL REQUIREMENTS**

	TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY	SPECIFICATION NO. PE-TS- 412-508-E004	
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1.0 SCOPE OF ENQUIRY

- 1.1 This specification covers the design, manufacture, inspection and testing at manufacturer's works, proper packing and delivery to site of 220V DC Ni-Cd BATTERY.
- 1.2 Standard technical requirements of the 220V DC Ni-Cd BATTERY are indicated in Section-II. Project specific technical/ quality requirements / changes are listed in Section-I & Data Sheet-A.
- 1.3 The stipulations of Section-I, followed by those of Data Sheet-A shall prevail in case of any conflict between the stipulations of Section-I, Section-II & Datasheet-A.

2.0 BILL OF QUANTITIES:

- 2.1 Quantity requirements shall be as per BOQ cum Unpriced Price Schedule enclosed with NIT.

3.0 SPECIFIC TECHNICAL REQUIREMENTS:

- 3.1 Technical /Quality/ Inspection:

S. No.	Reference clause No. of Section II (if any)	Specific Requirement/ Change
10.0	Inspection & Testing	Type Test shall be performed on 2 cells of each battery.

3.2 220V DC SYSTEM

Battery and charger will be connected to DCDB. Under normal conditions, each charger will cater continuous loads and trickle charging current of batteries. If load is high and exceeds the charger capacity then excess load will be supplied by the battery. All the terminals and inter-cell connectors will be fully insulated. In case of failure of AC, battery will meet the DC load requirement. After restoration of power, the float charger will continue to supply the loads as well as trickle charge the battery.

- 4.0 SINGE LINE DIAGRAM FOR 220V DC SYSTEM (Refer Annexure-I enclosed with Section-I)
- 5.0 LOAD DUTY CYCLE (Refer Annexure-II enclosed with Section-I)
- 6.0 DOCUMENTS REQUIRED ALONG WITH TECHNICAL OFFER (Refer Annexure-III enclosed with Section-I)
- 7.0 DOCUMENTS REQUIRED AFTER AWARD OF LOI (Refer Annexure-IV enclosed with Section-I)
- 8.0 The Quality Plan no. PE-QP-999-508-E002 for Ni-Cd Battery should be read in conjunction with Annexure-A.
- 9.0 2 X 100% Battery Bank shall be provided in each of the following areas



TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

SPECIFICATION NO. PE-TS- 412-508-E004

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SHEET 3 OF 3

Area-1: For main plant and Station Load.

Area-2: For water treatment and RO Plant Load.

Area-3: For ECHS and sea water intake.



TECHNICAL SPECIFICATION FOR 220V DC Ni- Cd BATTERY

DATA SHEET-A

SPECIFICATION NO. PE-TS-412-508-E004

VOLUME II

SECTION I

REVISION 0 DATE 23.05.2017

SHEET 1 OF 1

1.	Rated voltage (V)	:	220V DC
2.	Type of Battery	:	Nickel Cadmium high discharge Fibre Plate Type
3.	Conforming to	:	IEEE1115-2000/ IS 10918 standards
4.	DC system Fault level & duration	:	25KA for 1 Sec.
5.	Material of Battery Rack	:	Mild Steel Racks
6.	Design Ambient Temperature	:	50 Deg. C
7.	Minimum Electrolyte Temperature to be considered for Battery Sizing	:	25 Deg. C
8.	No. of cells	:	170
9.	End cell voltage	:	1.14
10.	Nominal Float voltage (V)	:	1.42 V/cell
11.	Boost voltage (Maximum) (V)	:	Bidder to furnish the detail along with offer
12.	AH Capacity of Battery	:	Bidder to furnish quoted AH capacity and battery sizing as per LOAD DUTY CYCLE (Annexure-II)
13.	Arrangement of batteries on racks	:	Single tier for batteries having cell weight 50kg or more.
14.	Cable size to be terminated at Battery end	:	2 Run-1Cx400 sq.mm Cu Fire Survival Cable
15.	Tapping to be provided in battery	:	No
16.	Tapping to be provided at which cell (if Tapping is applicable)	:	N.A.
17.	Recommended boost charging rate	:	Bidder to furnish the detail along with offer
18.	Recommended trickle charging rate	:	Bidder to furnish the detail along with offer

Notes :

- Suitable number of copper lugs for cable termination at battery terminals shall be provided by bidder as per cable size to be informed by BHEL during detailed engineering. Tentative size of cable is mentioned above at sl. no. 14.
- Bidders stand guarantee that the rating offered at S. No. 12 shall meet 'Load Duty Cycle' as per Annexure-II of specification.
- Refer Annexure-I (Single Line Diagram of 220V DC system) for connection arrangement of Battery, charger and DCDB.
- Supply of necessary supports and lugs for termination of end take-off cables shall be in the scope of bidder.



TECHNICAL SPECIFICATION FOR 220V Ni-Cd BATTERY

DATA SHEET-C

SPECIFICATION NO. PE-TS-412-508-E001

VOLUME II B

SECTION C

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Sr. No.	PARAMETER	UNIT	VALUE
1.0	Make and Type		
2.0	AH capacity at 27° C and end voltage		
2.1	At 5 Hr discharge rate	AH	
2.2	At 1 Hr discharge rate	AH	
3.0	Battery Discharge current		
3.1	At one minute rate	Amp	
3.2	At 30 minutes rate	Amp	
3.3	At 30 minutes rate at end voltage	Amp	
3.4	At 60 minutes rate	Amp	
3.5	At 60 minutes rate at end voltage	Amp	
4.0	Types of plates		
4.1	Negative plates		
4.2	Positive plates		
5.0	Method of connection between cells		
6.0	Voltage per cell at the end of charge at the finishing rate	V	
7.0	Recommended Trickle charge current	Amp	
8.0	Type and material of separators		
9.0	Material of container		
10.0	Type of container		
11.0	Internal resistance of cells	Ohms	
12.0	Total resistance of connectors	Ohms	
13.0	Insulator Material for		
13.1	Cells		
13.2	Racks		
14.0	Average life	Years	
15.0	Recommended boost charger rating for		
15.1	Charging in 8 hours	Amp	



TECHNICAL SPECIFICATION FOR 220V Ni-Cd BATTERY

DATA SHEET-C

SPECIFICATION NO. PE-TS-412-508-E001

VOLUME II B

SECTION C

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15.2	Charging in 10 hours	Amp	
16.0	Allowable ripple content acceptable to battery (r.m.s)	%	
17.0	Hydrogen evaluation		
18.0	Cell designation in accordance with IS: 1651/1652		
19.0	Applicable standard		
20.0	Whether battery performance curve and calculation for capacities enclosed		
21.0	Recommended Maximum period of storage of Electrolyte before first charge		
22.0	Amount and specific gravity of electrolyte per cell required for first filling at 27° C		
23.0	Recommended specific gravity of electrolyte at 27° C		
23.1	When fully charged		
23.2	When fully discharged		
24.0	Container dimensions	(L X B X H)mm	
25.0	Distance between centres of cells when erected	Mm	
26.0	Terminal connectors		
26.1	Type		
26.2	Material		
27.0	Battery Racks		
27.1	Type & Material		
27.2	Outline dimensions	(L X B X H) mm	
27.3	Net weight	Kg	
28.0	Weight per cell	Kg	
28.1	Net dry weight	Kg	
28.2	Net weight with electrolyte	Kg	
29.0	Total shipping weight of one battery unit (without electrolyte)	Kg	
30.0	Taps provided at cell no.		
31.0	Connection from battery to charger (busbar/ cable)		
32.0	Recommended size of (busbar/ cable)		
33.0	Whether backup calculation furnished		
34.0	Cable Lugs at Battery terminals of suitable size		



TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

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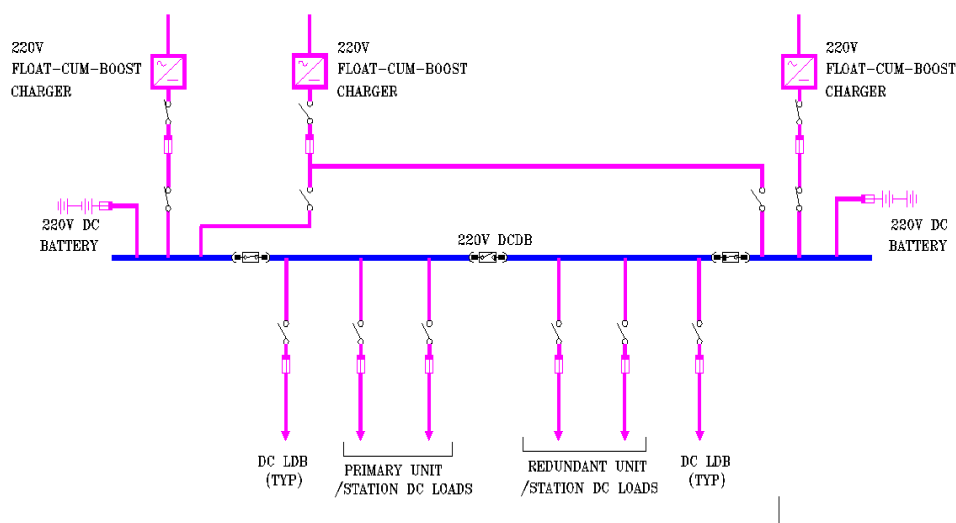
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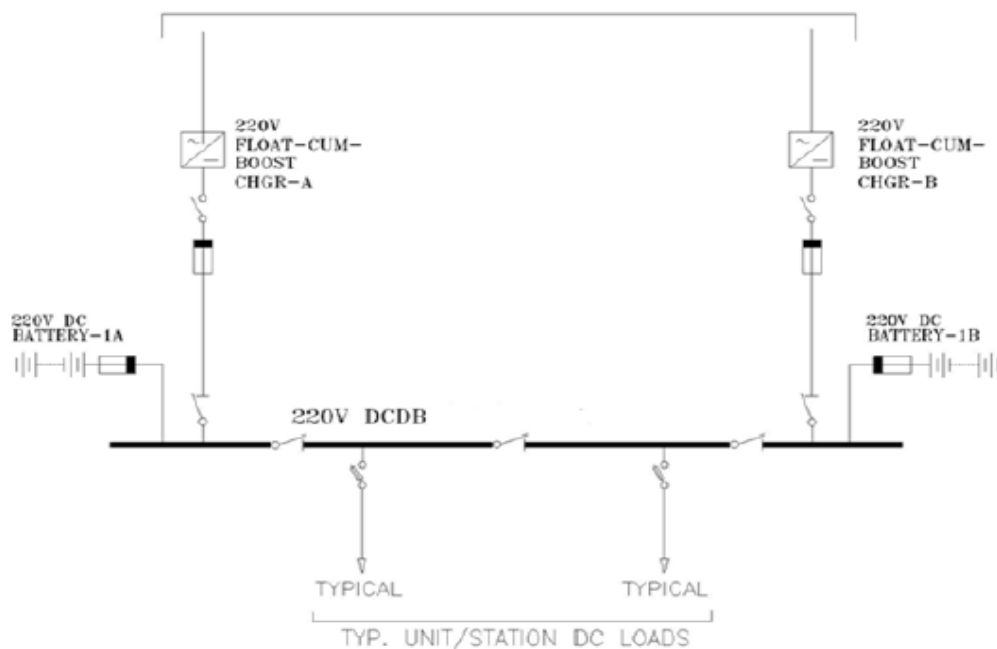
SHEET 1 OF 1

ANNEXURE-I

SINGE LINE DIAGRAM FOR 220V DC SYSTEM (For Area-1)



SINGE LINE DIAGRAM FOR 220V DC SYSTEM (For Area-2 & Area-3)





TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

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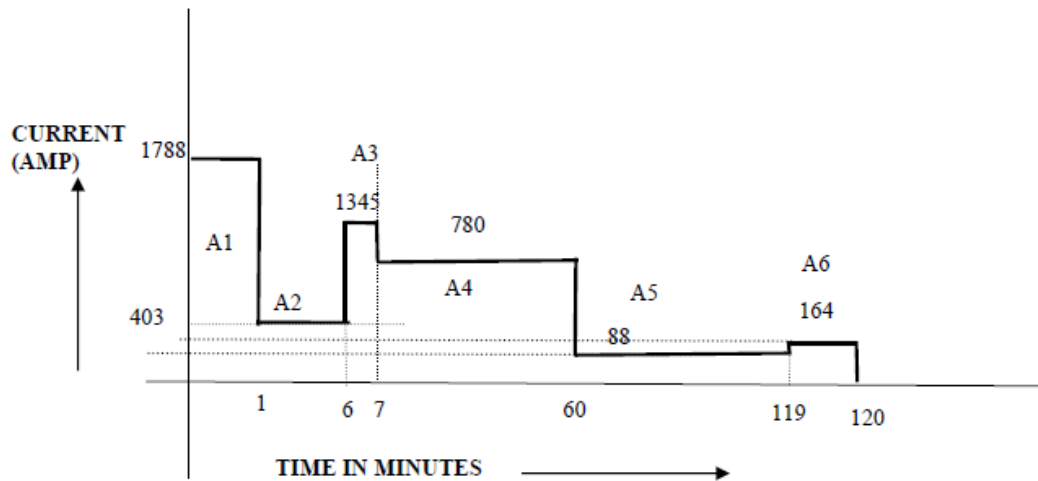
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ANNEXURE-II

LOAD DUTY CYCLE



LOAD DUTY CYCLE FOR AREA-1: MAIN PLANT & STATION LOAD

Duration	0-1 min	1-6 min	6-7 min	7-60 min	60-119 min	119-120 min
Current	1788	403	1345	780	88	164

FACTORS TO BE CONSIDERED FOR BATTERY SIZING:

1. AGEING FACTOR : 1.25 for Ni-Cd
2. MIN.ELECTROLYTIC TEMP. : 25 °C
3. END CELL VOLTAGE : 1.14V/cell for Ni-Cd
4. DESIGN MARGIN : 20%
5. TEMPERATURE CORRECTION FACTOR : IEEE 1115 for Ni-Cd shall be the principle for sizing the battery including temperature correction factor.

Note:

Supporting Calculation for temp correction factor as per IEEE shall be furnished for batteries which are not designed at 25 Deg C



TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

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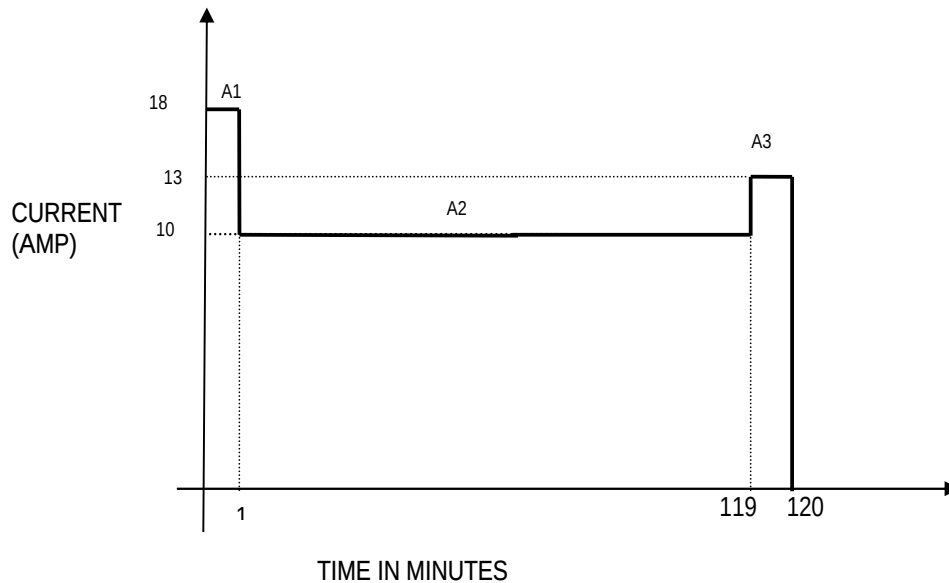
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SHEET 2 OF 1

LOAD DUTY CYCLE



LOAD DUTY CYCLE FOR AREA-2: WATER TREATMENT & RO PLANT LOADS

Duration	0-1 min	1-119 min	119-120 min
Current	18	10	13

FACTORS TO BE CONSIDERED FOR BATTERY SIZING:

1. AGEING FACTOR : 1.25 for Ni-Cd
2. MIN.ELECTROLYTIC TEMP. : 25 °C
3. END CELL VOLTAGE : 1.14V/cell for Ni-Cd
4. DESIGN MARGIN : 20%
5. TEMPERATURE CORRECTION FACTOR : IEEE 1115 for Ni-Cd shall be the principle for sizing the battery including temperature correction factor.

Note:

Supporting Calculation for temp correction factor as per IEEE shall be furnished for batteries which are not designed at 25 Deg C



TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY

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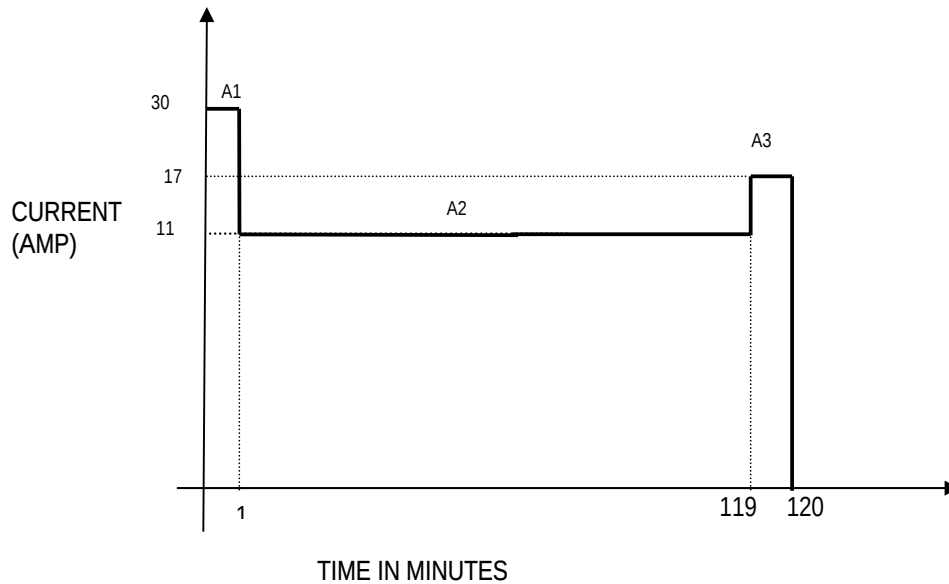
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SHEET 3 OF 1

LOAD DUTY CYCLE



LOAD DUTY CYCLE FOR AREA-3: ECHS & SEA WATER INTAKE SYSTEM LOADS

Duration	0-1 min	1-119 min	119-120 min
Current	30	11	17

FACTORS TO BE CONSIDERED FOR BATTERY SIZING:

1. AGEING FACTOR : 1.25 for Ni-Cd
2. MIN.ELECTROLYTIC TEMP. : 25 °C
3. END CELL VOLTAGE : 1.14V/cell for Ni-Cd
4. DESIGN MARGIN : 20%
5. TEMPERATURE CORRECTION FACTOR : IEEE 1115 for Ni-Cd shall be the principle for sizing the battery including temperature correction factor.

Note:

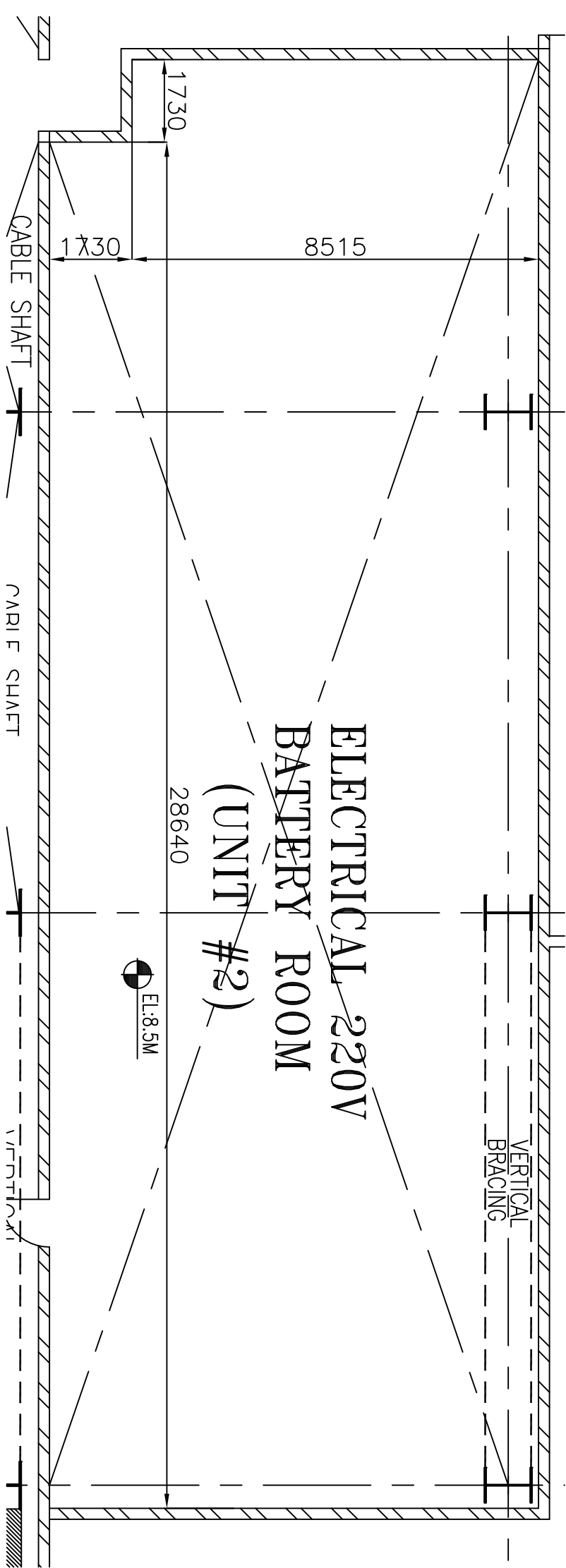
Supporting Calculation for temp correction factor as per IEEE shall be furnished for batteries which are not designed at 25 Deg C

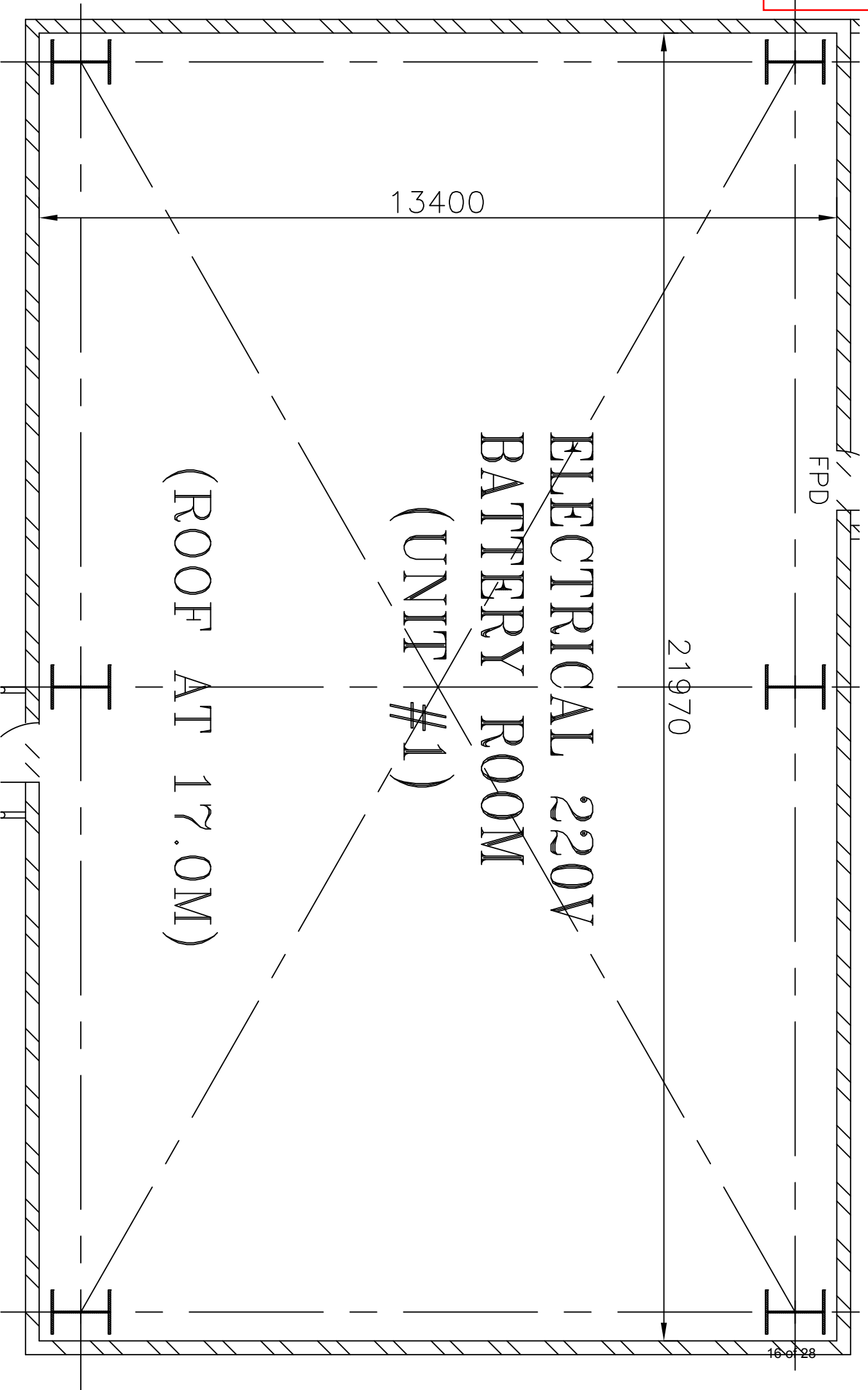
	TECHNICAL SPECIFICATION FOR 220V DC Ni-Cd BATTERY	SPECIFICATION NO. PE-TS- 412-508-E004	
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ANNEXURE-III

DRAWING/ DOCUMENT SCHEDULE

S.NO	DOCUMENT TITLE	DWG. / DOCUMENT No.
1	Data Sheet for battery	PE-V0-412-508-E201
2	Battery sizing calculation (Including battery catalogues, curves etc)	PE-V0-412-508-E202
3	Fault calculation & Connector sizing calculation	PE-V0-412-508-E203
4	General Arrangement drawing for Battery	PE-V0-412-508-E204
5	Bill of Material for the battery	PE-V0-412-508-E205
6	List of Mandatory Spares for battery	PE-V0-412-508-E206
7	O & M manual for battery	PE-V0-412-508-E207
8	Field Quality Plan for battery	PE-V0-412-508-E208
9	Type test reports for the battery	PE-V0-412-508-E209
10	Cable Termination arrangement for battery terminal	PE-V0-412-508-E210
11	Quality Plan for battery	PE-V0-412-508-E211
12	Battery room lay out	PE-V0-412-508-E212







TITLE :
TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY

SPECIFICATION NO.
PE-SS-999-508-E004

VOLUME NO. : **II**

SECTION : **II**

REV NO. : **01** DATE : 05.09.2016

SHEET : 1 of 7

SECTION - II
STANDARD TECHNICAL REQUIREMENTS



TITLE :
TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY

SPECIFICATION NO.
PE-SS-999-508-E004

VOLUME NO. : **II**

SECTION : **II**

REV NO. : **01** DATE : 05.09.2016

SHEET : 2 of 7

1.0 TECHNICAL REQUIREMENTS

This specification covers the design, materials, constructional features, manufacture assembly, testing, packing and dispatch of 220V DC Ni-Cd Battery complete with all accessories.

In this specification, as erection and commissioning is not included in vendor's scope, Vendor shall still not be absolved of his responsibility of establishing the correctness of equipment at site.

It is not the intent to specify herein all the details of design & manufacture. However, the equipment shall conform in all respects to high standards of design engineering and workmanship and shall be capable of performing in continuous commercial operation up to bidder's guarantee. This enquiry covers the supply of 220V DC Ni-Cd BATTERY conforming to this specification.

2.0 CODES AND STANDARDS

Unless otherwise specified, the latest revisions of codes/standards as specified under Table-1 enclosed are applicable and shall referred to.

3.0 EQUIPMENT AND SERVICES TO BE PROVIDED BY THE BIDDER

The bidder shall supply the equipment and provide the services in accordance with the various sections of this specification and as per BOQ cum unpriced Price Schedule (Annexure-A) enclosed with NIT.

4.0 SERVICES AND EQUIPMENT TO BE EXCLUDED

- a. Civil works like foundation and cable cellar, flooring of the battery room etc.
- b. Ventilation of battery and charger room.
- c. 220V DCDB
- d. Power and control cables
- e. Erection of the equipment
- f. Battery charger, battery fuse box and discharge resistor

5.0 DESCRIPTION OF EQUIPMENT

5.1 BATTERY

All batteries shall be stationary storage Ni-Cd high discharge type conforming to IS-10918 /IEEE 1115. The batteries shall meet the duty cycle requirements under all site and operating conditions as specified in data sheet 'A'. IEEE 1115 shall be the principle for sizing the battery including temperature correction factor.

5.2 CONTAINER

Containers shall be made of polypropylene or equivalent plastic material. Containers shall be robust, heat resistance, leak proof, non absorbent, alkali resistant, non-bulging type and free from flaws, such as wrinkles, cracks, blisters, pin holes etc. Electrolyte level lines shall be marked on container in case of translucent containers.



TITLE :
TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY

SPECIFICATION NO.
PE-SS-999-508-E004

VOLUME NO. : **II**

SECTION : **II**

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5.3 PLATES

The plates shall be designed for maximum durability during all service conditions including high rate of discharge and rapid fluctuations of load. The construction of plates shall conform to latest revisions of IS: 10918.

The separators shall maintain the electrical insulation between the plates and shall allow the electrolyte to flow freely. Separators should be suitable for continuous immersion in the electrolyte without distortion. The positive and negative terminal posts shall be clearly marked.

5.4 CONNECTIONS

Nickel coated copper connectors shall be used for connecting up adjacent cells and rows. Bolts, nuts and washers shall be effectively Nickel coated to prevent corrosion. The thickness of Nickel coating of connectors should be not less than 0.02 mm. All the terminals and cells inter-connectors shall be fully insulated or have insulation shrouds. End take off connections from positive and negative poles of batteries shall be made by single core cables having stranded aluminium conductors and XLPE insulation. Necessary supports and lugs for termination of these cables on batteries shall also be supplied. All connectors and lugs shall be capable of continuously carrying the 30 minutes discharge current of the respective batteries and through fault short circuit current which the battery can produce and withstand for the period declared.

5.5 VENT PLUG

Vent plugs shall be provided in each cell. They shall be anti splash type, having more than one exit hole shall allow the gases to escape freely but shall prevent alkali from coming out. The design shall be such that the water loss due to evaporation is kept to minimum. In addition the ventilator shall be easily removed for topping up the cells and of such dimensions that the syringe type hydrometer can be inserted into the vent to take electrolyte samples.

5.6 SEDIMENT SPACE

Sufficient sediment space shall be provided so that cells will not have to be cleaned during normal life and prevent shorts within the cells.

5.7 Cell Insulator

Each cell shall be separately supported on PVC/porcelain/hard rubber insulators fixed on to the racks with adequate clearance between adjacent cells. Minimum distance between the adjacent cells shall be more than the bulge allowed for two cells in accordance with IS: 1146.

5.8 The following information shall be marked on out side of each cell.

- Name, type and trade mark of manufacturer
- Country and year of manufacture
- Capacity at 5 hr discharge rate .
- Upper and lower electrolyte level
- Serial Number

5.9 ELECTROLYTE



TITLE :
TECHNICAL SPECIFICATION FOR
220V DC Ni-Cd BATTERY

SPECIFICATION NO.
PE-SS-999-508-E004

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SECTION : **II**

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The electrolyte shall be prepared from battery grade potassium hydroxide conforming to BS: 1069/IEC 60993. The cells shall be shipped dry, uncharged with electrolyte supplied in non-returnable good quality polyethylene or other suitable containers.

Ten percent extra electrolyte shall be supplied to account for any spillage during transit.

5.10 BATTERY RACKS

- a) Mild Steel battery racks to be supplied as specified in datasheet-A.
- b) Racks shall be painted with at least three (3) coats of anti alkali paint.
- c) Racks shall be free standing type mounted on porcelain/hard rubber/ PVC Pad insulators.
- d) Nameplates, resistance to Alkali, for each cell shall be attached on to the battery racks.
- e) Battery racks and other supporting/interconnecting accessories shall be as per layout arrangement to be approved by purchaser during contract engineering stage.
- f) The bottom tier of the stand shall not be less than 150 mm above the floor.
- g) Wherever racks are transported in dismantled conditions, match markings shall be provided to facilitate easy assembly.
- h) The Battery shall be provided with earth leakage detector. The battery distribution board should have earth leakage monitoring equipment for the DC feeders taking off from the panel.

6.0 Following minimum information shall be given on the instruction cards:

- i) Manufacturer's instructions for filling and initial charging of the battery together with starting and finishing charging rate
- j) Maintenance instructions
- k) Designation of cell in accordance with relevant standard.
- l) Storing conditions of electrolyte

7.0 LIFE

The guaranteed life of battery when operating under the specified conditions shall be furnished.

8.0 ACCESSORIES

Battery accessories shall be provided as specified in BOQ cum unpriced Price Schedule (Annexure-A) enclosed with NIT.

9.0 BATTERY HEALTH MONITORING SYSTEM (BHMS)

Each battery bank of Area-1 shall be supplied with micro-processor based battery health monitoring system (BHMS) for individual cell healthiness monitoring which shall be located in 220V DC charger/ DCDB room. BHMS shall be microprocessor based system with hardware and software to monitor the condition of each battery system. The voltage of each cell shall be monitored to ascertain any probable failure in the cell. In case of any



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failure, particular cell number will be indicated locally and alarm will be generated. Provision shall be kept to transmit the group alarm signal in remote also.

Provision shall be provided for transmitting group alarm signal for remote alarm. In addition to local indication and control, the battery monitoring shall also include RS 485 output port to enable battery parameters and alarms to be monitored from plant DDCMIS / EDMS / SAS.

In addition to all the accessories required for meeting the above requirement of BHMS system, Suitable length & type of Cables required to establish connection between the cells and BHMS should be considered by bidder in their scope of supply.. Battery room layout in Annexure-IV. Cables of Total length 700 meter, suiting requirement of connectivity between Battery Health monitoring system to SCADA/ DDMIS, should also be considered by bidder in their scope of supply.

10.0 INSPECTION AND TESTING

Offered equipment shall be of type tested design. The bidder shall confirm compliance to quality plan enclosed with the specification, which is subject to customer/ BHEL approval and the inspection shall be carried out based on this approved Quality Plan (QP no. PE-QP-999-508-E002). In case bidder has reference QP agreed with ultimate customer, same can be submitted for specific project after award of contract for BHEL/ultimate customer's approval. There shall be no commercial implication to BHEL on account of minor changes in QP during contract stage.

10.1 Quality Assurance

All materials components and equipment's covered under this specification shall be procured, manufactured, inspected and tested as per the BHEL standards, quality plan number PE-QP-999-508-E002 enclosed with this specification and which shall be complied with.

All acceptance and routine tests as per IS-10918 shall be carried out by the manufacturer. Charges for all routine and acceptance tests for all the materials shall be deemed to be included in the bid price.

10.2 Type, Routine and Acceptance Tests

Type, Routine and Acceptance tests to be performed as per Quality Plan(QP no. PE-QP-999-508-E002) enclosed with this specification.

11.0 PERFORMANCE GUARANTEE

Bidders shall guarantee that battery offered shall meet the duty cycle requirements as stipulated in this specification and as confirmed by them in technical data sheets. In case, the performance of battery at site is not as per the performance guarantee, the bidder will have to replace the battery at site free of cost.

12.0 INSTRUCTION MANUALS



TITLE :

TECHNICAL SPECIFICATION FOR

220V DC Ni-Cd BATTERY

SPECIFICATION NO.

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12.1 Instruction manuals for the installation, operation and maintenance of battery to be supplied shall be furnished. The installation and maintenance manual shall contain the following.

- a) General description giving type and rating of various batteries.
- b) Technical data
- c) Salient constructional details.
- d) Instruction to be followed on receipt at site.
- e) Instructions for foundations, if any
- f) Erection procedures and checks.
- g) Procedure for filling of electrolyte.
- h) Commissioning procedures and site tests.
- i) Routine, periodic and preventive inspection and maintenance procedures.
- j) Safety rules.
- k) Possible faults, their causes and remedies.
- l) Type and routine test certificates.
- m) Catalogues, literatures and drawings.

13.0 Bidder shall furnish field quality plan detailing out the specific quality control procedure covering receipt of material/equipment and handling at site, storage, erection, commissioning, post commissioning etc.

14.0 By all Bidders as technical offer:

- i. Battery sizing calculation with respect to load duty cycle enclosed with Section-I to be provided along with supporting documents (capability / discharge curve, temperature correction factor, float charging factor & published technical catalogue) for considered factors.
- ii. Unpriced Price Schedule (Annexure-A) as enclosed with NIT with "Quoted" word against items with bidder's signature and company stamp.
- iii. A copy of the sheet "Compliance certificate" with bidder's signature and company stamp.
- iv. A copy of sheet "Data Sheet-A" with required information and bidder's signature and company stamp.



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TECHNICAL SPECIFICATION FOR
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LIST OF CODES AND STANDARDS FOR Ni-Cd BATTERY

- | | | |
|----|---|-----------|
| 1. | STATIONERY Ni-Cd BATTERY | IS 10918 |
| 2. | RECOMMENDED PRACTICE FOR SIZING Ni-Cd BATTERIES | IEEE 1115 |
| 3. | METHODS OF TESTS FOR Ni-Cd BATTERIES | IS 10918 |
| 4. | Quality Tolerances for Water for Storage Batteries--Specification | IS 1069 |
| 5. | INDIAN ELECTRICITY RULES & INDIAN ELECTRICITY ACTS | |

Note:

Vendor to note that wherever IS is mentioned equivalent IEC is also acceptable. In case of any technical requirement not covered by IEC, technical requirement as per IS shall prevail.

		STANDARD QUALITY PLAN		CUSTOMER :			PROJECT: 2 X 660MW ENNORE TPS		SPECIFICATION NO. PE-TS-412-508-E001			
				BIDDER/ :			QUALITY PLAN		SPECIFICATION TECHNICAL SPECIFICATION			
		SHEET 1 OF 4		VENDOR			NUMBER: PE-QP-999-508-E002 REV.01		TITLE FOR 220V DC BATTERY			
		SYSTEM			ITEM : NI CD BATTERY			SECTION		VOLUME III		
SL. NO.	COMPONENT/ OPERATION	CHARACTERISTIC CHECK	CAT.	TYPE/ METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS
									P	W	V	
1	2	3	4	5	6	7	8	9	10			11
1.0	RAW MATERIALS & BOUGHT OUT ITEMS											
1.1	CELL CONTAINER											
a)	Dimensional & constructional conformance	Visual	MA	IS:10918	Random Sample	IS:10918	IS:10918	Test Cert.	3/2	-	1	
b)	Ball drop test	Mechanical	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1	
c)	Hydraulic thrust enduarncce test	Physical	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1	
d)	Resistance to alkali	Chemical	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1	
e)	HV test	Electrical	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1	
f)	Shade difference, straightness of side walls, free from burrs, flash lines etc.	Visual	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1	
1.2	TERMINAL POST											
a)	Dimensional Conformance	Visual	MA	IS:10918	Random Sample	IS:10918	IS:10918	Test Cert.	3/2	-	1	
b)	Material Conformance	Chemical	CR	As per IS-2062	-do-	As per IS-2062	As per IS-2062	-do-	3/2	-	1	
c)	Thread size depth & chamfer	Physical	MA	Measurement	-do-	-do-	-do-	-do-	3/2	-	1	
d)	Surface finish & defects	Visual	MA	-do-	100%	MFR's Std.	MFR's Std.	Test Cert.	3/2	-	1	
e)	Plating Quality	Thickness	CR	-do-	Random Sample	-do-	-do-	-do-	3/2	-	1	
BHEL			PARTICULARS			BIDDER/ VENDOR						
			NAME									
			SIGNATURE									
			DATE						BIDDER'S/ VENDORS COMPANY SEAL			

		STANDARD QUALITY PLAN SHEET 2 OF 4		CUSTOMER :			PROJECT: 2 X 660MW ENNORE TPS			SPECIFICATION NO. PE-TS-412-508-E001			
				BIDDER/ :			QUALITY PLAN			SPECIFICATION TECHNICAL SPECIFICATION			
				VENDOR			NUMBER: PE-QP-999-508-E002 REV.01			TITLE FOR 220V DC BATTERY			
		SYSTEM			ITEM : NI CD BATTERY			SECTION			VOLUME III		
SL. NO.	COMPONENT/ OPERATION	CHARACTERISTIC CHECK	CAT.	TYPE/ METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS	
									P	W	V		
1	2	3	4	5	6	7	8	9	10			11	
1.3	CONNECTOR											# Vent cap shall be easily removed from topping up the cells and of such dimensions that the syringe type hydrometer can be inserted into vent to take electrolyte sample.	
a)	Material Conformance	Chemical	CR	As per IS-1897	Random Sample	As per IS-1897	As per IS-1897	-do-	3/2	-	1		
b)	Dimensional Conformance	Visual	MA	Measurement	-do-	Approved drg/ doc & MFR's Std.	Approved drg/ doc & MFR's Std.	-do-	3/2	-	1		
c)	Visual defects	Visual	MA	-do-	100%	-do-	-do-	-do-	3/2	-	1		
d)	Plating Quality (Duplex)	Thickness	CR	-do-	Random Sample	-do-	-do-	-do-	3/2	-	1		
1.4	SEPARATOR												
a)	Dimensional Conformance	Visual	MA	Measurement	-do-	As per BHEL Spec. / IS:10918	As per BHEL Spec. / IS:10918	-do-	3/2	-	1		
b)	Colour shade difference, burrs, flash at the edge	Visual	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1		
1.5	Vent Cap												
a)	Dimensional Conformance	Dimension	MA	Measurement	-do-	Refer Remarks#	Refer Remarks#	-do-	3/2	-	1		
BHEL			PARTICULARS			BIDDER/ VENDOR							
			NAME										
			SIGNATURE										
			DATE						BIDDER'S/ VENDORS COMPANY SEAL				

		STANDARD QUALITY PLAN		CUSTOMER :			PROJECT: 2 X 660MW ENNORE TPS			SPECIFICATION NO. PE-TS-412-508-E001			
				BIDDER/ :			QUALITY PLAN			SPECIFICATION TECHNICAL SPECIFICATION			
				VENDOR			NUMBER: PE-QP-999-508-E002 REV.01			TITLE FOR 220V DC BATTERY			
SHEET 3 OF 4		SYSTEM			ITEM : NI CD BATTERY			SECTION			VOLUME III		
SL. NO.	COMPONENT/ OPERATION	CHARACTERISTIC CHECK	CAT.	TYPE/ METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	P	W	V		
1.6	Rubber Components (Gaskets & Sealing ring etc)												
a)	Material quality	Shore hardness	CR	-do-	-do-	-do-	-do-	-do-	3/2	-	1		
b)	Resistance to alkali & oil	Chemical	MA	-do-	-do-	-do-	-do-	-do-	3/2	-	1		
c)	Dimensional Conformance	Dimension	MA	Measurement	-do-	-do-	-do-	-do-	3/2	-	1		
d)	Flash or burrs	Visual	MA	Visual	-do-	-do-	-do-	-do-	3/2	-	1		
1.7	Strip												
a)	Plating Quality including thickness	Dimension	CR	Measurement	1 sample/ coil	MFR's Std.	MFR's Std.	Test Cert.	3/2	-	1	Nickel plating thickness of steel strip shall be minimum 3 microns.	
2.0	FINISHED BATTERY	Routine Test	CR	Elec. & Meas.	100%	IS:10918 & IS:8320	IS:10918 & IS:8320	Test Cert.	3/2	-	1		
3.0	FINAL INSPECTION												
3.1	Type Test #												
a)	Physical Examination	Visual	MA	Visual	Random Sample	Approved drg/ doc & IS:10918	Approved drg/ doc & IS:10918	Test Cert.	3/2	1	-		
b)	Dimensions, Mass & Layout	Dimension	MA	Measurement	-do-	-do-	-do-	-do-	3/2	1	-		
c)	Cell marking	-do-	MA	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
d)	Polarity & absence of short circuit	Electrical	MA	-do-	Sample Plan as per IS: 8320	-do-	-do-	-do-	3/2	1	-	By voltage measuremnet according to polarity	
BHEL			PARTICULARS			BIDDER/ VENDOR							
			NAME										
			SIGNATURE										
			DATE						BIDDER'S/ VENDORS COMPANY SEAL				

		STANDARD QUALITY PLAN		CUSTOMER :			PROJECT: 2 X 660MW ENNORE TPS		SPECIFICATION NO. PE-TS-412-508-E001				
				BIDDER/ VENDOR :			QUALITY PLAN NUMBER: PE-QP-999-508-E002 REV.01		SPECIFICATION TECHNICAL SPECIFICATION TITLE FOR 220V DC BATTERY				
		SHEET 4 OF 4		SYSTEM			ITEM : NI CD BATTERY		SECTION		VOLUME III		
SL. NO.	COMPONENT/ OPERATION	CHARACTERISTIC CHECK	CAT.	TYPE/ METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	10	P	W	V	11
e)	Air pressure test	Visual	MA	Measurement	-do-	-do-	-do-	-do-	3/2	1	-	# Conduction of Type Tests from S.No. (g) to (k) shall be as per Annexure-A enclosed.	
f)	Insulation Resistance	-do-	MA	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
g)	Ampere-hour capacity	Test	CR	As per IS: 10918	Sample Plan as per IS: 8320	-do-	-do-	Inspection Report	3/2	1	-		
h)	Endurance Test	-do-	CR	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
i)	Retention of Charge	-do-	CR	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
j)	Life Cycle Test	-do-	CR	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
k)	Test for discharge performance at low temp.	-do-	CR	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
l)	Dielectric Test	-do-	CR	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
3.2 Acceptance Test													
a)	Physical Examination	Visual	MA	Visual	Random Sample	Approved drg/ doc & IS:10918	Approved drg/ doc & IS:10918	Test Cert.	3/2	1	-	# Conduction of Type Tests from S.No. (g) to (k) shall be as per Annexure-A enclosed.	
b)	Dimensions, Mass & Layout	Dimension	MA	Measurement	-do-	-do-	-do-	-do-	3/2	1	-		
c)	Cell marking	-do-	MA	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
d)	Polarity and absence of short circuit	Electrical	MA	-do-	Sample Plan as per IS: 8320	-do-	-do-	Inspection Report	3/2	1	-		
e)	Air pressure test	Visual	MA	Measurement	-do-	-do-	-do-	-do-	3/2	1	-		
f)	Insulation Resistance	Electrical	MA	-do-	-do-	-do-	-do-	-do-	3/2	1	-		
g)	Ampere-hour capacity	Test	CR	As per IS: 10918	Sample Plan as per IS: 8320	-do-	-do-	-do-	3/2	1	-		
4.0 ACCESSORIES													
		Visual & Dimension	MA	-	100%	Approved drg/ doc	Approved drg/ doc	-do-	2	1	-		
5.0 CABLE LUGS													
		Visual	MA	-	100%	Approved drg/ doc	Approved drg/ doc	-do-	2	1	-		
NOTE:- Wherever IS is mentioned equivalent IEC is also acceptable. In case of any technical requirement not covered by IEC, technical requirement as per IS shall prevail.													
LEGEND : P : PERFORMER W: WITNESSER V: VERIFIER CHP: CUSTOMER HOLD POINT SHALL BE DECIDED AT CONTRACT STAGE													
1. End Customer/ End Customer's Consulatnt & BHEL 2. Vendor 3. Sub-Vendor of Vendor													
BHEL			PARTICULARS			BIDDER/ VENDOR							
			NAME										
			SIGNATURE										
			DATE						BIDDER'S/ VENDORS COMPANY SEAL				

LIST OF TYPE TEST FOR Ni-Cd BATTERY

S No	Test	Type test description	Referred standard	Test to be specifically conducted (Yes/No)	BHEL/Customer's approval Req. on test certificate (Yes/No)
1	Type Test	• Ampere-hour capacity	IS:10918	No	YES
		• Test for discharge performance at low temp.	IS:10918	No	YES
		• Retention of Charge	IS:10918	No	YES
		• Life Cycle Test	IS:10918	No	YES
		• Endurance Test	IS:10918	No	YES

Type Test certificates on similar rating of battery should not be older than older of

1. Four and half years (4.5 years) from the date of Purchase order
2. Four years from the date of Enquiry.

In case the type test certificates are older the envisaged period, the Type test need be revalidated on two cells of each battery.

Charges for Routine , Type and Acceptance Tests (as mentioned in QP and Annexure-A to QP) shall be included in the price of Battery and no separate charges are payable. In case of failure of Type Test, the same shall be conducted again without any Techno-commercial implication to BHEL.



**PRE-QUALIFICATION REQUIREMENTS FOR
DC Ni-Cd BATTERIES**

PE-PQ-999-508-E004

REVISION NO. 0 DATE 29/04/2016

SHEET NO. 1 OF 1

ITEMS : DC Ni-Cd battery

Vendor may be considered for evaluation for one or more of the following type of 220V/110V DC batteries :

Type 1 - Ni Cd (Fibre Plate) - 600AH & above

Type 2 - Ni Cd (Positive Pocket Plate) - 600AH & above

SCOPE: Supply : YES; Erection & Commissioning : NO; Supervision of Erection & Commissioning : YES;

1	Vendor should be designer & manufacturer of the applicable type of Battery.
2	Vendor to furnish published technical catalogue for the applicable type of batteries.
3	Availability of type test certificates conducted at independent Lab or witnessed by third party as per IS/ International standards for the applicable type of batteries.
4	In-house capability to carry out all routine and acceptance tests as per IS/ International standards for the applicable type of batteries.
5	Option -1 : Performance certificates for min. 2 years of trouble free operation at two(2) different installations/sites for the applicable type of batteries. Performance certificate should be from end user only. OR Option-2 : Repeat order received from 2 different purchasers / end users for the applicable type of batteries during last 5 years provided the gap between award of two PO's is minimum 2 years. OR Option-3 : 1 no. performance certificate (as per Option-1) and 1 no. repeat order (as per Option-2). OR Option-4 : Successful execution of a major order for BHEL-PEM for the applicable type of batteries.
6	Minimum two (2) nos. purchase orders for the applicable type of batteries shall be submitted which should not be more than five(5) years old from the date of application for registration or date of techno- commercial bid opening (as applicable) for establishing continuity in business.

NOTE:

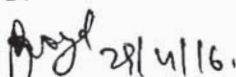
Supplier to comply to "general points of PQR" available at <http://bhelpe.com/vensection/PMD/PMD.aspx>
In case supplier is not OEM, the offer shall be evaluated as per point no 1 of "general points of PQR".

PREPARED BY


29/04/16

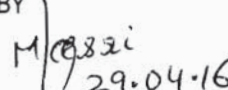
NAME: ABHISHEK
DESIGNATION: Dy. Mgr.

REVIEWED BY


29/4/16.

NAME: RAJNISH GOYAL
DESIGNATION: AGM

APPROVED BY


29.04.16

NAME: MEENA KESRI
DESIGNATION: AGM & DH(E)

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 _____ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____ ² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, .

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 Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto 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 contractors/supplier shall have no claim against us for making such payment.

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

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

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

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

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷we shall be discharged from all liabilities under this guarantee thereafter.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹
- c) Unless the Bank is served a written claim or demand on or before¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

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

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

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.
2. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit 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.
 - b. **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 (BHEL's Consortium Bank). 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). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

**Corporate Materials Management
BHEL New Delhi**

AA:MM:Agency
Dt. 06.08.2010

Guidelines regarding dealings with Indian Agents of Foreign Suppliers

1. BHEL shall deal directly with the foreign original equipment manufacturers (OEM)/ Foreign Principal, for all its purchases which are imported.
2. Wherever the foreign OEM/ principal desires to avail the services of an Indian Agent, the dealings with Indian Agents are to be regulated. The guidelines of BHEL in this regard have been drafted as per CVC circular no. 007/VGL/033 dated 04.12.2007.

Definition of Indian Agent

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

Recommendations

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

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

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

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Guidelines for Indian Agents of Foreign Suppliers

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

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Annexure-B

This format is applicable only to Indian Suppliers/ Agents supplying indigenous portion of Foreign Purchases.

* In all other cases, extant guidelines of SEARP, 2010 are to be followed.

SEARP (SRF) Clause No	Detail
	Name & address of the firm
1.0	Products/ Systems / Services being considered for
2.0	General Information
2.2	Name of Chief Executive
2.3	Details of authorized signatory
3.0	Ownership Information
3.1	Type of firm
3.2	Nature of Business • Attach authorization letter and agency agreement from Principal (from whom capital equipment is procured) • Attach copy of declaration from Foreign Principal for total guarantee/ warranty of indigenous supplies
3.3	Year of establishment
3.4	Year of commencement of business
4.0	Registration particulars
4.1	Permanent Account No.
4.2 / 4.3	Sales Tax / TIN no
4.6	Service tax no. (in case of E&C)
5.0	Organisational strength
6.0	Other particulars
6.1	If the company is already registered with other units
6.2	Directors/ Partners, if related to any BHEL Employee
6.9	If any Ex BHEL Personnel employed by the Company
6.12	Details of pending legal issues with BHEL
6.13	Bank Account information
9.0	Financial information
9.6	Sales/ Turnover details of last 3 years (or from the date of incorporation whichever is less)

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