

**Ref. Enquiry No.: PE/PG/BIF/E-7205/2022 dated 03/03/2023**

DUE DATE
31-March-2023
BY 11:00 AM (IST)

**TENDER ENQUIRY THROUGH E-PROCUREMENT**

Dear Ma'am/Sir,

**Subject: Tender Enquiry for "ELECTRIC LAB EQUIPMENTS as per Technical Specification No. PE-TS-421-556-E001E to 2X660 MW BIFPCL MAITREE KHULNA STPP, BANGLADESH.**

BHEL invites offers from reputed bidders (Refer Pre-qualifying requirement and other requirements given in tender enquiry letter uploaded on our websites) for SUPPLY PART, comprising of Design, manufacture, inspection and testing at manufacturer's work, forwarding, sea-worthy packing, shipment and delivery to **F.O.R. KOLKATA PORT 'OR' CHA GODOWN, KOLKATA PORT (For Indian Bidders) / C&F MONGLA SEA PORT, BANGLADESH (For Foreign Bidders) / F.O.R. BIFPCL MAITREE SITE, RAMPAL, BANGLADESH (For Bangladeshi Bidders)** complete with all accessories, demonstration and handling over to customer (where ever applicable) for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order in line with drawings/ documents/ test procedures approved by BHEL/ Customer of ELECTRIC LAB EQUIPMENTS as per details in different sections / volumes of tender specification. No. **PE-TS-421-556-E001E**.

Your offer shall be submitted in two parts strictly as per Clause - 2.0 of the "Instructions to Bidders" of GCC, Rev. 07 through **ONLINE via e-Procurement System on NIC portal** for the under mentioned equipment/system.

ITEM DESCRIPTION : ELECTRIC LAB EQUIPMENTS		
Sl. No.	PROJECT	TECHNICAL SPECIFICATION NO.
1	2X660 MW BIFPCL MAITREE STPP	PE-TS-421-556-E001E.

Your best quotation/offer for the above requirement, in line with enquiry terms and conditions, should be submitted online via e-procurement portal (<https://eprocurebhel.co.in>) under mentioned equipment's /system. Please note that you have to submit bids in two parts (Techno-Commercial Bid and Price Bid) separately **ONLINE via e-Procurement System**. In case you are not making an offer against this enquiry, you are requested to send a regret letter so as to reach us on or before the due date.

All corrigenda, addenda, amendments, time extensions, clarifications etc., to the tender will be hosted on websites only ([www.bhelpem.com](http://www.bhelpem.com), [www.bhel.com](http://www.bhel.com), <https://eprocurebhel.co.in>) under subject tender reference. Bidders are requested to visit our websites constantly to keep themselves updated. Bidders may go through the Sellers' manual & Help documents provided on E-Procurement Portal website & obtain required Digital Signature Certificate for participating in the subject tender.

**It shall be the responsibility of the bidder to ensure that the tender is submitted via e-PROCUREMENT SYSTEM (<https://eprocurebhel.co.in>) on or before the due date and Part-I bids shall be opened on the due date through e-procurement Portal. Kindly open the website only in Internet Explorer browser.**

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**ENQUIRY TERMS AND CONDITIONS**

1. Please refer GCC, Rev.07 which is available on [www.bhelpem.com](http://www.bhelpem.com) and Corrigenda 01 dated 05/03/2022 to GCC REV 07. Bidders are requested to kindly download the same. Bidders are advised to go through the same while submitting the offer.
2. Offers should be submitted/uploaded ONLINE at <https://eprocurebhel.co.in> separately in two parts as follows:  
Part-I: **TECHNO-COMMERCIAL BID**                      Part-II: **ONLINE PRICE BID**  
**For detailed instructions, please see clause no. 2.0 of "Instructions to bidders of GCC Rev. 07".**
3. 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. Prices are to be filled/uploaded in price bid bidding form only, price bid (in pdf, excel etc.) (if any) uploaded anywhere in the portal against subject tender shall not be considered.
4. Bidders shall submit their offers meeting the requirements of the following tender documents indicated in GCC, Rev. 07 along with Corrigenda 01 dated 05/03/2022 to GCC REV 07. and other Terms and Conditions included in this Enquiry Letter:
  - **ANNEXURE-I:** To be furnished by the Bidders.
  - **ANNEXURE-II:** DEVITION SHEET (COST OF WITHDRAWAL)
5. **Bidders to note that following form the part of tender documents:**
  - General Conditions of Contract (GCC) Rev.07 along with Corrigenda 01 dated 05/03/2022 to GCC REV 07 comprising of Instructions to Bidders and General Commercial Terms & Conditions
  - Special Conditions of Contract (SCC) Rev. 01 (GCC Rev. 06 mentioned anywhere in the SCC Rev.01 may please be read as GCC Rev. 07)
  - Enquiry Letter (This Letter)
  - Price Schedule – Annexure B (to be filled in bidding form in e-procurement portal only)
  - Technical Specification
  - Technical PQR

Bidders to note that offers shall be submitted strictly in accordance with the requirements of the above tender documents.
6. Deviations (Technical as well as Commercial) from NIT are generally not acceptable. In case of deviations (Technical/Commercial), the same shall be highlighted separately giving clause references along with the Cost of withdrawal of Deviations as per Annexure-II to GCC, Rev. 07 along with reasons for taking such deviations. **Any deviations (Technical as well as Commercial) not mentioned in the Annexure-II shall not be considered.**  
***Bidder to note all the points mentioned in "Notes" of Annexure-II to GCC, Rev.07.***
7. Bidder has to submit "NO DEVIATION CERTIFICATE FOR COMMERCIAL TERMS AND CONDITIONS as per General Conditions of Contracts (GCC, Rev.07) along with Corrigenda 01 dated 05/03/2022 to GCC REV 07, Special Conditions of Contract (SCC, Rev.01) and Notice Inviting Tender (NIT)" **in case of no deviations.**

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8. Standard pre-printed terms & conditions of the tenderers (other than BHEL format) shall not be considered valid. Unsolicited fresh/revised price bids shall not be entertained.
9. 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.
10. Tenderers must enclose the Quality Plan in the prescribed format, for approval. Equipment will be dispatched only after Purchaser's/Owner's inspection at the hold points specified (Physically or Remote Inspection via online mode) in the approved Quality Plan and issue of Material Dispatch Clearance Certificate (MDCC) by purchaser.
11. Late tenders are liable to be rejected.
12. Prices shall be firm till completion of contract.
13. Validity of offer shall be as per cl.no.7(instruction to bidders) of GCC Rev 07.
14. Tenders and all correspondence thereof, shall be addressed to the undersigned by name & designation and sent at the following address :

DEVENDRA SINGH, DY MGR, PG-1 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: devendra.singh@bhel.in Ph. No. +91-120-4368877, +917503632335	HASEEN AHMED, SR MGR/PG-I 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 : haseenahmed@bhel.in Ph. No. +91- 120-4368729, +919871116747
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**15. Delivery Schedule: As per enclosed Annexure-B to NIT.**

16. Delivery address/point shall be as below: -

- a) For Indian Suppliers - Kolkata Port 'or' CHA Godown Kolkata Port
- b) For Foreign Suppliers - MONGLA PORT, Bangladesh
- c) For Bangladeshi Suppliers - Maitree site, Rampal, Bangladesh

For Indian suppliers, in case delivery address changes from Kolkata Port to Chennai Port/Any other destination at the time of dispatch, freight charges as mentioned in PO shall be adjusted on pro rata basis of distance from vendor's works to delivery address.

17. Over all (%) variation in contract value: The variation in overall package value due to changes in the scope shall be limited 0% (NIL), which will prevail over the quantity variation clause no. 6.0 of General Commercial Terms & Conditions of GCC, Rev.07.

**18. Pre-Qualifying Requirement:**

Bidders are requested to furnish the details as per "TECHNICAL PRE-QUALIFYING REQUIREMENTS" (enclosed with the enquiry document). Along with the tender, bidders to furnish all legible & valid documents required for Technical PQR. The same shall be properly co-relating

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with respective clause of PQR. Bids of only those bidders shall be evaluated who meet the Technical pre-qualifying requirements.

19. 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.
20. BHEL shall be finalizing this tender with price bid opening method (i.e. RA shall not be conducted for this tender). Bidders to quote suitably. Bidders to note that this clause will supersede clause no 13 of 'Instruction to Bidders' of GCC Rev 07.
21. Evaluation will be done on itemwise L1 (Total cost to BHEL excluding GST) basis with necessary loading as applicable. This package is not divisible in nature.
22. Evaluation Currency for this tender shall be INR (Exchange rate shall be the TT selling rate of SBI Bank on the date of part-1 bid opening).
23. Guarantee period for the subject tender shall be as per cl. no. 12.0 {except 12.2(b)} of GCC Rev.07.
24. Successful bidder shall submit performance security @5% of Total Ex-Works price of order required for execution of the contract as per Cl. No. 11.0 of GCC Rev.07, inline with guarantee period of NIT as mentioned at **sl. no. 23 above**. In case of delay in submission of performance security, enhanced performance security which would include interest (SBI rate + 6%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered as per terms defined in NIT /contract, from the bills along with due interest.
25. Bidders to note that this is a conditional enquiry (Open Global Tender) and the price bid (Part-II) opening shall be subject to following criterion:
  - a) Fulfilment of Technical pre-qualifying requirements.
  - b) Techno-commercial qualification / recommendation of bidder by BHEL-PEM.
26. The bidders (who are not registered with BHEL-PEM)- Online Registration Portal is operational in BHEL. Non-registered bidders, who wish to apply for registration with BHEL-PEM, have to apply through Online Registration Portal available at [www.bhelpem.com](http://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."
27. 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.
28. 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 <http://www.bhel.com> [www.bhel.com](http://www.bhel.com).
29. CIF is not available for the subject package.



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30. Operation & Maintenance (O&M) Manuals shall be submitted by bidder in both English and Bangla Language (5 nos hard copies in both languages and 3 sets of electronic copies in both languages).
31. For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018, 29.05.2019, 04.06.2020 & 16.09.2020 and subsequent orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ PO/ WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable shall be applicable.

Class-I, Class-II and Non-local suppliers are eligible to participate in line with cl. 3b of Public Procurement (Preference to Make in India) Order, 2017 dated 16.09.2020. Bidders at the time of tender, bidding or solicitation shall be required to provide self-certification that the item offered meets the minimum local content as per above mentioned orders and shall give details of the location(s) at which the local value addition is made.

32. Bidders have to submit "Model Certificate" as per Annexure-III of Order (Public Procurement No.1) F. No. 6/18/2019/PPD Dt. 23/07/2020 of DoE (Public Procurement Division). As per GOI OM no. 6/18/2019/PPD Dt. 23/07/2020 of DoE, any bidder from a country which shares land border with India will be eligible to bid in any procurement only if the bidder is registered with the Competent Authority (Registration Committee constituted by DPIIT as per Annex-I of the Order). However, this DoE order shall not be applicable to bidders from the countries (even if sharing land border with India) to which GOI has extended lines of credit or in which the GOI is engaged in development projects.

In case bidder has proposed to supply finished goods directly/indirectly from vendors from the countries sharing land border with India, such vendor will be required to be registered with the competent authority.

33. 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.
34. This Package falls under the list of items defined in Para 3 of Ministry of Finance guideline dtd. 20.09.2016 (procurement of items related to public safety, health, critical security operations and equipment etc.) & hence criteria of prior experience/turnover shall same for all the bidders including start-up/MSME.
35. Bidders to note that packing of equipment shall be sea worthy in line with (a) corporate standard for export jobs (b) technical specification PE-TS-888-100-A001 for sea worthy packing for export jobs, covered under the Technical specification for the package (Ref. No. **PE-TS-421-556-E001E**). Further, sea worthy packaging will be witnessed by inspection agency. Bidders to submit photographs pertaining to packing of material before despatch.
36. Successful bidder shall abide by all Applicable Laws, Rules and Regulations of Bangladesh relating to the execution of contract and performance of work. Successful bidder shall obtain and maintain all consents, permits and licenses that are required under Applicable Laws of Bangladesh.

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37. No announcements, press releases, handouts or photographs for publication etc. relating to purchase-order/work-order or any part of the supply/work shall be issued or released by successful bidder without BHEL's prior written approval.
38. Indian bidders to note the following Government notifications (enclosed with Enquiry Letter) regarding applicable GST for exports:
- a. Notification No. 41/2017 - Integrated Tax (Rate) dt. 23.10.2017 regarding IGST @0.1%
  - b. Notification No. 40/2017 - Central Tax (Rate) dt. 23.10.2017 regarding CGST @0.05%
  - c. Notification no. 1663 dt. 16.11.2017 regarding SGST @0.05%
39. RBI circular no. FED.CO.TRADE(EXD)/3543/05.11.001/2017-18 dtd 18.10.2017 is enclosed as Annexure-F.
40. 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.
41. The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

42. All corrigenda, addenda, amendments, time extensions, clarifications etc., to the tender will be hosted on websites only ([www.bhelpem.com](http://www.bhelpem.com), [www.bhel.com](http://www.bhel.com), <https://eprocurebhel.co.in>) under subject tender reference. Bidders are requested to visit our websites constantly to keep themselves updated. Bidders may go through the Sellers' manual & Help documents provided on E-Procurement Portal website & obtain required Digital Signature Certificate for participating in the subject tender.
43. In case you are not making an offer against this enquiry, you are requested to send a regret letter so as to reach us on or before the due date.
44. All the above tender documents shall automatically become the part of the order/contract after its finalisation.
45. With reference to Clause no. 16 of GCC rev. 07, as per GST Circular No. 178/10/2022 dated 03.08.2022 GST will not be levied on LD/Penalty charged for delay/shortfall
46. All terms and conditions shall be as per NIT, SCC REV 01 of project and GCC rev. 07 along with Corrigenda 01 dated 05/03/2022 to GCC REV 07. In the event of any contradiction in the terms and conditions mentioned, the order of preference shall be as mentioned in Cl. No. 36 of GCTC of GCC Rev. 07.
47. Please note that for technical bid, detailed offers are to be submitted including the following along with the Price schedules as per BHEL format enclosed with NIT:
- Acceptance of GCC, Rev.07 along with Corrigenda 01 dated 05/03/2022 to GCC REV 07.
  - Acceptance of Special Conditions of Contract (SCC, Rev.01)
  - TECHNICAL Pre-Qualifying Requirement (PQR) along with supporting documents.

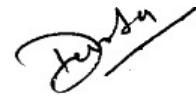
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- Technical Deviations and commercial deviations (if, any) as per annexure-II (Cost of Withdrawal of Deviation) in e-procurement portal.
  - Price bid in e-procurement portal.
  - Documents as per Make in India order
  - Along with your offers, please furnish a copy of this letter duly signed & stamped on each page as token of acceptance of all terms & instructions conveyed.
  - Un-Priced price schedules duly filled in 'Quoted' or 'Q' in each column/row in bidding form.
48. Due to COVID-19 pandemic condition prevailing in the country, BHEL/PEM may go for Remote Inspection of Offered items, if required. Vendors are requested to be equipped with the facilities/gadgets as indicated in the guidelines attached to take up the inspection REMOTELY.
49. Please note that for subject tender, Preferences as mentioned in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" shall be given to Micro and Small enterprises.

**Note : Tenderer must submit UN-PRICED Price Schedule duly filled mentioning the word "QUOTED" in place of actual price. The actual price is to be filled in separately and submitted in sealed price bid.**

Thanking You.

Yours faithfully,  
For and on behalf of BHEL



**DEVENDRA SINGH**  
**DY. MGR/PG-1**

**Enclosures:**

1. Enquiry Letter with Terms & Conditions (This letter).
2. Technical Specification for the package (Ref. No. **PE-TS-421-556-E001E**).
3. Technical PQR
4. Annexure-A to NIT for BOQ-cum-Price Schedule
5. Annexure-B for Delivery Schedule.
6. Annexure-II to NIT for Cost of Withdrawal of Deviations
7. GCC rev. 07 & Corrigenda 01 dated 05/03/2022 to GCC REV 07 (Available on [www.bhelpem.com](http://www.bhelpem.com) website)
8. SCC, Rev. 01 for 2X660 MW BIFPCL MAITREE KHULNA STPP.
9. Annexure G - Govt. Notifications regarding applicable GST for exports: Notification: i) No. 41/2017 - Integrated Tax (Rate) dt. 23.10.2017 regarding IGST @0.1%, ii) Notification No. 40/2017 - Central Tax (Rate) dt. 23.10.2017 regarding CGST @0.05%, iii) Notification no. 1663 dt. 16.11.2017 regarding SGST @0.05%
10. Annexure- F - RBI circular no. FED.CO.TRADE(EXD)/3543/05.11.001/2017-18 dtd 18.10.2017
11. Project Information

**ANNEXURE-A - BOQ CUM PRICE FORMAT**  
**TENDER ENQUIRY REF. NO: PE/PG/BIF/E-7205/2022 dated 03/03/2023**  
**PROJECT NAME: 2X660MW BIFPCL MAITREE KHULNA STPP**  
**PACKAGE NAME: ELECTRICAL LAB EQUIPMENT**

	VENDOR'S NAME - M/s.....					DELIVERY TERMS FOR INDIAN BIDDERS : F.O.R. KOLKATA PORT OR CHA GODOWN KOLKATA PORT									APPLICABLE FOR FOREIGN BIDDERS (BIDDERS TO INDICATE THEIR CURRENCY) (DELIVERY TERMS : C&F MONGLA SEA PORT, BANGLADESH )			FOR BANGLADESHI BIDDERS (PRICES IN BDT) (DELIVERY TERMS : F.O.R. BIFPCL MAITREE SITE, RAMPAL, BANGLADESH )	
S.No.	Item Code	Item Name as per Pulse	Item description	UOM	Quantity (A)	HSN codes	UNIT EX-WORKS PRICE (INCLUDING SEA WORTHY PACKING) (INR)	TOTAL EX-WORKS PRICE (INCLUDING SEA WORTHY PACKING) (INR)	FREIGHT RATE @.....% OF TOTAL EX-WORKS PRICE (to be filled in integer)	FREIGHT CHARGES (INR)	TOTAL EX-WORKS PRICE + FREIGHT CHARGES (INR)	GST @ 0.1%	TOTAL GST AMOUNT (INR)	TOTAL PRICE F.O.R. KOLKATA PORT OR CHA GODOWN KOLKATA PORT (INR)	CURRENCY	* UNIT C&F (COST & OCEAN FREIGHT BASIS) INCLUDING SEA WORTHY PACKING (AT MONGLA SEA PORT PRICE)	TOTAL C&F (COST & OCEAN FREIGHT BASIS) INCLUDING SEA WORTHY PACKING (AT MONGLA SEA PORT PRICE)	* UNIT F.O.R. SITE PRICE INCLUDING SEA WORTHY PACKING (in BDT)	TOTAL F.O.R. SITE PRICE INCLUDING SEA WORTHY PACKING (in BDT)
3	556-11116-A	MULTI MTR DIGITAL PORTABLE	Digital Multimeters	NOS	8			0		0	0	0.10%	0	0			0		0
17	556-11249-A	INFRARED DISTANCE TEMPERATURE INDICATOR	Infrared temperature measuring devices	NOS	2			0		0	0	0.10%	0	0			0		0
33	556-11026-A	BATTERY CAPACITY TEST KIT	Sets Battery kit	NOS	2			0		0	0	0.10%	0	0			0		0
38	556-11309-A	DEMONSTRATION-MAN-DAYS RATE	DEMONSTRATION-MAN-DAYS RATE	SET	REFER NOTE:1														
39	556-11310-A	DEMONSTRATION-VISIT RATE	DEMONSTRATION- VISIT RATE	LOT	REFER NOTE:1														

NOTE: 1. Demonstration & Handing over to BHEL / BHEL's Customer charges shall be as per Annexure-II of Section-I of Tech. Spec # PE-TS-421-556-E001E.

NOTE 2: BIDDER TO FILL ONLY BLUE CELLS

**BANGLADESH-INDIA FRIENDSHIP POWER CORPORATION (PVT) LTD  
(BIFPCL)**

**2X660MW MAITREE STPP**

**TECHNICAL SPECIFICATION  
FOR  
ELECTRICAL LAB EQUIPMENT**

**SPECIFICATION NO. : PE-TS-421-556-E001E, REV. 0**



**BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR PROJECT ENGINEERING MANAGEMENT  
NOIDA, 201301**

1336173/2023/PS-PEM-EL



**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

**Doc. No. PE-TS-421-556-  
E001E**

**Volume**

**Section**

**IIB**

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

65

1336173/2023/PS-PEM-EL


	<b>2 X 660 MW MAITREE STPP TECHNICAL SPECIFICATION FOR ELECTRICAL LAB EQUIPMENT</b>		Doc. No. PE-TS-421-556- E001E
			Volume IIB
			Section I
	COMPLIANCE CERTIFICATE		Rev. : 00 DATE-27.02.2023

### 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] of the specification shall not be considered (i.e., technical description & quantities as per specification shall prevail).
6. All essential accessories for each electrical laboratory equipment required for testing various electrical equipment /devices during Commissioning, Operation and Maintenance of power plant to be ensured by bidder in their offer.

-----  
BIDDER'S STAMP & SIGNATURE

	<b>2 X 660 MW MAITREE STPP TECHNICAL SPECIFICATION FOR ELECTRICAL LAB EQUIPMENT</b>		Doc. No. PE-TS-421-556- E001E
			Volume IIB
	<b>SPECIFIC TECHNICAL REQUIREMENTS</b>	<b>Section I</b>	Rev. : 00 DATE-27.02.2023

## 1.0 SCOPE

- 1.1 Design, manufacture, inspection and testing at manufacturer's work, proper packing (sea-worthy) and delivery (as per NIT), demonstration and handling over to customer (where ever applicable) of Electrical Laboratory Equipment as mentioned in different sections of this specification.
- 1.2 General technical requirements of the Electrical Laboratory Equipment are indicated in Section – II. Project specific technical requirements/changes are listed in section-I.
- 1.3 Electrical Laboratory Equipment shall be supplied along with all essential accessories required for the successful operation of the equipment.
- 1.4 Detailed technical parameters of Electrical laboratory equipment are listed in Annexure – I of Section-I.
- 1.5 The requirement of section-1 shall prevail and govern in case of conflict between the corresponding requirements of Section-I and section-II.


## 2.0 BILL OF QUANTITIES

- 2.0.1 Quantity requirement shall be as per 'BOQ cum price schedule' enclosed in NIT.
- 2.0.2 Supplier to also give the following undertaking in the BOM: "The BoM provided herewith completes the scope (in content and intent) of material supply under PO No. -----, dated -----. Any additional material which may become necessary for the intended application of the supplied item(s)/package will be supplied free of cost in most reasonable time."

## 3.0 SPECIFIC TECHNICAL REQUIREMENT

S.No.	Reference Clause No. of Section-II (if any)	Specific Requirement/Change
1	Clause 2.0 CODES AND STANDARDS	EQUIVALENT INTERNATIONAL STANDARDS OF INDIAN STANDARDS TO BE FOLLOWED
2	Clause 5.0 PACKING	<p>Packing and Marking</p> <p>All the equipment shall be suitably protected, coated, covered or boxed and crated to prevent damage or Deterioration during transit, handling and storage at site till the time of erection. Packing shall be done to ensure protection against the coastal environment prevailing at site.</p> <p>All equipment shall be packed as per the guidelines given under technical specification for Sea worthy packing for Export Jobs (Part of this specification). The Contractor shall be responsible for all loss or damage during transportation, handling and storage due to improper packing.</p> <p>Packing and shipping instructions are detailed in the attached Packing specification.</p> <p>Packing as per clause no. 8.4.6 (Category-VII) of</p>



	<b>2 X 660 MW MAITREE STPP TECHNICAL SPECIFICATION FOR ELECTRICAL LAB EQUIPMENT</b>		Doc. No. PE-TS-421-556-E001E
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	<b>SPECIFIC TECHNICAL REQUIREMENTS</b>	<b>Section I</b>	Rev. : 00 DATE-27.02.2023

		technical specification for Sea worthy packing for Export Jobs (Specification Number PE-TS-888-100-A001) to be followed.
3	CLAUSE 1.9	<b>In addition to the clause 1.9 of section-II, Bidder to note that "During contract stage , if it is found that the offered model is not meeting the specification requirement , bidder shall offer higher model of same make meeting specification requirement without any techno-commercial implication to BHEL"</b>
4	CLAUSE 8.3 Instruction manual/O&M Manual of individual equipment	Additionally O&M Manual shall be submitted in both English and Bangla Language



**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

Doc. No. PE-TS-421-556-  
E001E

Volume

IIB

Section

I

**Annexure-I of SECTION-I DETAILED  
TECHNICAL PARAMETERS**

Rev. : 00 DATE-27.02.2023

**1.0 Digital multi-meters**

**Quantity**

**8 Nos**

Measuring ranges (AC and DC): from 2 mA to 10 A

from 2 V to 1000 V

from 200 Ohm to 20 MOhm

0 - 10.0  $\mu$ F (1 nF resolution)

0 - 100 Hz (0.01 Hz resolution)

-40 - 400°C (0.1°C resolution)

Accuracy:  $\pm 0.2\%$  to  $\pm 3\%$

Accessory: Complete with all accessories

**2.0 Infrared temperature measuring devices**

**Quantity**

**2 Nos**

Measuring range: 0-600 °C

Accuracy:  $\pm 2$  °C or  $\pm 2\%$  of the measured value (whichever is greater)

Accessory: Complete with all accessories

**3.0 Sets Battery kit**


**Quantity**

**2 Nos**

Fully automatic battery discharge unit suitable for testing 2 sets of 765 Ah each. For 220V DC system capable of monitoring the Battery capacity with discharge current of 160A per set.

As per latest technology

1336173/2023/PS-PEM-EL

	<b>2 X 660 MW MAITREE STPP TECHNICAL SPECIFICATION FOR ELECTRICAL LAB EQUIPMENT</b>		Doc. No. PE-TS-421-556-E001E	
			Volume	IIB
			Section	I
	<b><u>ANNEXURE-II OF SECTION – I</u> <u>DEMONSTRATION &amp; HANDING OVER CHARGES</u></b>		Rev. : 00 DATE-27.02.2023	

**SCHEDULE OF PRICES FOR DEMONSTRATION & HANDING OVER TO  
BHEL / BHEL'S CUSTOMER**

SL. NO.	DETAILS	ACTIVITY	UNIT CHARGES
1	LUMP SUM ALL INCLUSIVE CHARGES PER VISIT FOR EXPERIENCED / CAPABLE ENGINEER (EXCEPT DAILY CHARGES)	1 VISIT	<b>30000/-</b>
2	LUMP SUM ALL INCLUSIVE CHARGES FOR EXPERIENCED / CAPABLE ENGINEER PER DAY	1 DAY	<b>7500/-</b>

**Note:**

- TOTAL CHARGES = (Charges as per S.No.1) + [No. of Days(\*) x Unit Charges as per Sl. No. 2]
- Bidder to note that provision of maximum 2 visits amounting to total 6 man days is envisaged for respective bidders.

\*: To be certified by BHEL site

1336173/2023/PS-PEM-EL

2 X 660 MW MAITREE STPP									
ELECTRICAL LAB EQUIPMENT									
PE-TS-421-556-E001E									
DATA SHEET-B (Annexure-III of Section-I)									
SL. NO.	ITEM DESCRIPTION	QTY.	Description (Detailed Specification)	Whether Quoted or not (Yes/No)	MAKE	MODEL NO	COUNTRY OF MANUFACTURE	EQUIPMENT & ACCESSORIES CONFIRMS TO EACH TECHNICAL REQUIREMENT (YES/NO)	Remarks
3	Digital multi-meters	8	Measuring ranges (AC and DC): from 2 mA to 10 A from 2 V to 1000 V from 200 Ohm to 20 MOhm 0 – 10.0 $\mu$ F (1 nF resolution) 0 - 100 Hz (0.01 Hz resolution) -40 - 400°C (0.1°C resolution) Accuracy: $\pm$ 0.2% to $\pm$ 3% Accessory: Complete with all accessories.						
17	Infrared temperature measuring devices	2	Measuring range: 0-600 °C Accuracy: $\pm$ 2 °C or $\pm$ 2% of the measured value (whichever is greater) Accessory: Complete with all accessories.						
33	Sets Battery kit	2	Fully automatic battery discharge unit suitable for testing 2 sets of 765 Ah each. For 220V DC system. capable of monitoring the Battery capacity with discharge current of 160A per set. As per latest technology						


**VOLUME IIB**

**TECHNICAL SPECIFICATION  
FOR  
SEAWORTHY PACKING FOR EXPORT JOBS**

**SPECIFICATION NO. PE-TS-888-100-A001**



**BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR  
PROJECT ENGINEERING MANAGEMENT  
NEW DELHI, INDIA**

	<b>TITLE</b>  <b>TECHNICAL SPECIFICATION FOR SEAWORTHY PACKING FOR EXPORT JOBS</b>	SPECIFICATION NO. <b>PE-TS-888-100-A001</b>	
		VOLUME II B	
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### 1.0 Purpose

The purpose of this specification is to describe minimum packing requirements for the different items/equipment for all export Project and also to define marking and shipping requirements during transportation by ship, road and air for all export jobs.

### 2.0 SCOPE

For export jobs, sea worthy packing capable of performing all necessary functions like prevention of damage to the contents, sufficient to support frequent handling and lengthy period of outdoor storage in adverse weather conditions are required. Workmanship and materials used shall be of high standard meeting the technical requirements and in accordance with best commercial export packing practices. Vendor shall be responsible for sea worthy export packing, however it shall meet the minimum requirements specified herein. Equivalent or better packing methods may be deployed subject to approval of the BHEL/Purchaser. Vendor shall submit the packing procedure for its equivalent for purchaser's approval during detailed engineering.

The scope this specification is to define VENDOR's responsibilities in terms of:

- Preservation of the GOODS/items/equipments before packing.
- Packing of the GOODS for road, rail, sea and/or air transportation to desired destination i.e. project site
- Making cases/crates
- Chemical Treatment/Fumigation before packing to prevent fungus, damage due to termite, borer, rats, etc.
- Marking of cases/crates.
- Other Services required.


### 3.0 Application

This specification is applicable to all the goods to be transported to project site and requires to be in transit for longer duration. *However, for "Misc cable erection items", "Fire sealing system" & "Exothermic welding material", the packing requirements shall be as per the procurement specification.*

### 4.0 Definitions

- "BHEL" : Main EPC vendor
- "OWNER" : Customer for a particular export project.
- "VENDOR" : Company(ies)/VENDOR(s) to whom the BHEL has placed Purchase Order for GOODS/ items/system/package.
- "GOODS": means all or part of the articles, material, equipment supplies including technical documentation, as described in the Purchase Order, to be supplied by VENDOR.
- "PACKER": Packaging Company to whom VENDOR intends to sub-contract the packing in case they do not have own packing capability/facilities .
- "FREIGHT FORWARDER" : Means the Company responsible for performing freight forwarding activities.

### 5. General Information

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The following requirements are intended as minimum requirements, and compliance to these requirements in no way absolves or relieves VENDOR of any responsibility or obligation outlined in the Purchase Order. In all circumstances, the packing will be designed and constructed in order to support GOODS during transportation as well as to prevent the Goods from damage due to impact, extreme climatic conditions, sun and rain. It must be ensured that the delivery of the GOODS to the jobsite by sea, road or air, in good condition.

GOODS shall be export packed in compliance with the best-established practices for international projects, in accordance with the following instructions. In the event of any conflict between these specified requirement and the established practices, specification requirement shall govern.

Due to climatic conditions and the complex transport operation(s), it is essential that protection and packing is of the highest standard. Packing means to efficiently protect the GOODS during the total transport operation; from the moment they leave the factory until they are delivered to the jobsite, including handling operations (loading/unloading) and storage.

When VENDOR do not have packing capabilities/facilities of their own and therefore intends to sub-contract, VENDOR have to inform BHEL/Purchaser of the name and address of proposed PACKER(s) for approval.

#### 6.0 Criteria for Selection of Packaging

Packages are to be made according to categories, described in articles 8.1 to 8.5, depending on the type of materials, their fragility and size.

These categories have been established for the protection of equipment and material during multi-mode transports, i.e.: combination of overland and sea transport; containerization, air transportation.

In a general manner, the GOODS have to be packed in such a way that crates, bundles, pallets can be stored into General Purpose containers, wherever possible.

If VENDOR has any doubt about the correct method of protection or packing, he should contact BHEL/Purchaser in order to mutually agree on the adequate type of packing to be used.

Materials can be classified in following categories

- Hazardous Material
- Non-Hazardous Material
- 


Further to above categorisation, non-hazardous materials can be sub- categorised for selection of packing.

#### 6.1 Hazardous Materials

Though handling of hazardous material may is not applicable in the scope of this specification. All hazardous material must be packed in adherence to the detailed requirement relating to packing, marking and labelling set out in the most recent report of the Board's Standard Advisory Committee on the Carriage of Dangerous Goods in Ships for sea freight, and the Restricted Articles Regulations, laid down by the International Air Transport Association for airfreight.

#### 6.2 Non-Hazardous GOODS

The scope of this specification is to provide necessary guidelines for packing for power plant equipment, components, Pipings & Valves, Fittings, other structural items, electrical items, spare parts and erection materials. The procedure is defined in subsequent paragraphs in details in clause no. 8.0.

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## 7.0 Marking Instructions & Despatch details, Storage Code

### 7.1 Marking Instructions & despatch details

Packages and crates will be marked with indelible black paint, resistant to seawater. Marking must be perfectly legible.

The shipping marks, which will be as per fig-13, shall be stencilled on two sides and one end in clear characters at least 5 centimetres high (where crate size permits, otherwise use optimum size for each package dimension).

When the GOODS are to be shipped in containers then marking may be stencilled on one end only. However, packages must be stowed in a manner that shows these marks.

Crates containing fragile articles must be packed with special precaution against risk of breakage and must be stencilled on all sides "FRAGILE - HANDLE WITH CARE". Where crates are not to be overturned, VENDOR must show on the crates, clear and readily visible identification as per fig-12, to ensure they are kept in the correct position.

Packages/equipment of 2,000 kg or more must be marked with slinging points on all sides, in addition to the centre of gravity marks.

Number packages consecutively i.e. 1 of 10, 2 of 10, etc. Do not duplicate package numbers. VENDOR is responsible for any loss or damage caused by incorrect marking.

All cases/crates shall also be marked with the appropriate international standard graphic symbols for handling as shown in Fig 12.

As a minimum, all cases/crates are to be marked clearly on all four sides with:

- "HANDLE WITH CARE"
- "RIGHT SIDE UP"
- "KEEP DRY"

In the case of packages with a single gross weight totalling 2,000 kg and/or a height of more than 1m, the centre of gravity shall be clearly marked with the symbol on two adjoining sides. For all items of equipment with an eccentric centre of gravity this symbol shall be marked at the bottom, side and top of the package.

The slinging and lashing points shall be marked with a chain symbol.


When packing in cases/crates, these packages shall also have metal corners at the slinging points. (Fig-11)

External front and rear sides of the boxes to be planed for writing instructions.

Dispatch details such as consigner/consignee address, contract and case details, country of origin, port of delivery, stacking instructions shall be written on one side of the boxes. An anodized aluminum plate as per details and specifications given in fig-13 shall be provided on one side of the boxes.

One copy of packing slip wrapped in polyethylene bag covered with aluminum packing slip holder to be nailed on the external surface of the box. One more copy of the packing slip wrapped in polyethylene bag is to be kept inside the box at the pertinent place.



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## 7.2 Storage Code

The type of storage required is required to be specified, it will be shown on each packaging in **RED colour**.

- X Crates or packages to be stored outdoor without covers
- XX Crates or packages to be stored under tarpaulin
- XXX Crates or packages to be stored in covered or enclosed premises
- XXXX Crates or packages which must be stored in air-conditioned premises

## 8.0 GUIDELINES FOR PACKING GOODS

**8.1** In the subsequent paragraphs details of different types of packings for different types of GOODS are defined. Vendor shall make packing details/procedure based on the guidelines and submit for approval.

### 8.1.1 Packing for Pipe, Fittings, Flanges and Valves, Structural Steel

Particular attention should be brought to pipe, fittings, flanges, valves and structural steel. Packing categories for piping and fittings will differ according to the diameter and wall thickness of these products. VENDOR shall comply with the following established practice.

#### IMPORTANT NOTE:

***Depending on the project schedule and availability of ocean vessels, the piping and structural steel may be shipped in containers. In this event, VENDOR has to arrange the packages in such a way it allows the stuffing into Open Top in gauge containers.***

### 8.1.2 Pipe

Where practicable, pipe lengths shall be limited to 11.8 meters.

All pipes 2" included and below shall be packed in crates. All pipes to be capped and ends sealed with waterproof tape.

Pipes over 2" up to 6", shall be bundled and banded in bundles of uniform length. Bundling is carried out with U-IRON or traversal planks, joined with threaded connecting rods with locknuts. Quantities and strapping positions depend on the lengths, with a 120 cm spacing to prevent distortion. Bundle weight shall not exceed 2,000 kg. All pipes are to be capped and ends sealed with waterproof tape (tape is not necessary if end caps are of the pre-shrunk or self-sealing type).

Pipes larger than 6" shall be shipped as single lengths with the ends capped. End caps are to be of the recessed type to enable the use of soft faced hooks, but still completely sealing the end and also protecting the weld.


All stainless steel piping must be packed separately in wooden crates. Any banding of bundles is to be with the same material.

### 8.1.3 Pipe Fittings, Flanges and Valves

All pipe fittings, flanges and valves up to 6", are to be packed in cases/crates. For items over 6", these may be fixed securely to a pallet base and enclosed in a crate, for protection. Where valves have actuators attached, rigidity must be ensured for the valve and actuator. The vulnerable parts of the actuator are to be completely protected within a wooden crate.

All stainless steel fittings, flanges and valves of all sizes, must be packed separately in wooden crates. Any strapping is to be with the same material.

### 8.1.4 Structural Steel

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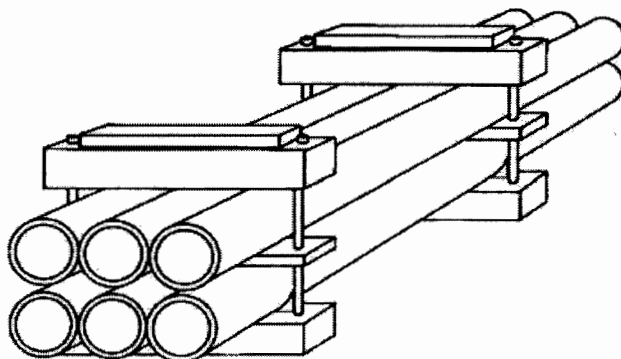
Structural Steel, reinforcing rods, bars, etc., should be packed in bundles of uniform length. Refer to articles 8.1.2, for strapping requirements. Bundle weight not normally to exceed 2,000 kg. Fabricated structures and structural steelwork, etc, should be bundled and packed using wooden beams and long bolting to secure the load.

## 8.2 Bundling – Packing Category I

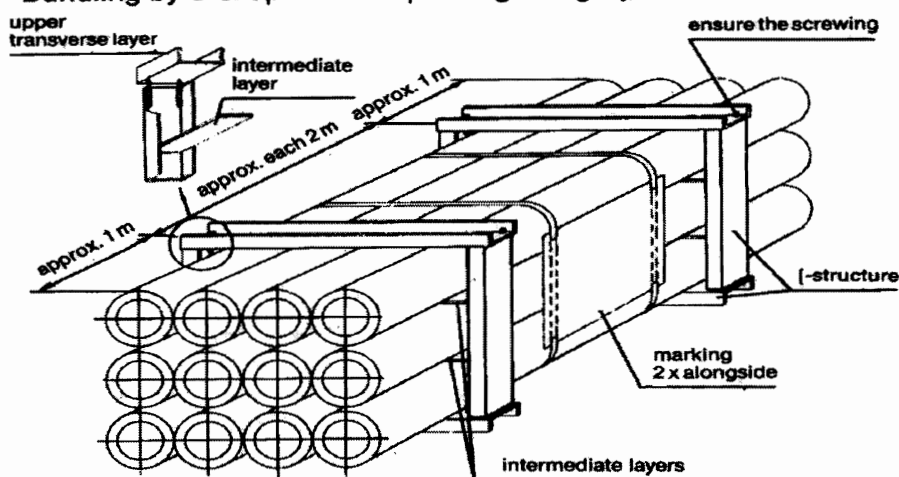
### 8.2.1 Type of Equipment

Equipment which is not subject to damage by corrosion or mechanical effect, i.e. pipes, piping, structural steel.


#### Packing category I



#### Bundling by U-shaped iron – packing category I A



### 8.2.2 Type of Construction

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- Bundling has to be effected
- By squared timber and threaded rods.
- With an intermediate layer (threaded on tightening bolts) according to the weight of the package.
- Wedge-shaped timbers must be added at the outer points of lower layer.
- Between the bolts a spacer must be nailed.
- The bolts must be secured (e.g. by locking nut).
- If single parts could protrude, an appropriate protection must be installed (flat iron or plates).
- Bundling with steel straps or PVC straps is not accepted.

### 8.3 Skids, Square Timber Constructions, Casings – Packing (Category II)

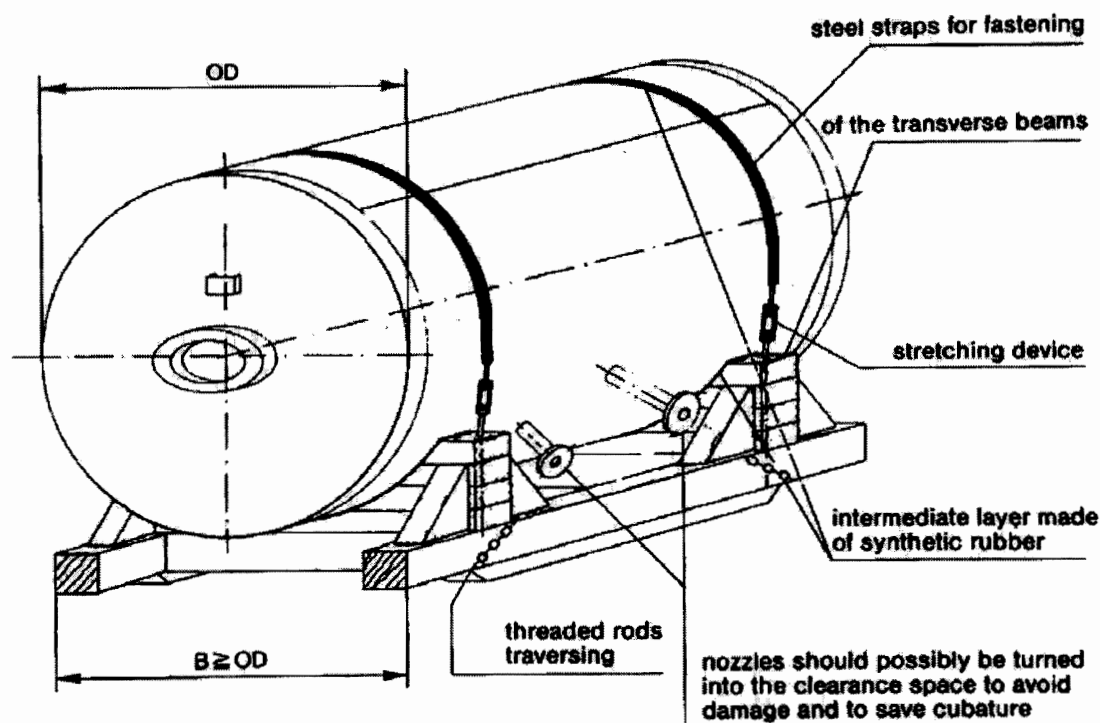
#### 8.3.1 Type of Equipment


Voluminous apparatus, tanks and/or heavy pieces those are not vulnerable to mechanical or corrosive effects.

#### 8.3.2 Type of Construction

- The construction skid can be made of wood or of metal.
- The fastening of the packages on the skid will be made by steel straps (flat iron) which have to be elastically lined, non-slip and securely bolted onto the skids.
- Flange openings have to be closed with gaskets and blind flanges or, if necessary, provided with cover.
- Skid constructions may not be less than the dimensions of the package in length or in width.
- Tanks and apparatus with their own support cradles must be supplied with an anti-slip lining.

#### PACKING CATEGORY-II



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#### 8.4 Packing of GOODS in Wooden Crates/Cases/Boxes

*The construction of wooden crate/cases/boxes shall be as per the details indicated in clause 9.0 & Fig 1 to 11. Details indicated in the sketches for different categories Packing crates/boxes are only for a typical equipment considered for illustration.*

##### 8.4.1 Packing Category III

###### 8.4.1.1 Type of Equipment

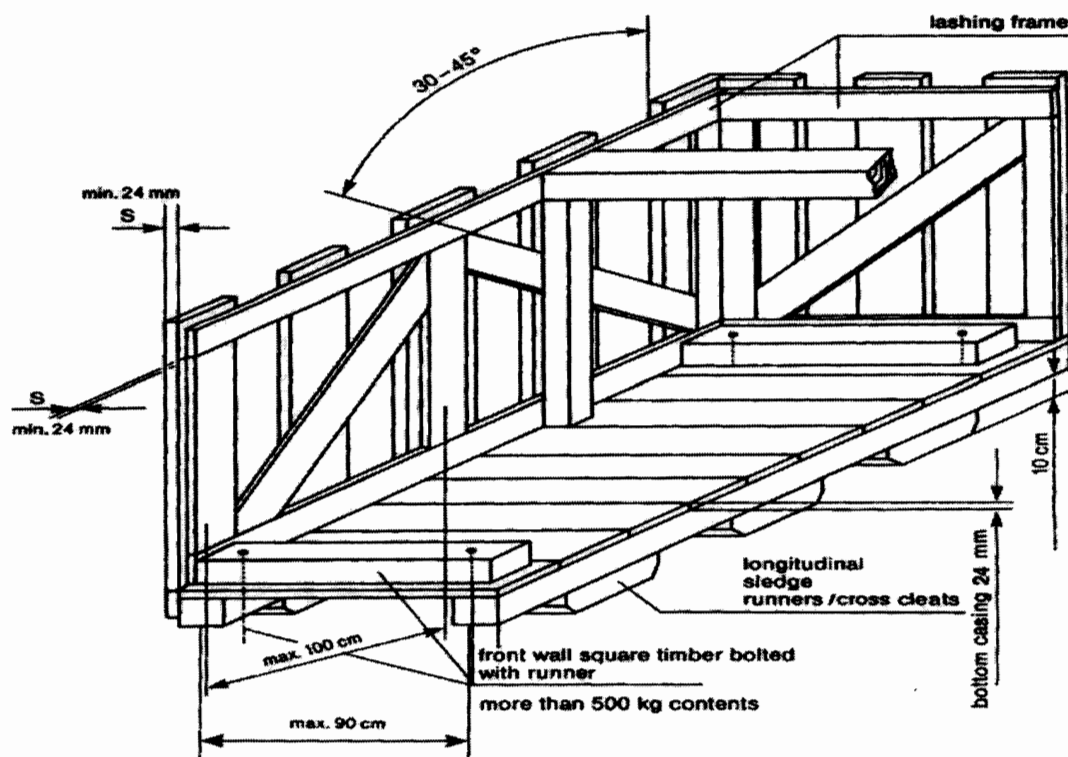
Fabricated equipment, which cannot be transported on cradles; frame-works, prefabricated piping and fittings, mechanical and electrical assemblies. *This type of packing is recommended where many parts of the equipment/component/assembly are not protruding out.*

###### 8.4.1.2 Type of Construction

The equipment must be safely fastened to the bottom with bolts, possibly by the runners or to be spread in such a manner that no protruding parts are possible. For parts, sensitive to rainwater and/or debris, a protection has to be made by a foil cap.

If it is possible that single part could protrude through the front/back side wall, they shall be closed completely. The marking of the package shall be done on plywood plates at the prescribed sides.

##### Packing Category III



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#### 8.4.2 Cases with Lining – Packing Category IV

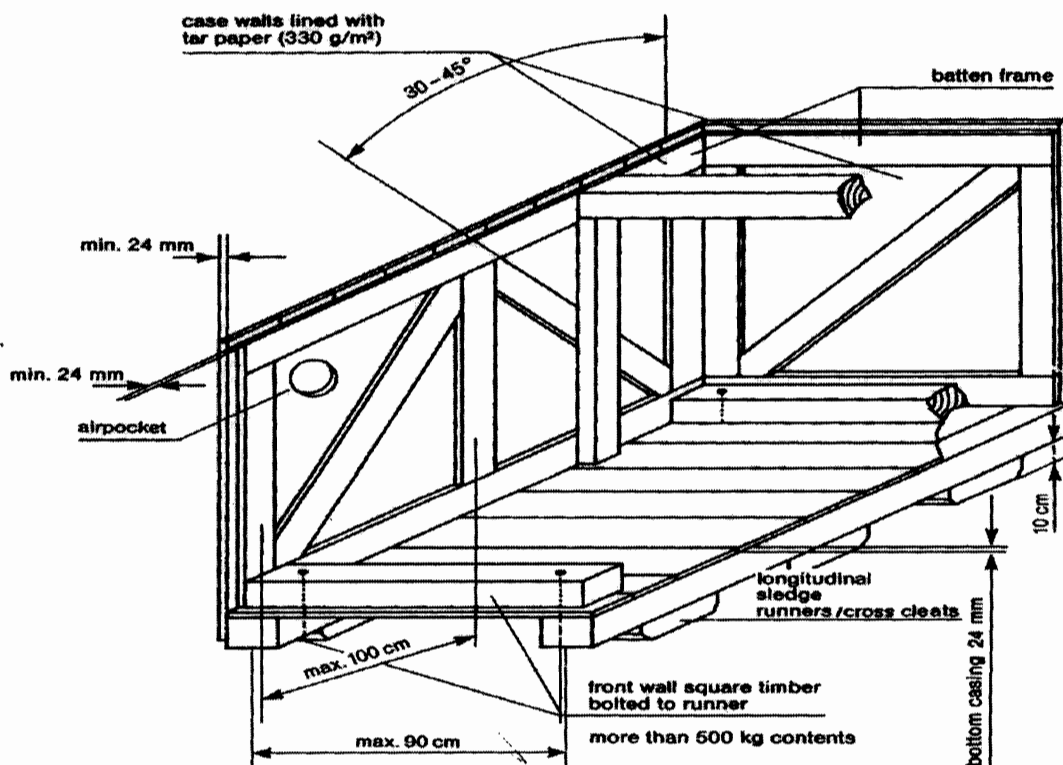
##### 8.4.2.1 Type of Equipment

*Recommended for equipment and mechanical parts Equipment sensitive to mechanical damage or parts and components that are particularly at risk of theft or loss; pumps, elbows, flanges, fittings, tools, erection materials, etc.*

##### 8.4.2.2 Type of Construction


The same type of construction as article 8.4.1.2, but with all sides completely boarded without space between the boards. Sides to be provided with waterproof lining; fabric-reinforced waterproof tar paper or polyethylene-foils resistant to ultraviolet rays can be used. Polyethylene-foil shall be fixed under the lid cover to avoid penetration of water. At weights of more than 500 kg the longitudinal runner must be bolted to the front all square timber. For ventilation inside the case, an opening in the waterproof lining must be placed between the diagonal battens and diagonal joists.

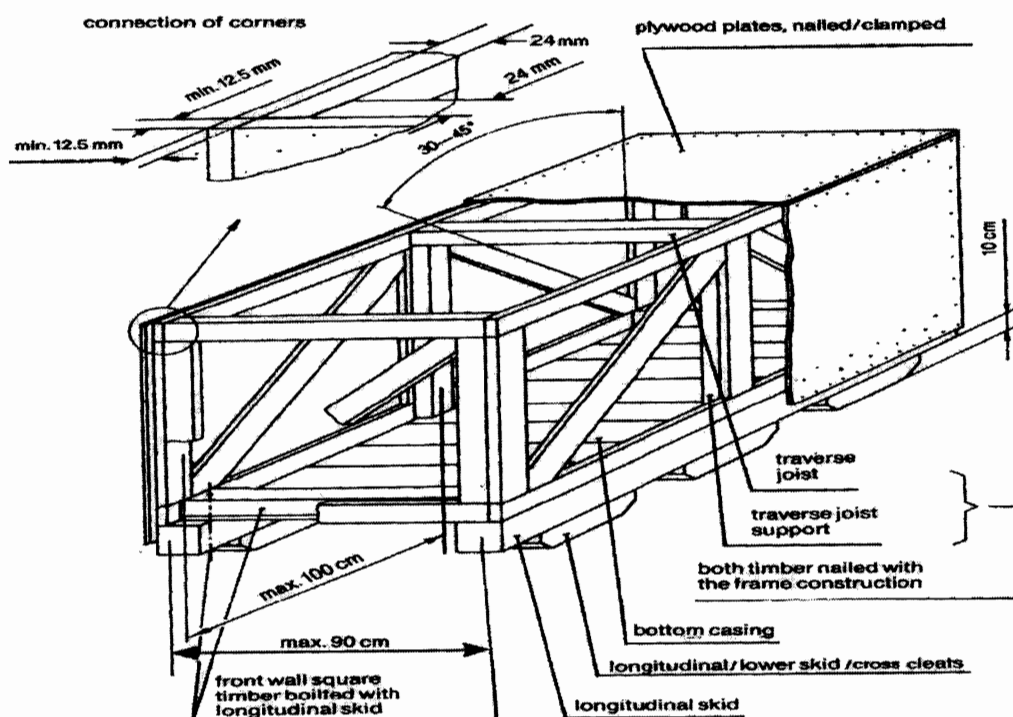
#### Packing Category IV



#### 8.4.3 Cases with Alternative Surface Materials

##### 8.4.3.1 Plywood Box – Packing Category IV A

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Case constructed of 5 layers of watertight, glued plywood with a total thickness of 12.5 mm. The frame must be constructed from minimum 24 mm timber or as per guide lines given above against clause 8.0, Fig 1 to 11 and must be suitable for the weight and nature of the parts to be packed. Planed square timber must be bolted with longitudinal skid and covered with diagonal joists. If applicable, construction of the cover and sides is to include diagonal bracing. Covers consisting of several layers of plywood are to be sealed with durable elastic putty or additional water-resistant sheets to be fixed.

#### 8.4.4 Case with Barrier Material – Polyethylene Foil – Packing Category V

##### 8.4.4.1 Type of Equipment

Sensitive equipment, simple electrical equipment, insulation materials, fire-resistant materials, with non-corrosion- guarantee for a period up to twelve (12) months.

##### 8.4.4.2 Type of Construction


Preservation by welding in polyethylene-foil with addition of desiccants and if necessary, application of non-corrosive contact agents, otherwise, type of construction as indicated in article 8.4.2.2.

Additional marking:

- Case with desiccants.

#### 8.4.5 Case with Barrier Material – Aluminium Compound Foil – Packing Category VI

##### 8.4.5.1 Type of Equipment

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Electrical equipment such as, switchboards, electric motors, sensitive equipment, with non-corrosion guarantee, for a period up to twelve (12) months.

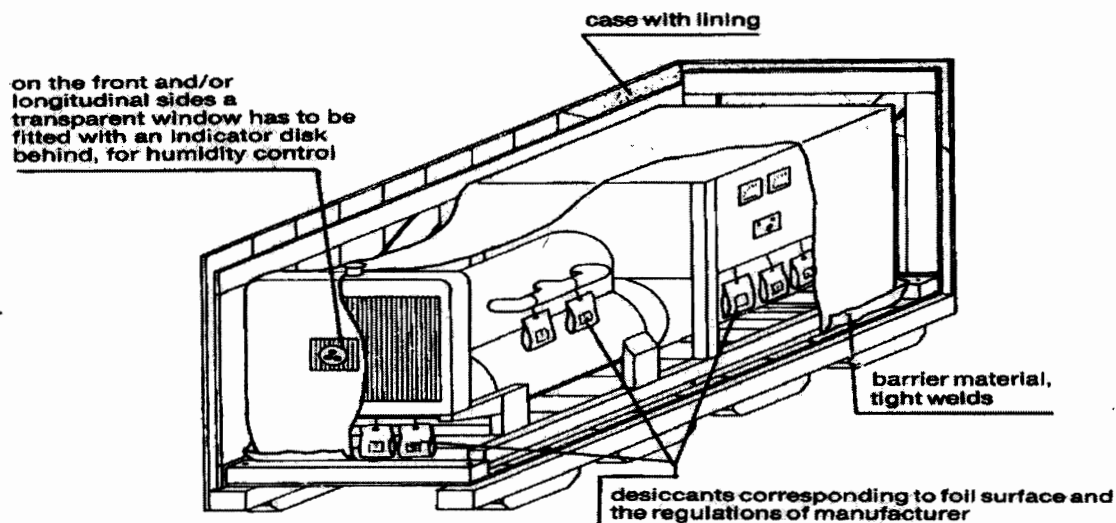
#### 8.4.5.2 Type of Construction

Type of construction as indicated in article 8.4.2.2. Preservation by sealing an aluminium compound foil, with the addition of desiccants. Humidity indicators, if required and installed in the barrier wrapping, shall allow easy control from the outside.

Additional marking:

- Case with desiccants.

#### Packing Category V/VI




#### 8.4.6 Double Case – Packing Category VII

##### 8.4.6.1 Type of Equipment

GOODS which are of high sensitivity to shock, impact and vibration, for instance, special electrical equipment like computers, switchboards, laboratory instruments

##### 8.4.6.2 Type of Construction

Case construction as indicated in article 8.4.2.2, with additional floating inner packing (case-in-case principle), padding corresponding to weight and sensitiveness. Preservation by sealing in aluminium compound foil with the addition of desiccants. The inner case has to be made of plywood or equivalent material with a thickness of 8-12 mm, depending on the weight of the GOODS to be packed. The inner buckles and/or frame borders have to be dimensioned so that the full stability of the inside case will be reached and no twisting is possible. The inner sides of the inside case will be lined with bituminous kraft paper on all sides (except bottom).

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#### **8.4.7 Cable Drum – Packing Category VIII**

##### **8.4.7.1 Type of Equipment**

All type of cables, wires, ropes, hoses.

##### **8.4.7.2 Type of Construction**

For all type of cables refer clause no. 11.1. For other items (wires, ropes, hoses) new or practically new drums are to be used. Planking of the e drums by use of boards, thickness minimum 20 mm, with additional double steel strapping, nailed, and carefully preserved/protected cable ends prior to packing.

#### **8.4.8 Hazardous Materials – Packing Category IX**

##### **8.4.8.1 Type of Equipment**

Hazardous materials according to the law are explosives, compressed gases, liquefied gases dissolved under pressure or deeply refrigerated, flammable liquids, flammable solids: substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases, oxidizing substances, organic peroxides, poisonous (toxic) and infectious substances; radioactive materials, corrosives, miscellaneous dangerous goods.

##### **8.4.8.2 Type of Construction**

Hazardous materials shall always be packed and documented separately from any other material. Selection of packaging materials, execution of packing and marking as well as documentation shall always be in compliance with the applicable laws and regulations. Any certificates required for transportation or for authorities to be supplied before shipment of the GOODS.

#### **8.4.9 Wooden Floor as a Transport Support – Packing Category X**

##### **8.4.9.1 Type of Equipment**

Any materials to be stuffed in containers or on flat racks and that are not stowed on standard pallets or otherwise suitably packed

##### **8.4.9.2 Type of Construction**

- Longitudinal internal square timbers bolted to the front wall runners, longitudinal skid.
- Maximum distance between longitudinal runners 90 cm (middle to middle of the runner).
- Full boarding of the floor.
- Attaching of lifting lugs and/or iron ropes for lifting/pulling the units off the transport equipment.
- If applicable, preservation of the equipment by sealing in polyethylene-foil or aluminium compound foil and the addition of desiccants.


#### **8.5 Air Transport Packing**

##### **8.5.1 General**

Certain types of material may have to be shipped by air from their country of origin. This means of transport will be exceptional, and will be used only:

- For GOODS, which are highly sensitive to shock or vibrations, such as computers, electronic instruments, or those of small dimensions and weight.
- For GOODS urgently required at the module yard(s) and/or jobsite.



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### 8.5.2 Type of Packing

Depending on the goods to be packed, VENDOR may use one of the following types:

- A triple-corrugated cardboard container made with waterproofed glue and a barrier layer of polyethylene on the outsides to keep out humidity.
- Wooden/cardboard packing cases: the wood being used for the framework and base of the cases, waterproofed triple-corrugated cardboard being used for the sides and top. These cases are of the "Bell" type, and used for material of small or medium dimensions.
- For larger dimensions, plywood cases are acceptable. The timber characteristics, cross-sections and thickness will be systematically determined by the nature of the loads to be packed.

### 8.5.3 Dimensions

In order to optimize the existing transport facilities (passenger or cargo aircraft), the dimensions of:

- Triple-corrugated containers.
  - Wooden/cardboard packing cases.
  - Plywood cases.
- Are to be adapted to pallets used for air transportation.

## 9.0 Detailed specification for Wooden Crates/Boxes/Cases and other packing materials

### 9.1 Technical specification for wood

The wood shall be Fir, Chir, Silver Oak (Gravillea Robusta), chemically treated mango and Pinewood with moisture content not exceeding 50%. The wood shall have flexural and compressive strength, stiffness, shock absorption and nail retention properties. The wood shall be free from common defects such as warp, bone, twist, knot, cracks, splits, end splits, bend, visible sign of infection and any kind of decay caused by insects or fungus, etc. Surface cracks with maximum depth of 3mm are permissible. A continuous crack of any depth all along the length is not allowed.

### 9.2 Chemical Treatment of Wood:


The wood shall be chemically treated to provide protection against deterioration due to fungi and attack by termites, borers, marine organism and any other kind of infection. It shall be treated only after final processing like cutting, planning, joint grooving, etc.

### 9.3 TYPE, DESIGN & DIMENSION OF WOODEN PACKING CASES:

#### 9.3.1 PACKING OF EQUIPMENTS

Various mechanical, electrical and C&I equipment e.g. Pumps, motors, equipment skids, heat exchangers, control panels, switch gears, transformers, etc. shall be wrapped in weather proof packing and then secured in wooden packing cases. The construction of wooden packing cases/crates shall be as per details given below and also given in figure 1 to 11.

##### 9.3.1.1 Bottom Frame

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The construction of bottom frame shall be as per Fig-2. The No. of slides/runners for bottom frames shall be selected depending upon the weight and overall dimensions of the load to be carried. The equipment shall be secured by fixing their base frame/plate with the help of bolt and nuts etc. to bottom frame of the wooden packing cases/crates. The equipment not provided with base frame/plate like cylindrical vessels, etc to be secured to the bottom frame of the wooden cases with "C" clamps fabricated from steel channels/ angle iron.

#### 9.3.1.2 TOP FRAME

The construction of top frame shall be as per fig-3.

#### 9.3.1.3 END PANELS

The dimension of the end and lateral panels shall be calculated according to overall dimensions of the items to be packed. Diagonal braces shall be used for packing cases having height exceeding 500mm. Details of bracings shall be as per fig 5 to 9.

#### 9.3.1.4 Sling Plate


To facilitate lifting of cases, longitudinal under slide boards shall be fixed. To avoid damage to the box while lifting sling plates shall be provided. Refer fig-11.

#### 9.3.1.5 Angle Iron Cleats

Angle iron cleats shall be used for strengthening the joints as indicated in fig-10


#### 9.3.1.6 Other Requirements

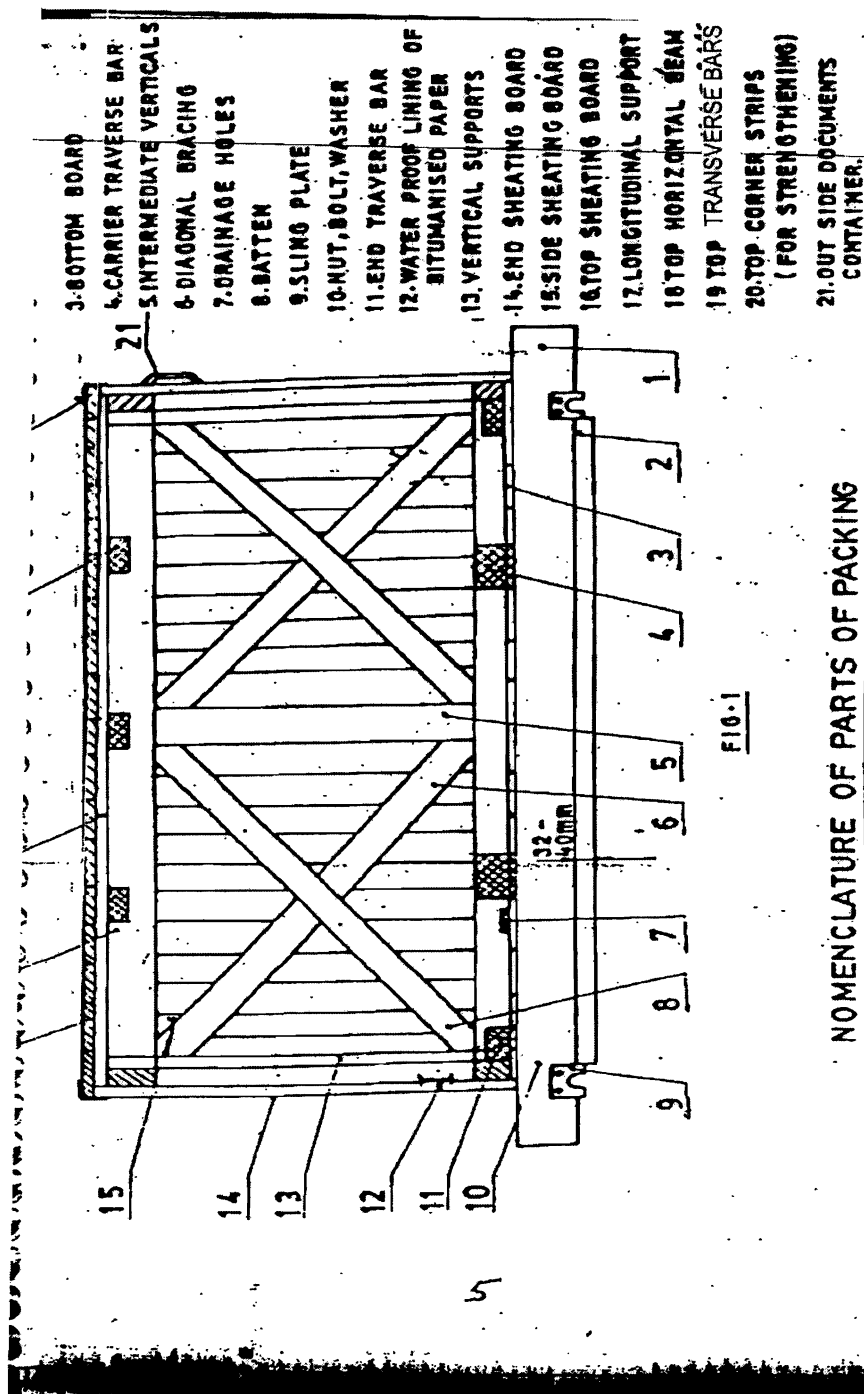
- The thickness of planks for top, bottom, side and end panels shall be at least 25mm. Planks used for this purpose shall be joined with each other by tongue and groove joint. The groove dimension shall be such that tongue fits tightly into groove to make the joint.
- Runners/slides, traverse bars, etc shall be of single length i.e. without any joint. Planks for sheathing, diagonal bracing etc shall also be of single length up to 2400mm, proper jointing is permitted for planks for sheathing and diagonal bracings.
- Each equipment to be individually covered with double polyethylene petticoat. Sheet thickness of polythene sheet shall not be less than 0.175 mm (175 microns). The sealing shall be such so as not to allow moisture inside.
- The inner surface of 4 sides of shooks shall be nailed with bituminized water proof craft paper. Wherever 2 pieces of kraft paper are used, joint shall have an overlap of minimum 20 mm.
- All the inner sides of the box shall be nailed with bitumen coated HESSIAN POLYTHYLENE KRAFT PAPER. For top frame it shall project on all sides by 100mm and shall be nailed on sides. Wherever 2 pieces of kraft paper are used, joint shall have an overlap of minimum 20 mm.
- For delicate equipment like control panels and switchgears, lighting panels and lighting transformers, suitable cushioning material like rubberised coir (min. 50 mm thick and 100 mm wide) shall be provided on their bottom support and the gap between the panel and casing


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shall be filled with rubberized coir with distance between consecutive supports less than 500 mm (ref fig15). For other equipment suitable support from sides of the casing shall be provided.

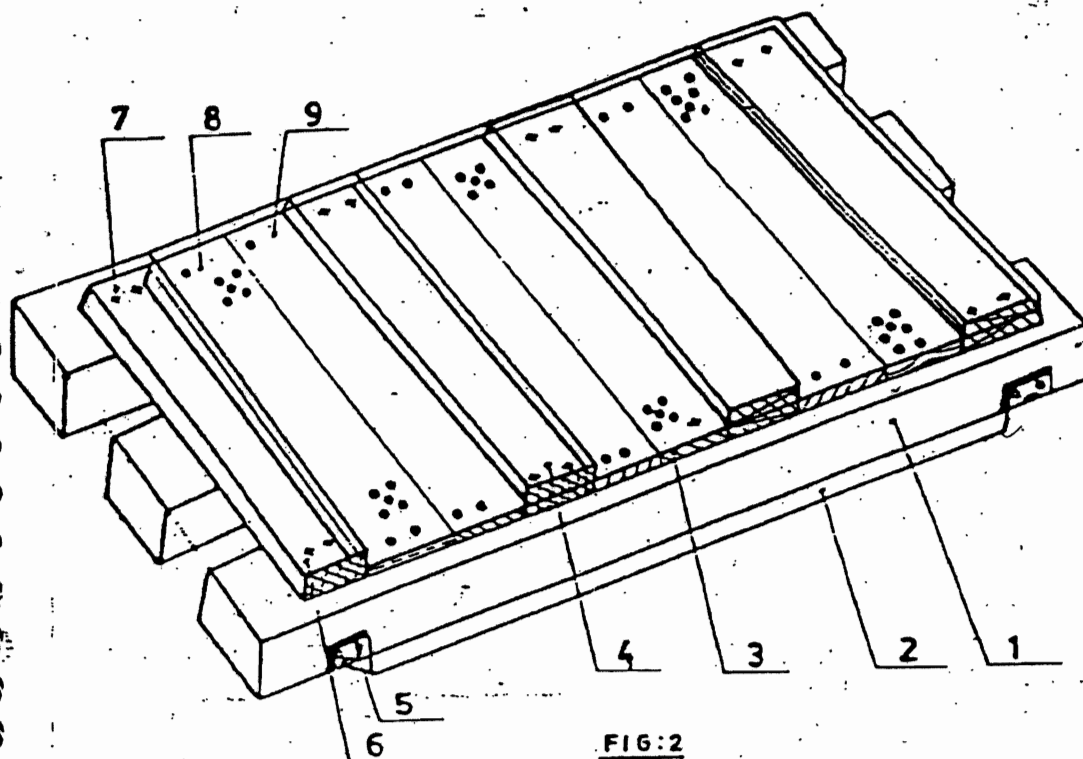
- Switchgear cubicles, control panels and control desks shall be packed and shipped in separate convenient sections. The components e.g. circuit breakers relays and instruments etc. which are removed from panels for shipping purpose and shall be separately packed and shipped as per packing instructions in clause 10.4.
- Packing case for control panels and switchgear panels shall be finally covered with GI sheet of minimum thickness of 0.4mm.
- Packing cases shall be bound at edges by nailing MS clamps/brackets at sufficient intervals. Further heavier boxes shall be strapped with C clamps (ref fig-4) fabricated from steel channels/angles and lighter boxes shall be strapped with hoop iron strips.
- Silica gel is used for this purpose to protect contents over sufficiently long time from corrosion. Silica gel shall be indicating type confirming to IS-304 (1979) packed in cotton bags placed at different positions inside the packing for absorbing moisture and shall not come into directly contact with equipment/material inside the package. The quantity of silica gel shall be adequate for storage period of one year, however it shall not be less than 4 gm. per ltr. Volume of case subject to minimum 400 gm. Per case.

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## BOTTOM FRAME ARRANGEMENTS




**FIG:2**

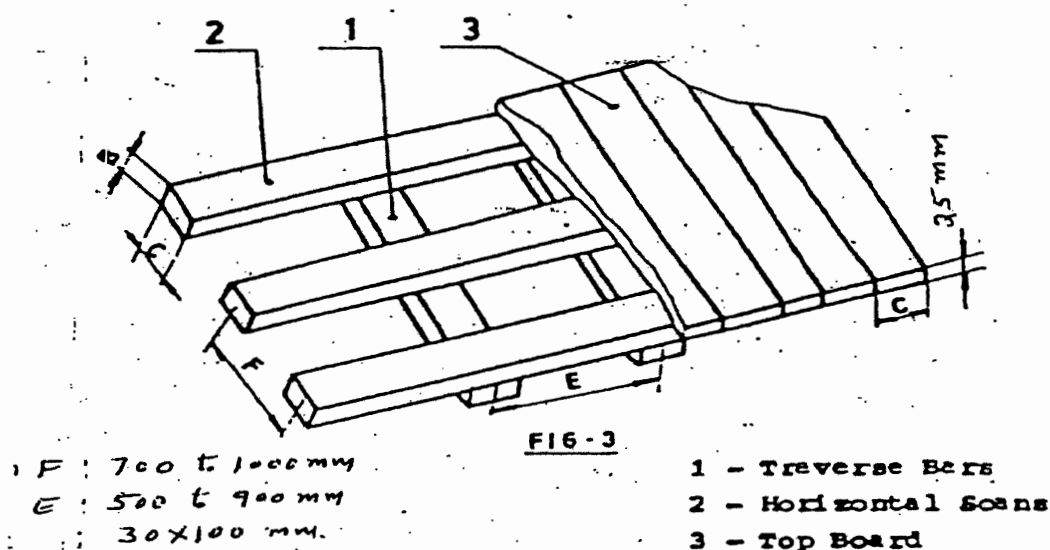
Nos. of slides: Minimum 2 Nos.  
For length more than 1800 mm or  
load more than 1000kg, Nos. of  
slides shall be minimum 3 Nos.  
For dimensions of slides, refer Table 1  
Cross section of end traverse bar; 100 x 100 mm.  
(minimum)

1. SLIDE
2. UNDER SLIDE BOARD
3. BOTTOM BOARD
4. CARRIER TRAVERSE BAR
5. SLING PLATE
6. TRAVERSE BAR
7. BOLT, NUT & WASHER
8. DRAINAGE HOLES
9. NAILS

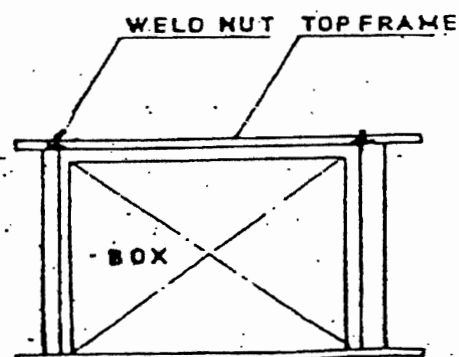
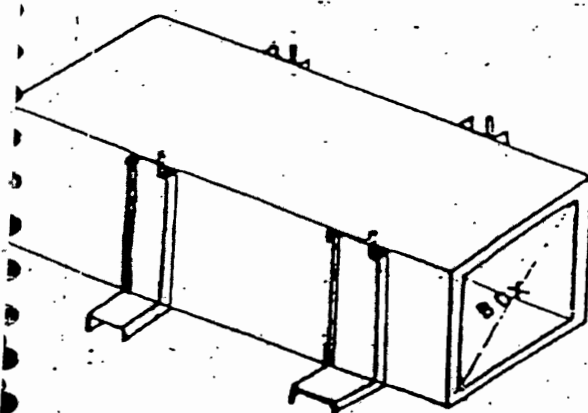
027

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### TOP FRAME ARRANGEMENT



### ARRANGEMENT OF C-CLAMPS AROUND CASES



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## ARRANGEMENT OF DIAGONAL BRACING AND HORIZONTAL SUPPORT

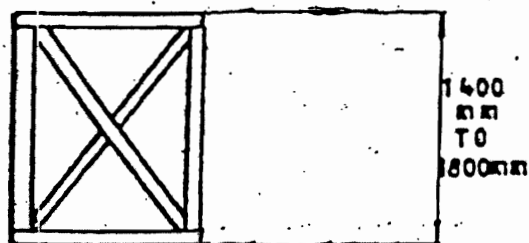


FIG: 6

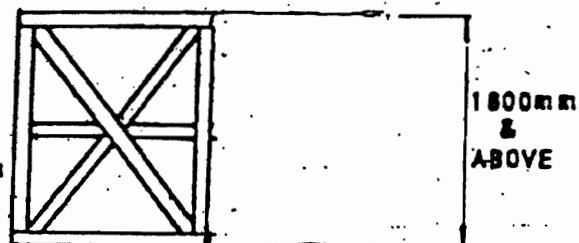


FIG: 8

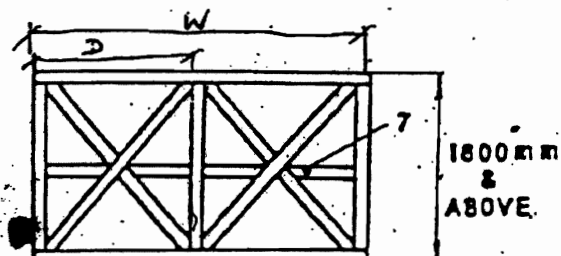


FIG: 7

7- Middle Horizontal Support

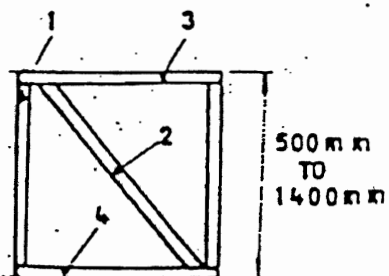


FIG: 5

1- Vertical Support

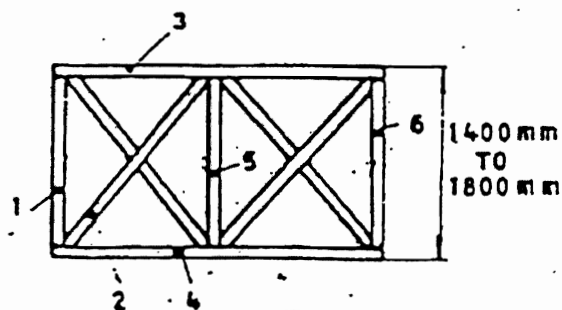



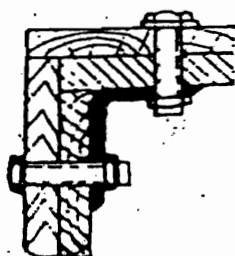
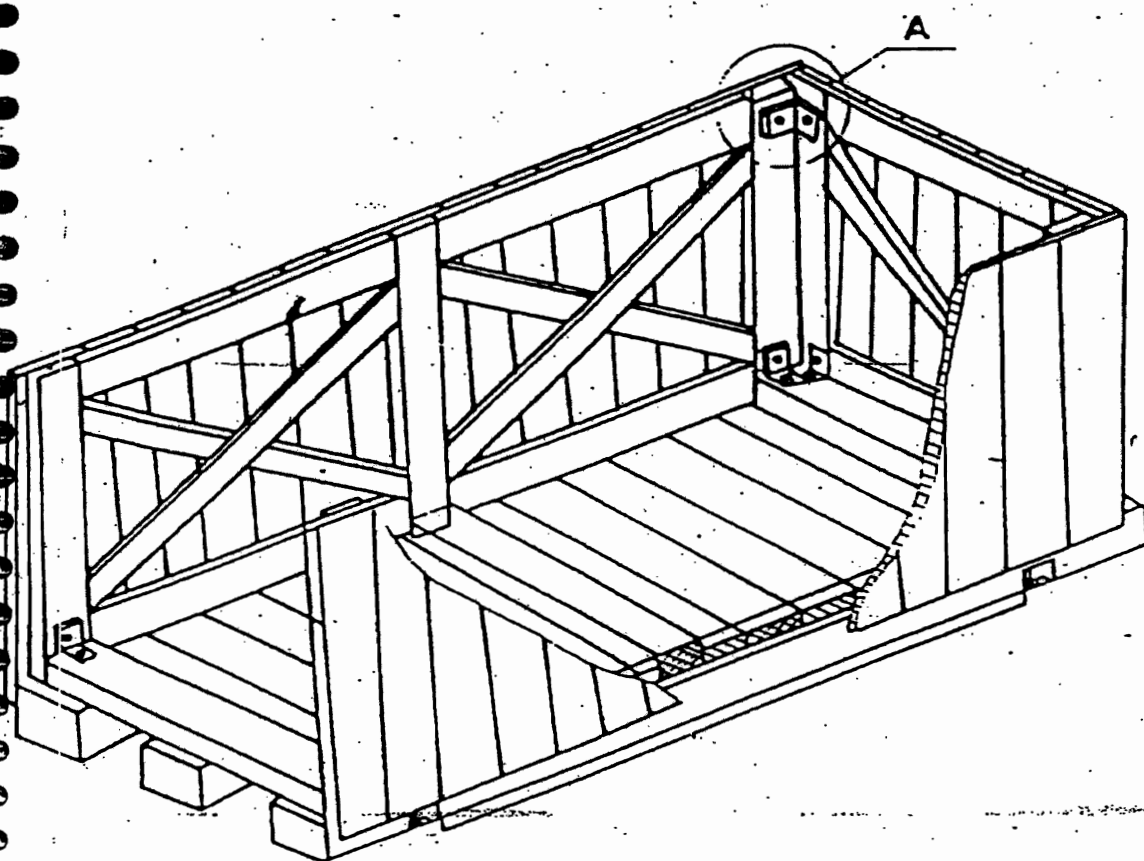
FIG: 7

1, 5, 6 - Vertical Support

029

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### ARRANGEMENT OF PACKING CASE



DETAIL-A

HOLE DIAMETER  
MUST CONFORM  
TO BOLT DIA

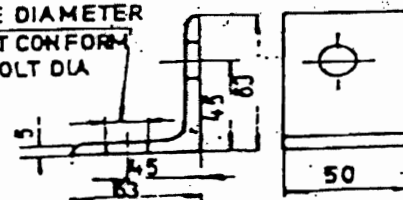



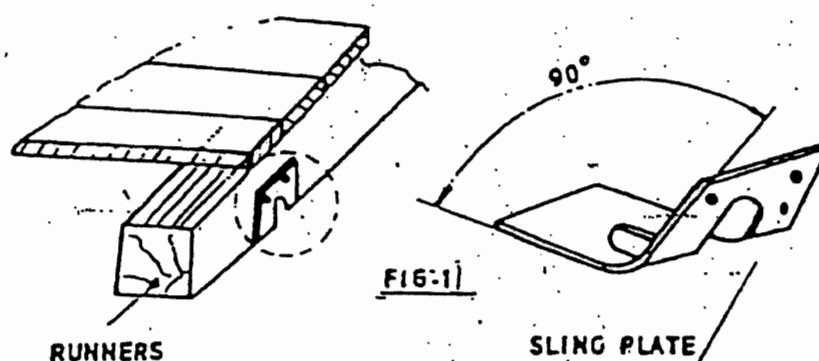
FIG:10

030



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**ARRANGEMENT OF SLING & PLATE ON  
CASES**




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TABLE-1

LOADS	LENGTHS OF SLIDES						
	600	800	1000	1200	1300	1500	2000
	Cross section b x c				<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div> c b		
500	50 X 100	50 X 100	50 X 100	50 X 100	75 X 100	75 X 100	100 X 100
800	50 X 100	50 X 100	75 X 100	75 X 100	75 X 100	75 X 100	100 X 100
1000	75 X 100	75 X 100	75 X 100	100 X 100	100 X 100	100 X 110	100 X 150
1500	75 X 100	75 X 100	100 X 100	100 X 100	100 X 100	100 X 150	100 X 150
2000	75 X 100	100 X 100	100 X 100	100 X 150	100 X 150	100 X 150	150 X 150
2500	75 X 100	100 X 100	100 X 150	100 X 150	100 X 150	150 X 150	150 X 150
3000	100 X 100	100 X 150	150 X 150	150 X 150	150 X 150	150 X 150	150 X 150





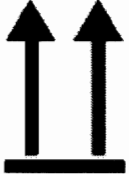




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Table-2








End and side panels	Width of the panel "W"	Distance between longitudinal support (Dimension "D")						
		600	800	1000	1200	1400	1600	1800
		Cross section b x c				Item 1 to 7		
Fig- 5 to Fig-9	600 to 1200	30	30	30	30	30	30	30
		X	X	X	X	X	X	X
	1201 to 1600	100	100	100	130	130	130	130
		30	30	30	30	30	30	30
	1601 to 2000	X	X	X	X	X	X	X
		130	130	130	130	130	130	130
	2001 to 3000	30	30	30	30	30	30	40
		X	X	X	X	X	X	X
	3001 to 4000	130	130	130	130	130	130	150
		40	40	40	40	40	40	40
		X	X	X	X	X	X	X
		150	150	150	150	150	150	150


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**INDICATION MARKS ON CASES/BOXES/CRATES**

<b>Designation</b>	<b>Symbol</b>	<b>Explanation</b>
Fragile, Handle with care		The symbol should be applied to easily broken cargoes. Cargoes marked with this symbol should be handled carefully and should never be tipped over or slung.
Use no hooks		Any other kind of point load should also be avoided with cargoes marked with this symbol. The symbol does not automatically prohibit the use of the plate hooks used for handling bagged cargo.
Top		The package must always be transported, handled and stored in such a way that the arrows always point upwards. Rolling, swinging, severe tipping or tumbling or other such handling must be avoided.
Keep away from heat (solar radiation)		Compliance with the symbol is best achieved if the cargo is kept under the coolest possible conditions. In any event, it must be kept away from additional sources of heat. It may be appropriate to enquire whether prevailing or anticipated temperatures may be harmful.
Protect from heat and radioactive sources		Stowage as for the preceding symbol. The cargo must additionally be protected from radioactivity.
Sling here		The symbol indicates merely where the cargo should be slung, but not the method of lifting. If the symbols are applied equidistant from the middle or center of gravity, the package will hang level if the slings are of identical length. If this is not the case, the slinging equipment must be shortened on one side.
Keep dry		Cargo bearing this symbol must be protected from excessive humidity and must accordingly be stored under cover. If particularly large or bulky packages cannot be stored in warehouses or sheds, they must be carefully covered with tarpaulins.

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Center of gravity		This symbol is intended to provide a clear indication of the position of the center of gravity. To be meaningful, this symbol should only be used where the center of gravity is not central. The meaning is unambiguous if the symbol is applied onto two upright surfaces at right angles to each other.
No hand truck here		The absence of this symbol on packages amounts to permission to use a hand truck on them.
Stacking limitation		The maximum stacking load must be stated as "... kg max.". Since such marking is sensible only on packages with little loading capacity, cargo bearing this symbol should be stowed in the uppermost layer.
Clamp here		Stating that the package may be clamped at the indicated point is logically equivalent to a prohibition of clamping anywhere else.
Temperature limitations		According to regulations, the symbol should either be provided with the suffix "...°C" for a specific temperature or, in the case of a temperature range, with an upper ("...°C max.") and lower ("...°C min.") temperature limit. The corresponding temperatures or temperature limits should also be noted on the consignment note.
Do not use forklift truck here		This symbol should only be applied to the sides where the forklift truck cannot be used. Absence of the symbol on other sides of the package amounts to permission to use forklift trucks on these sides.
Electrostatic sensitive device		Contact with packages bearing this symbol should be avoided at low levels of relative humidity, especially if insulating footwear is being worn or the ground/floor is nonconductive. Low levels of relative humidity must in particular be expected on hot, dry summer days and very cold winter days.

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Do not destroy barrier		A barrier layer which is (virtually) impermeable to water vapor and contains desiccants for corrosion protection is located beneath the outer packaging. This protection will be ineffective if the barrier layer is damaged. Since the symbol has not yet been approved by the ISO, puncturing of the outer shell must in particular be avoided for any packages bearing the words "Packed with desiccants".
Tear off here		This symbol is intended only for the receiver.

FIG-12

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BHEL-PEM-DELHI-INDIA	
CONSIGNEE	
MATERIAL	
CUSTOMER REF.	MO. NO.
DESPATCH ADVICE NOTE NO.	CASE NO.
DIMENSIONS(MM) LXBXH	NET WT -KGS
	GROSS WT -KGS
SPECIAL INSTRUCTIONS	HANDLE WITH CARE -- KEEP DRY DO NOT DROP -- DO NOT TILT

FIG-13: MARKING PLATE

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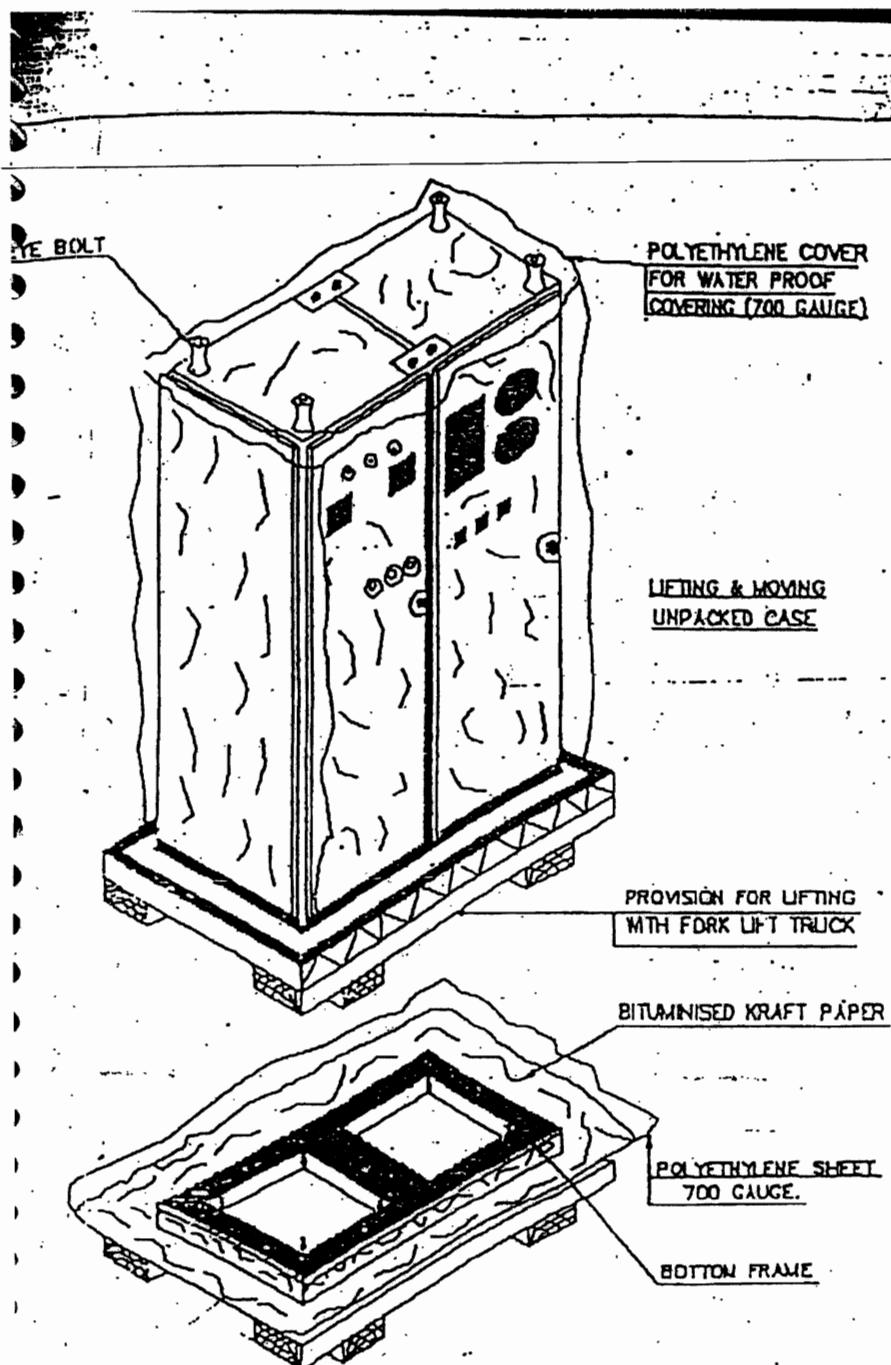



FIGURE-14



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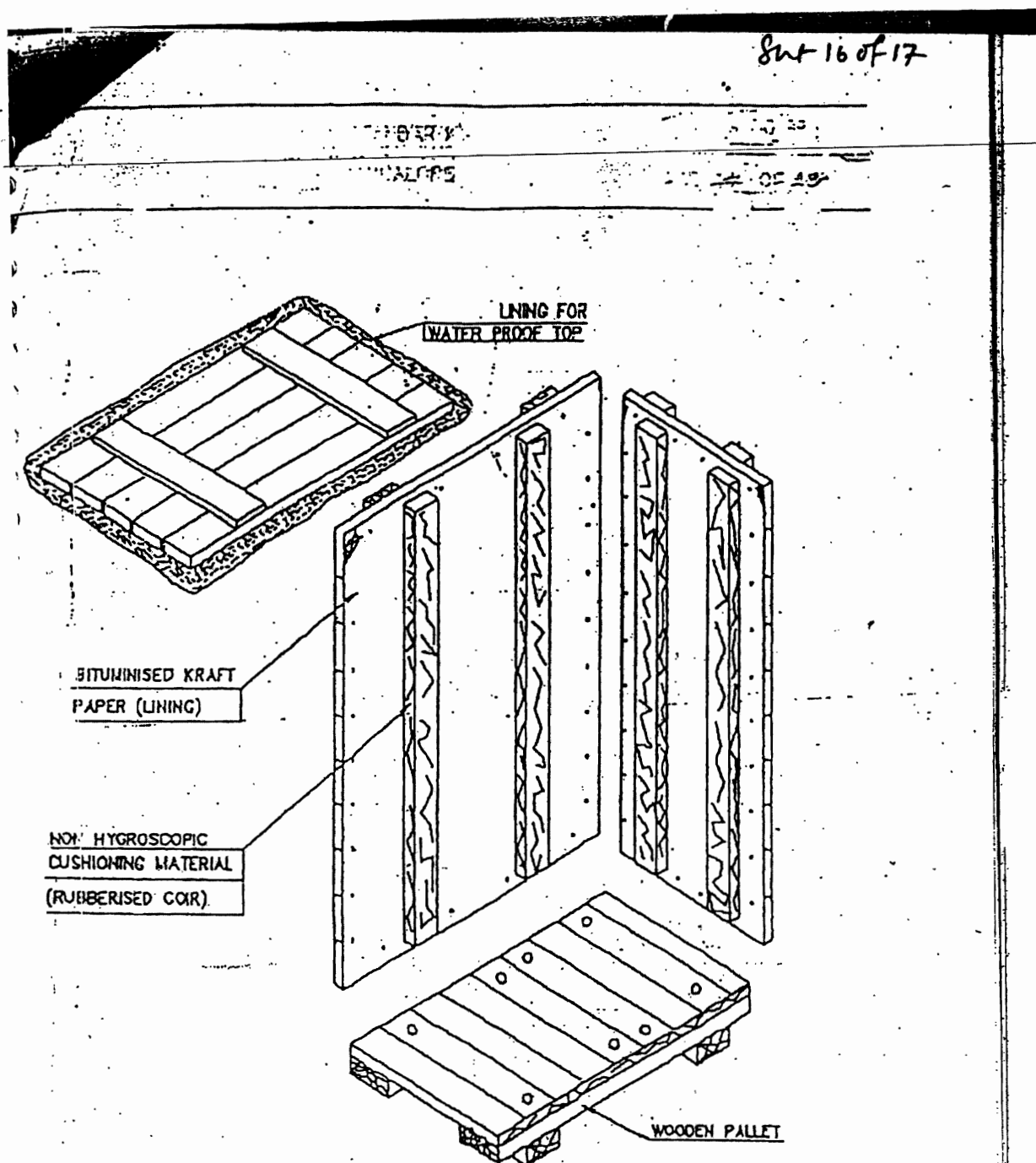

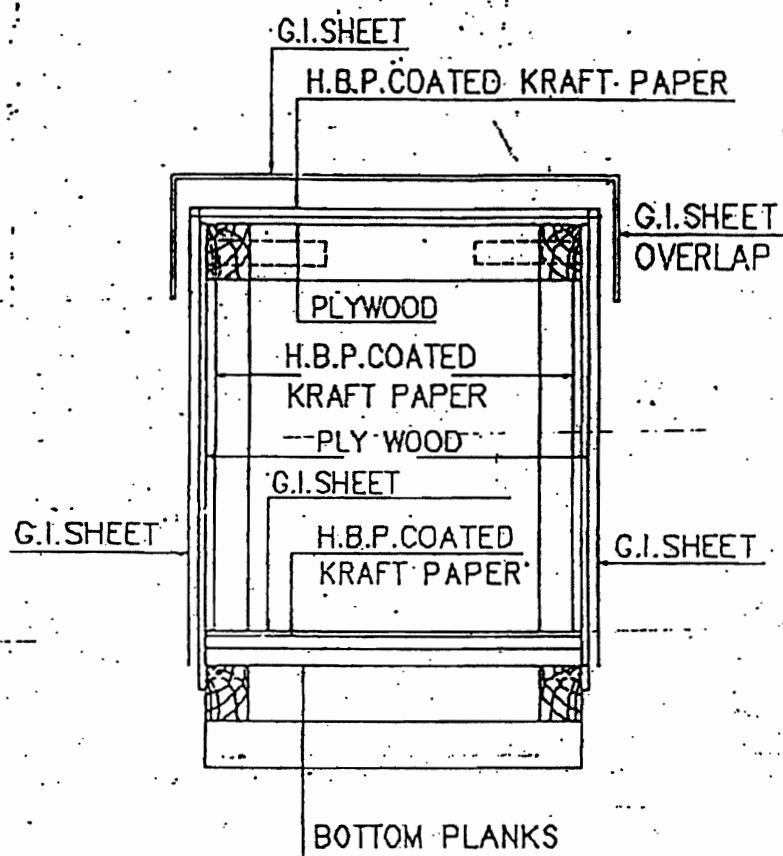



FIGURE-15

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**FIG-16 : CLOSED PACKING CASE WITH G.I.SHEET  
SHOWING LAYERS OF PACKING MATERIALS.**

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## 10.0 TYPICAL PACKING DETAILS/PROCEDURE FOR MECHANICAL ITEMS

### 10.1 INSULATION MATERIAL (MINERAL WOOL MATTRESSES)

This specification covers the requirements of seaworthy packing and marking for bonded mineral (rock) wool mattresses having metallic hexagonal wire netting as facing on one or both sides.

#### 10.1.1 TYPE OF CONSTRUCTION

Mattress shall be packed in Polythene (of 0.2 mm thickness) all around and sealed to prevent moisture absorption during transit and storage. Further it shall be wrapped with Bitumen coated Polythene bonded/lined Hessian and stitched and then packed in 5 ply DFC carton box.

Silica gel is used for this purpose to protect contents over sufficiently long time from corrosion. Silica gel shall be of indicating type conforming to IS:304-1979 packed in cotton bags placed at different positions inside the packing for absorbing moisture and shall not come into direct contact with the material inside the package. The quantity of silica gel shall be enough for storage period of one year. However, it shall not be less than 4 gms per litre volume of case subject to minimum of 400 gms per case.

Each mattress as well as the packages 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.

Following details shall be legibly written on the packages. The details shall also be typed on a sheet of paper & kept in a sealed Polythene cover, inside the packages


- a) Project Name
- b) Purchase Order No.
- c) Sl. No. of package
- d) Size of mattress (Thickness x Length x Width)
- e) Density
- f) Wire netting material and size
- g) Weight of the package

### 10.2 INSULATION MATERIAL (ALUMINIUM COIL)

Heavy Gauge Aluminium Coil Packaging are done by Eye-to-Sky packaging or by Eye to eye packaging as per the proven practice being followed by manufacturer of Aluminium sheets.

#### 10.2.1 Type of construction for Eye to Sky packaging

- a. Strapping of coil with polyester strap around circumference at one place.
- b. Putting paper I. D. Edge protector.
- c. Wrapping the coil with VCI stretch film after putting silica gel bags (4 nos.) Inside the coil.
- d. Wrapping the coil with HDPE film.
- e. Covering the coil including its build up & bore with masonite / particle board.
- f. Putting metallic I. D on coil.
- g. Putting O.D edge protector (paper) on coil.

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- h. Putting circumferential polyester strap (3 nos.) & eye polyester strap ( 4 nos.).
- i. After placing the coil on coil tilter ply wood (10mm thick) of suitable size along with wooden pallet is to be put at the bottom side of the coil.
- j. Coil is to be tilted to eye-to-sky position.
- k. Final strapping with metallic strap to unit coil and skid at 2 places with top cover of plywood.
- l. Fixing the coil with wooden blocks at 4 corners.
- m. Labeling 2 nos.(one metallic & one adhesivetype) For specification, net wt. & gross wt.

#### **10.2.2 Type of construction for Eye to Eye packaging**


- a. Strapping of coil with polyester strap around circumference at one place.
  - b. Putting paper I. D. Edge protector.
  - c. Wrapping the coil with VCI stretch film after putting silica gel bags (4 nos.) Inside the coil.
  - d. Wrapping the coil with HDPE film.
  - e. Covering the coil including its build up & bore with masonite / particle board.
  - f. Putting metallic I. D on coil.
  - g. Putting O.D edge protector (paper) on coil.
  - h. Putting circumferential polyester strap (3 nos.) & eye polyester strap ( 4 nos.).
  - i. Placing of coil on wooden skid Coil is to be tilted to eye-to-sky position.
  - j. Final strapping of coil and skid at 2 places with steel strap. Fixing the coil with wooden blocks at 4 corners.
- Labeling 2 nos.(one metallic & one adhesive type) For specification net wt. & gross wt.

#### **10.3 Packing Procedure for Online Tube Cleaning System and accessories**


This procedure is applicable for the shipment of Onload Tube Cleaning System and accessories by sea.

##### **10.3.1 Packing details:**

- The Packing case shall be made of treated rubber wood. The design of the case shall be as per Annexure IIIA & IIIB.
- The Equipments shall be placed on the wooden base of the Packing case and fastened if required to arrest the movement of the same.
- Equipment shall be covered by Polythene sheet and inside wall surfaces of the wooden cases also shall be covered by polythene sheet.
- All Nozzles shall be closed with plywood dummies.
- All electrical components assembled or loose shall be covered with polythene sheets along with silica gel pack.
- Silica gel desiccants shall be kept inside each case in sufficient quantities in order to absorb the moisture.

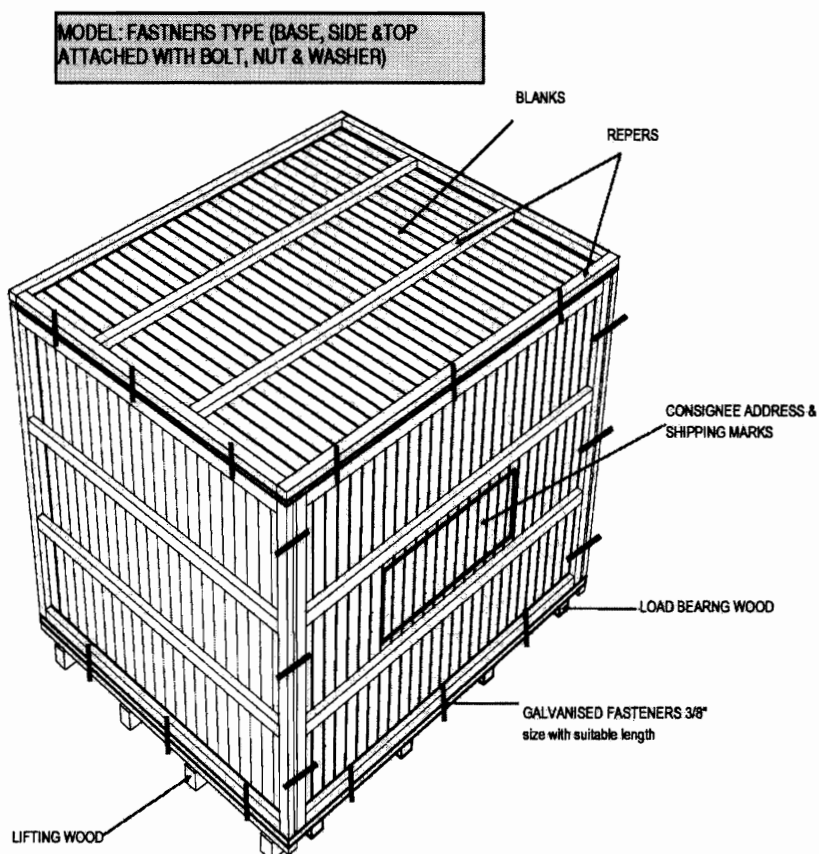
	<b>TITLE</b>  <b>TECHNICAL SPECIFICATION FOR SEAWORTHY PACKING FOR EXPORT JOBS</b>	SPECIFICATION NO. <b>PE-TS-888-100-A001</b>	
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- Thermocol packing shall be made for glass items like Ball vessel sight glass, Vpiece
- sight glass & pressure gauge.
- Silica gel desiccants shall be kept inside of each case to absorb the moisture.
- A Packing list covered in a polythene envelope shall be fixed inside and outside of each packing case.
- Shipping marks and consignee address shall be painted on the outer surface of the case.
- All handling instruction required for the case like top, sling, rain, handle with care etc, shall be marked on the case as per the symbol attached.
- Machined surface will be applied with Anti rust oil and covered by polyurethane sheet to protect from external oxidation.
- All valves will be closed with dummies to protect the internals and placed in the wooden case which will covered by polyurethane sheet.


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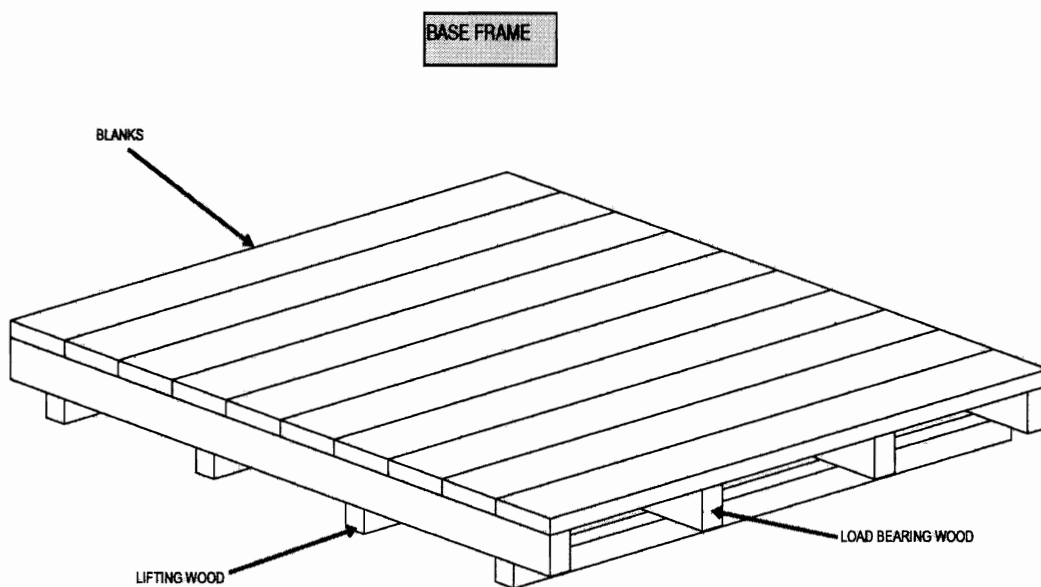
This Type of case to be used for following items:

1. BALL SEPERATOR
2. BALL COLECTOR SKID




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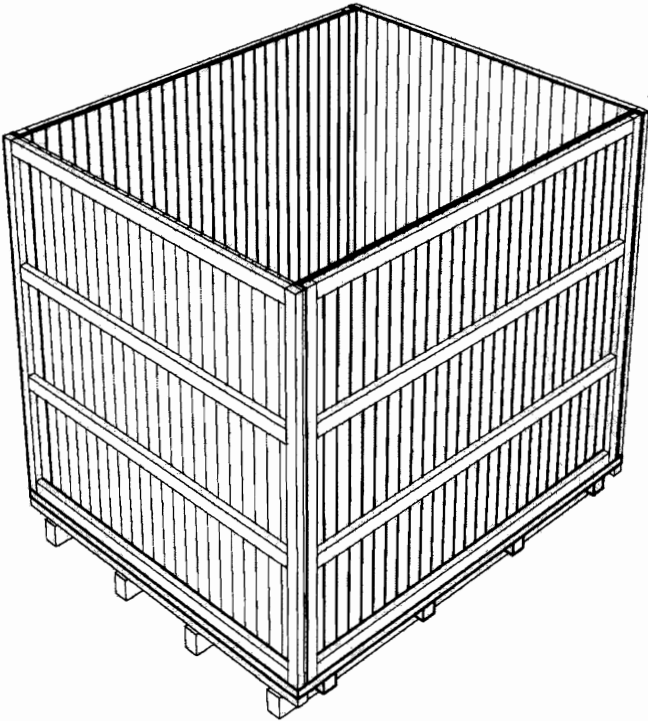
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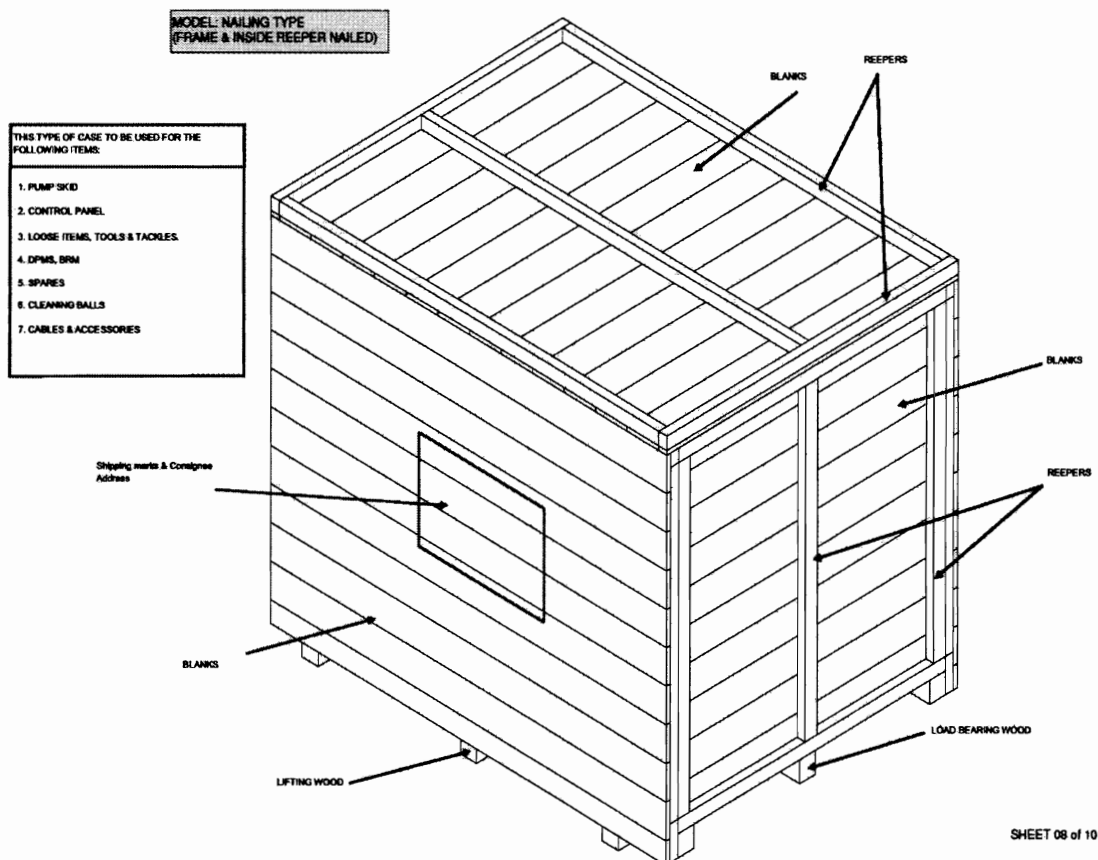
MODEL: FASTNERS TYPE - WITHOUT TOP




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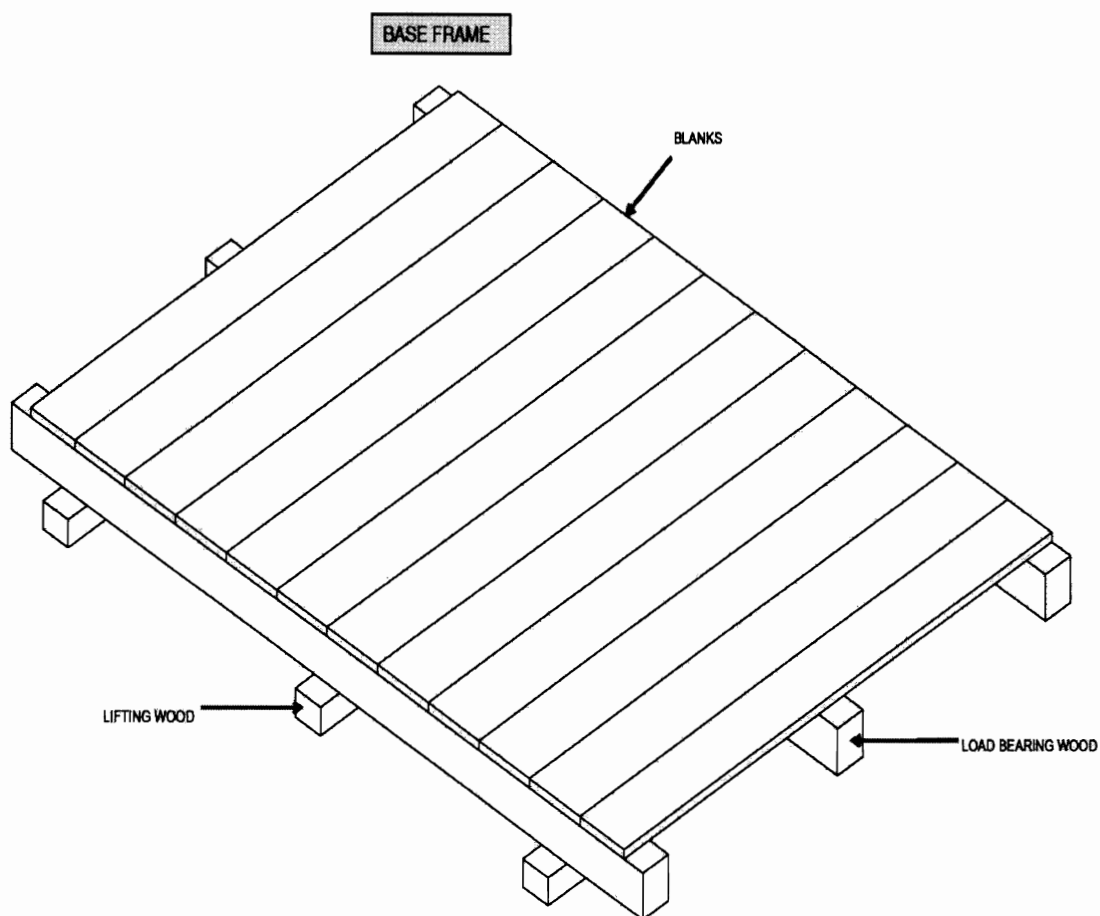


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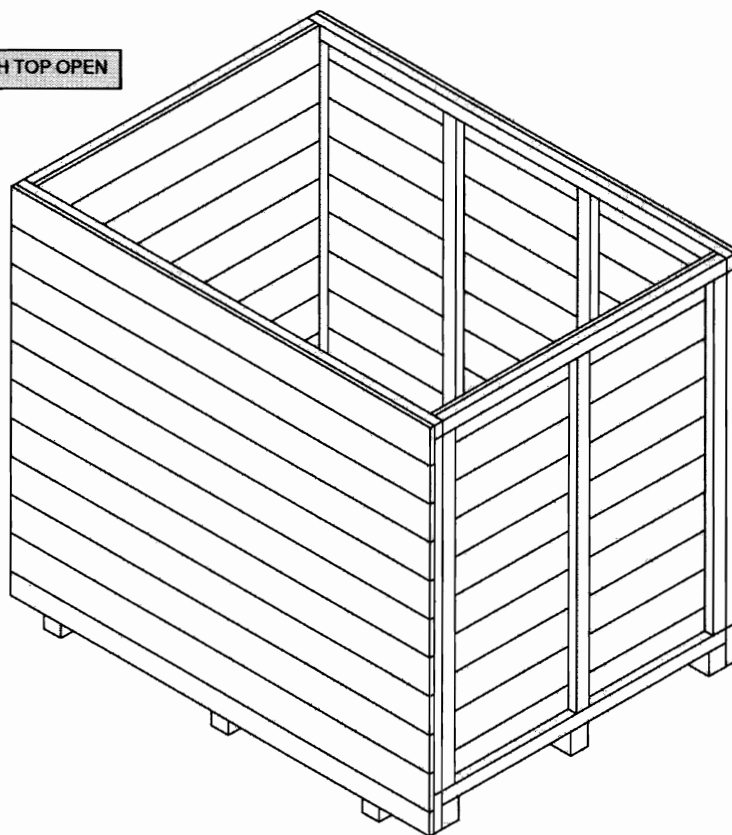
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NAILING TYPE MODEL WITH TOP OPEN



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#### 10.4 PACKING OF LOOSE ITEMS

Loose mechanical, electrical and C&I items e.g. valves, fittings, pressure/temperature gauges/switches, circuit breakers, relays etc shall be individually wrapped using polyethylene sheets/U foam/ thermocol sheets/air bubble sheets depending upon the items and then packed in wooden boxes. The left out spaces and top of the boxes shall be filled with rubberized coir to get proper cushioning effect, Special attention shall be paid to relays, instruments etc for arresting the movements of their operating mechanism during transportation.

The construction of wooden packing cases shall be as per clause 9.3.1 retaining its all features concerning strength of the box. The construction of wooden packing case for electrical and C&I items shall be as per fig-16.

Inner surface of 6 sides of the box shall be lined with bitumen coated hessian polyethylene kraft paper. Rubberized coir of min. 25mm thickness and 100 mm width shall be nailed to inner surfaces of bottom and 4 sides of the boxes.


#### 11.0 PACKING OF ELECTRICAL ITEMS

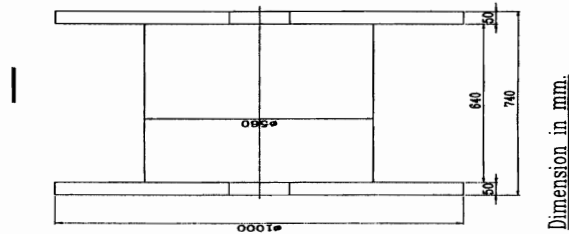
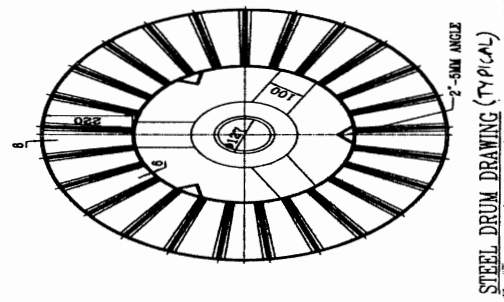
##### 11.1 CABLES


**11.1.1 Type of Equipment**  
All type of cables..

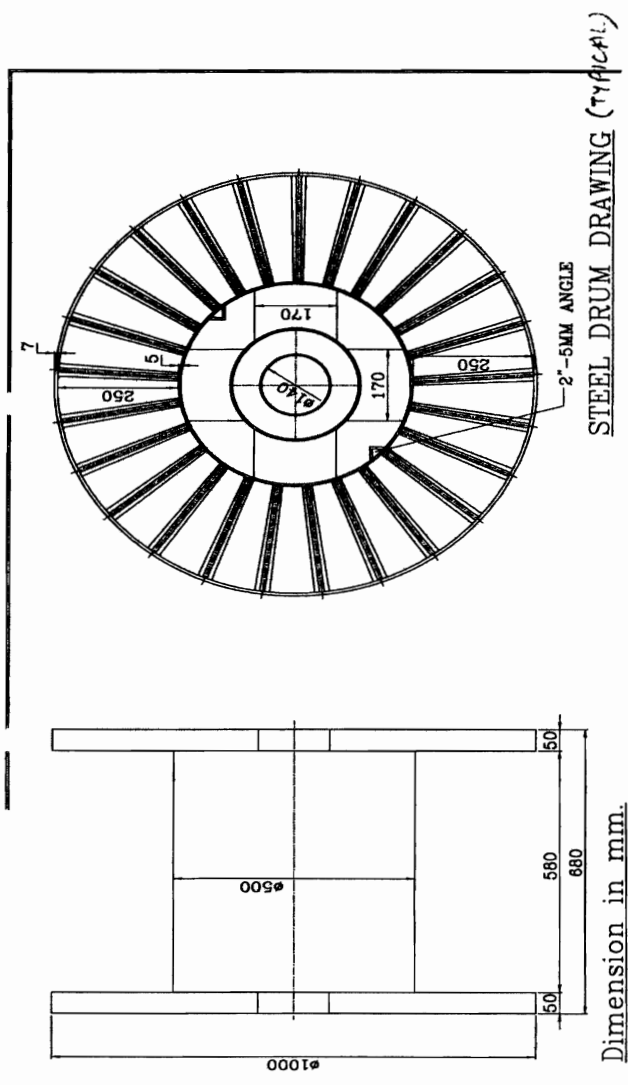
##### 11.1.2 Type of Construction

New or practically new cable drums made of steel and painted with epoxy resin paint are to be used. Cable ends are carefully protected before packing. Over the cables polyethylene sheet shall be wrapped and then sealed properly. Cable drum can be put in wooden crates for ease in transportation and handling. (Wooden cable drum is also acceptable, however vendor to furnish constructional details for approval).

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## 11.2 PACKING OF CABLE TRAYS & ACCESSORIES AND CABLE TRAY SUPPORT MATERIAL

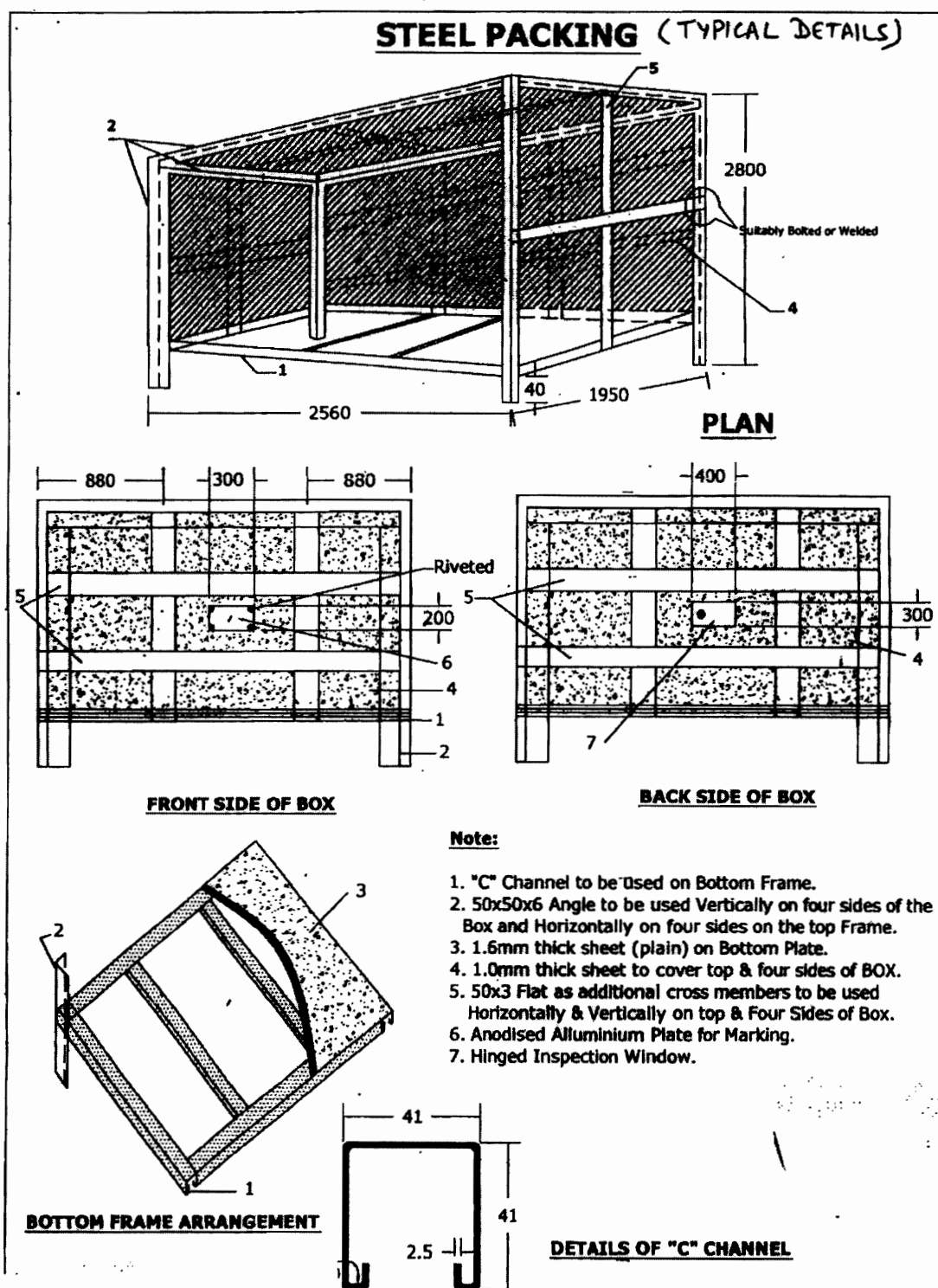
11.2.1 Cable trays can be packed in wooden boxes as per fig 1 to 11 or in steel boxes. Details of steel box construction is as indicated below.

- 1) All Dimensions are in "mm" unless otherwise stated.
- 2) Packing Box shall be fabricated using 50x50x6mm MS Angle, 50x3mm Flat, 2.5 mm thick C Channel, 1mm & 1.6mm Thick sheet.
- 3) Finish of Packing Box Shall be Galvanized.
- 4) Angle & Channel Section forming part of the Main frame shall be welded thoroughly with each other to give a rigid structure.
- 5) Sheet Section and Flat section shall be bolted/ Riveted/ Welded suitably to the Main frame stated in '4' above.


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- 6) Welding Portion on galvanized surfaces shall be painted with Zinc Rich Paint.
- 7) Dispatch details such as consignor/consignee address, contract and case details, 'country of origin, port of delivery, stacking instructions shall be written on one of the side of boxes. An anodized aluminium plate as per details and specifications given in page 3 of 5 shall be provided on the boxes
- 8) One copy of packing slip wrapped in polythylene bag covered with suitable aluminium .packing slip holder to be nailed on the external surface of the box. One more copy 9f the packing Slip wrapped in polythylene bag to be kept inside the box at the prominent place.
- 9) **INDICATION MARKS ON THE BOXES:** Markings shall be provided on the boxes indicating position of Boxes for handling, storage and nature of consignment. For guidelines referred page 4 of 5. The ink issued for this purpose as well as for marking dispatch instruction shall be indelible/non-washable marking ink.
- 10) Each item as mentioned in BOQ shall be packed & supplied as a set comprising of required numbers of associated fasteners & hardware etc

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### 11.3 PACKING FOR STATION LIGHTING SYSTEM

Aspects of packing specific to equipments / items of station lighting system are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

#### 11.3.1 For LIGHTING TRANSFORMER, DISTRIBUTION BOARDS, LIGHTING PANELS,

- Construction of packing case for LIGHTING DISTRIBUTION BOARDS, LIGHTING PANELS, TRANSFORMER . shall be EITHER as per FIGURE 1,2,3,5,6,7,8,9,10,11 OR FIGURE 14,15,16.
- Each Panel/Transformer shall be individually covered with double polythene sheet of thickness 175 microns minimum.
- All the 6 inner surfaces of packing shall be nailed with bitumen coated hessian polythene craft paper. Wherever 2 pieces of craft paper are used, the joint shall have minimum overlap of 20mm.

For the top frame it shall be project on all sides by 100mm and shall be nailed on sides .

- The gap between the panels and packing case shall be filled with rubberized coir of thickness 50mm minimum and width 100mm. The distance between two consecutive supports of rubberized coir shall be less than 500mm.
- Silica get packed in cotton bags shall be placed at different positions inside the packing.
- Packing case shall be finally covered with GI sheet of thickness 0.4mm minimum.

#### 11.3.2 For LUMINARIES, RECEPTACLES. EMERGENCY LIGHT, 240/24V TRANSFORMER, CEILING FAN, SWITCH BOARDS, FLEXIBLE CONDUIT, WIRES, EARTH WIRE. JUNCTION BOXES, ERECTION COMMISSIONING SPARES, RECOMMENDED SPARES , ERECTION MATERIAL AND CONSUMABLES

- Construction of packing case for THE ABOVE MATERIAL shall be as per FIGURE 1to11.
- Items placed inside the case shall be covered with double polythene sheet of thickness 175 microns minimum.
- All the 6 inner surfaces of packing shall be nailed with bitumen coated hessian craft paper. wherever 2 pieces of craft paper are used, the joint shall have minimum overlap of 20mm. For the top frame it shall be project on all sides by 100mm and shall be nailed on sides.
- Silica get packed in cotton bags shall be placed at different positions inside the packing.

#### 11.3.3 For CONDUIT PIPE


As per international practice pipes are shipped in open bundles with metal strapping. Packing as per attached figure A shall be provided which is described as following:

- Each bundle shall be wrapped with 2 layers of 175 microns thick polythene sheet.
- Then bundle will be wrapped with bitumen coated hessian craft paper.
- Bundle shall be strapped with steel straps.
- An anodized aluminium packing description plate as per Figure No. 13 shall be provided.

#### 11.3.4 For POLES

Poles will be wrapped with 2 layers of minimum 175 microns thick polythene sheet and then with bitumen coated hessian craft paper, packed as per Figure – C i.e. bundling.

#### 11.3.5 For STRUCTURAL STEEL

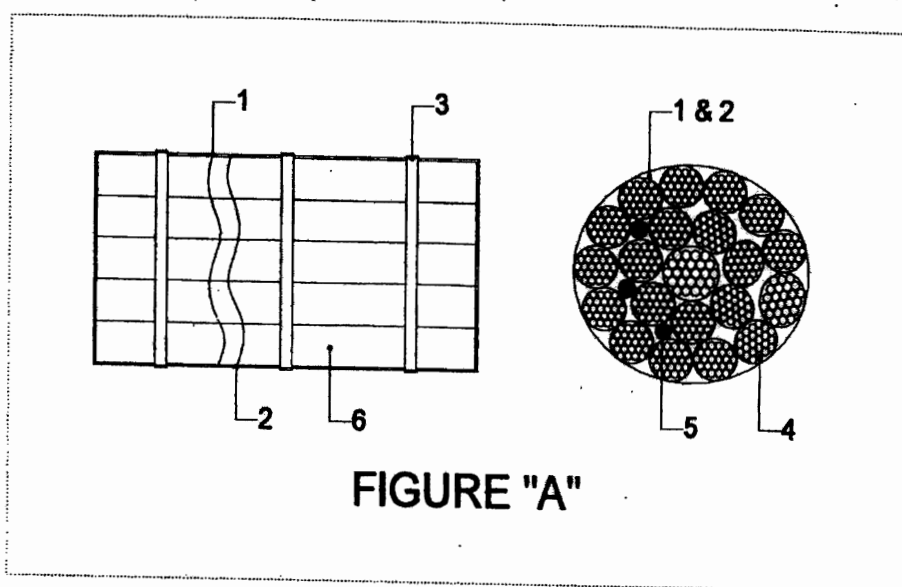
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Structural steel will be different sizes and shapes. Hence it will be packed as per Figure No. B and described as following :

- a) Each bundle shall be wrapped with 2 layers of 175 microns thick polythene sheet.
- b) Then bundle will be wrapped with bitumen coated hessian craft paper.
- c) Bundle shall be strapped with steel straps.
- d) An anodized aluminium packing description plate as per Figure No. 13 shall be provided.


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### **PACKING PROCEDURE FOR CONDUIT PIPE**

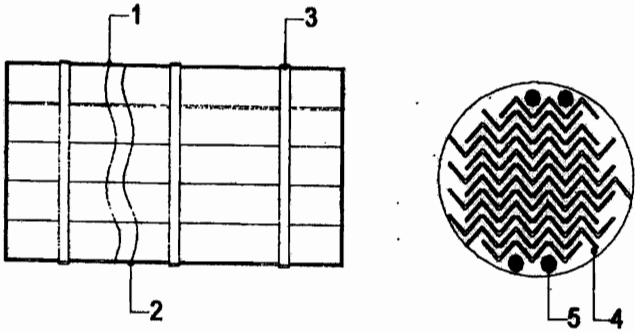


**FIGURE "A"**

- 1) LAYER OF BITUMEN COATED HESSIAN KRAFT PAPER.
- 2) LAYER OF POLYTHENE SHEET.
- 3) METAL STRAPPING.
- 4) CONDUIT PIPES.
- 5) SILICA GEL POUCHES.
- 6) BUNDLES OF CONDUIT PIPES.


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**PACKING PROCEDURE FOR STRUCTURAL STEEL**

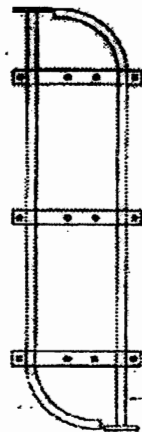


**FIGURE "B"**

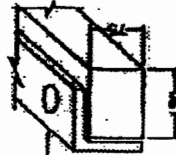
- 1) LAYER OF BITUMEN COATED HESSIAN KRAFT PAPER.
- 2) LAYER OF POLYTHENE SHEET.
- 3) METAL STRAPPING.
- 4) STRUCTURAL STEEL.
- 5) SILICA GEL POUCHES.

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**packing procedure for poles**



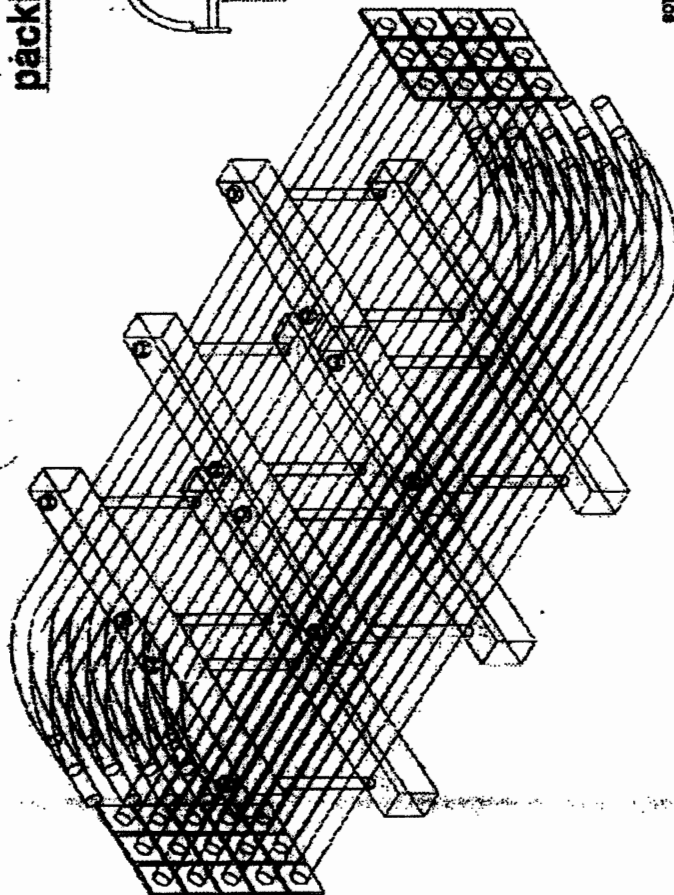
POLES WRAPPED WITH POLYETHYLENE SHEET &  
EXTRUDING COATED HESSIAN CLOTH




TOP WOODEN BATTEN TO BE  
FIXED WITH L50x80x6 MM ON TOP  
OF IT FOR TIEING THE ROD  
25 MM DIA



BOTTOM WOODEN BATTEN TO BE  
FIXED ON L50x80x6 MM ANGLE



**FIGURE "C"**

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#### 11.4 PACKING FOR DC BATTERY

The packing procedure for seaworthy packing of DC Battery is defined below, which is capable of withstanding impacts, compression, vibration, toppling, sea water spray, prevention against rust, temperature and extreme atmospheric conditions. Aspects of packing specific to equipments / items of DC Battery are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

The packing procedure consists of various stages namely primary packing, cushioning, securing, desiccant, outside packing box, Runners/ sliders/ transverse bars of plywood, etc., provided for each movement.


- a) The packing boxes shall be made up of plywood boxes (thickness 9mm min.) with blocks at the bottom of the box for provision for handling the boxes using the forklift. The packing boxes sizes are generally standardized to half-euro size (capable of handling equipment's weight).
- b) Rubberized coir of 25mm thickness shall be provided as cushioning material at the bottom and thermocole of 20mm shall be provided inside on all four sides. Other than this polyethylene film wrap or cover also will be provided. Left out spaces to be filled with rubberized coir/ thermocol to get cushioning effect.
- c) Silica gel in dust free air permeable cotton/paper bag shall be placed in the packing boxes for storage period of 1 year as per IS 304 (1979)
- d) While packing the cells, transit caps (polypropylene) of red and blue shall be used for big size cells for ensuring that cells does not get damaged during the transport due to vibrations etc.
- e) The battery accessories shall be packed with suitable precautions as follows:
  - i) Copper connectors shall be packed after making bunches with lead wire seals to avoid misplacement.
  - ii) Hardware items shall be packed in polyethylene bags (Thickness  $\geq 0.175\text{mm}$ ) with item slip
  - iii) Battery rack shall be packed in dismantled condition, wrapped with polyethylene sheet
  - iv) For Ni-Cd type battery, electrolyte in solid form for dry cells shall be packed in cans with KOH, LiOH being packed separately.
  - f) Galvanized Steel straps are provided for binding the packing box sides.
  - g) The handling instructions shall be marked in indelible/ non-washable ink, indicating the upright position.

#### 11.5 PACKING OF SERVICE TRANSFORMERS(OIL FILLED) & ACCESSORIES

This instruction is applicable for packing of transformers (oil filled), its accessories and components so as to ensure safe delivery to end user. Aspects of packing specific to equipments / items of transformers(oil filled) are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

##### 11.5.01 PACKING DETAILS :

- a) Items shall be packed in case / crates as per the shipping list.
- b) All fragile items and small items shall be packed in cases and to be marked as "Fragile, handle with care Fragile items".
- c) Fragile accessories are to be first packed in their original boxes (VENDOR's packing). Very

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- d small / delicate items such as glass thermometer, door keys shall be packed in separate box.
- d In case original box is found damaged, suitable alternate box or packing method using felt or foam sheet and polythene wrap to be used.
- e These boxes are then placed in identified wooden boxes. Inside of such boxes are lined with a layer of polythene sheet, packing wool / grass and another layer of polythene sheet before placing the boxes. All boxes are then wrapped with this polythene sheet before closing the box. Fragile items shall not be placed loose, one above the other inside the case.
- f All wiring cables, connection flats of non-ferrous materials, CTs, valves bellows shall also be packed.
- g Items like CTs, Oil communicating bushings, insulators, wired equipments and housings such as RTCC Panel, M. Box, Drive Mechanism, thermometers, gauges shall be wrapped in polythene from all around.
- h Buchholz relay and OSR relay openings will be blanked using covers, before putting them in the box
- i Items shall be carefully lowered and arranged inside the crate / case and each item shall be locked from all sides in such a way to avoid its movement in any way. Wooden stoppers and separators shall be provided for this and nailed to the crate / case wood.
- j Wooden planks and batons in contact with fragile items shall be provided with kit foam at the locations of contact.
- k Oil communication bushings shall be packed in separate case on V or U shape wooden felted supports, as in case of condenser bushings.
- l While placing and arranging the items inside the crates / cases, these shall be verified for correctness and then the packing note shall be signed. The cover top of the crate / case shall then be closed.
- m The main equipment like transformer tank shall be packed suitably to prevent any damage during transit / storage. Support structures like frame, header supports etc. shall be crated. Conservator headers shall also be crated. Radiators pipe work and other instruments & components shall be packed in cases. All the cases shall be lined with polythene from inside.

#### 11.6 ALTERNATIVE PACKING CASES FOR CONTROL PANELS AND SWITCH GEARS

For Control and switch gear panels, construction of wooden packing cases may be provided as per fig 14 & 15 and as detailed below.

Thickness of planks for all sides, binding and jointing battens shall be at least 25 mm. Width of the plank shall be at least 125mm and that of binding and jointing planks shall be at least 100mm.

Top frame shall be suitable so that it does not collapse due to sandwiching between slings while lifting. Longitudinal and traverse bars for the bottom wooden pallet to be suitably selected.

Diagonal bracings shall be as per cl 9.3.1.3 and all other requirements shall be as per clauses 9.3.1.4 to 9.3.1.6.

#### 12.0 Containerization

As required by BHEL, the VENDOR shall stuff the GOODS into 20 or 40 foot containers (dry, open top, flat racks, etc.).

The maximum inside dimensions of containers are to be considered:

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- 40 foot containers: 11.80 m x 2.20 m x 2.05 m
- 20 foot containers: 5.80 m x 2.20 m x 2.05m
- 

The present definition of containerization is valid for sea containers only. Vendor to check the size of containers before start of packing of equipment.

#### 12.1 Protection of Cases/Crates

Since shipping containers are in general not water tight, packing in contact with the floor of the container shall be raised in order to prevent it from being damaged by the accumulation of water.

#### 12.2 Mechanical Constraints

The mechanical constraints for "general use" closed containers are of a different nature (height of "stacking" being limited inside the containers), the packing for the GOODS may be of a lighter structure. However, it is necessary that the packing be appropriate so as to protect the GOODS on site during the storage period, as required after discharging of the GOOD'S from the containers.

**Note:**

*It is the responsibility of the VENDOR to ensure that the cases/crates are stowed, secured and fastened inside the container. The VENDOR will take all necessary precautions to conform to the maximum weight allowed and the centre of gravity of the container. The securing and fastening of the cases/ crates can be carried out by nailing timbers on the bottom or on the vertical sides of the container.*

#### 13.0 Other Services to be provided by Vendor

In addition to the packing and shipping documents, VENDOR must also carry out the following services, which shall be included in his quotation:

Carriage of VENDOR's sub-contracted equipment and material, which must be re-grouped in VENDOR's or PACKER's workshops, whilst waiting for packaging.

BHEL reserves the right to postpone the shipping of the GOODS. In this event, any storage and insurance costs during the first ninety (90) days shall be borne by the VENDOR.

Loading, including lifting, securing, lashing, and stowing, of all cases, crates, or packages onto means of transportation such as, but not limited to, trailers, containers, etc.

#### 14.0 Responsibilities and Guarantees

VENDOR is responsible for the choice of category for packing according to the transport facilities used, and on the basis of the present document. In case of doubt or disagreement regarding the choice, VENDOR must inform BHEL prior to packing and await BHEL's approval. All phases of packaging, marking, loading, etc. will be subject to BHEL inspection.


BHEL reserves the right to reject the packing when the packing does not conform to these instructions and/or when the packing does not ensure perfect protection of the GOODS. VENDOR is responsible for the weights and dimensions declared, and the marking of the packages.

The documents must be in strict conformity with the packing contents.

The packing specified in these "Packing, Marking and Shipping Instructions" is guaranteed for a twelve (12) months storage period after delivery on site.

VENDOR is responsible for providing storage recommendation adapted to the GOODS. According to this guarantee, VENDOR is held responsible in the event of goods becoming



	<b>TITLE</b>  <b>TECHNICAL SPECIFICATION FOR SEAWORTHY PACKING FOR EXPORT JOBS</b>	<b>SPECIFICATION NO. PE-TS-888-100-A001</b>	
		<b>VOLUME II B</b>	
		<b>SECTION D</b>	
		<b>REV. NO. 0</b>	<b>DATE 10/08/2010</b>
		<b>SHEET 52</b>	<b>OF 52</b>

useless, damaged or broken, as a result of poor packing and/or stowing, or due to corrosion, subsequent to insufficient or inadequate protection. All direct or indirect costs resulting thereof, will be back-charged to VENDOR.

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**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

Doc. No. PE-TS-421-556-E001

Volume

IIB

Section

I

Rev. : 00 DATE-20.07.2020

**SECTION-II**

**STANDARD TECHNICAL SPECIFICATION**



**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

SPECIFICATION NO. PE-TS-421-556-E001

VOLUME II

SECTION II

REVISION 00

DATE: 20.07.2020

SHEET 1 of 3

## 1.0 TECHNICAL REQUIREMENTS

- 1.1 Basic technical requirements for Electrical Lab Equipment shall be as indicated in this section, in addition to technical requirements specified in Section-I.
- 1.2 The intent of specification is not to specify herein all the details of design and manufacture. However, the equipment shall confirm in all respect to high standards of design engineering and workmanship and shall be capable of performing in continuous commercial operation up to vendors guarantee.
- 1.3 The Bidder may note that the equipment range, rating, quantities as detailed herein, are the minimum requirement only. All accessories for the equipment not covered here, if necessary for satisfactory and trouble free operation of the equipment, shall be quoted by the Bidder.
- 1.4 The instrument shall be suitable for satisfactory operation at an ambient temperature from 0°C to 55°C.
- 1.5 The Analog instruments shall be provided with knife-edge pointer and anti – parallax mirror.
- 1.6 The Bidder to quote only ‘one’ make/model against each equipment best to suit specification requirement.
- 1.7 The instrument shall be suitable for hand held operation, rugged in construction and suitable for field use.
- 1.8 All the equipment components shall be procured from reputed manufacturers and make of equipment shall be subject to the approval of BHEL/ BHEL’s Customer.
- 1.9 **Bidder to note that "In case any offered make / model becomes obsolete or is stopped manufacturing by manufacturer, next higher model of the same make may be considered for ordering / supply at contract stage, without any price implication. In such cases, bidder is required to furnish valid confirmation letter from OEM as proof of change of model (citing reason: obsolete technology or stopping of manufacturing with date of effect) and that the offered model is “technically equivalent or better”.**

## 2.0 CODES AND STANDARDS

Some of the standards, which shall generally be followed, are listed below. Other applicable relevant standards for any component part, even if not covered in listed standards shall be followed.

- i) IS – 6103 Method of test for specific resistance (resistivity) of electrical insulating fluid.
- ii) IS – 6700 Requirements of general purpose Cathode Ray Oscilloscope.
- iii) IS – 722 Specification for AC electricity meters.
- iv) IS – 8143 Specification for plugs & keys for resistance boxes.
- v) IS – 6104 Method of test for interfacial tension of oil against water.
- vi) IEC-51 Direct acting indicating analogue electrical measuring instruments and their accessories.
- vii) Any other relevant National/ International standards as mentioned in Section-II with technical specification.



**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

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SECTION II

REVISION 00

DATE: 20.07.2020

SHEET 2 of 3

**3.0 DESIGN CRITERIA:**

- 3.1 Electrical Laboratory Equipment shall be used for calibration & diagnostics, metering & testing of various electrical equipment/ devices during Commissioning, Operation and Maintenance of power plant.
- 3.2 The Equipment will be kept in a clean but hot, humid and tropical atmosphere when not in use. Equipment will be placed in dust laden, hot, humid atmosphere during its use.
- 3.3 For continuous operation at specified rating, temperature rise of various equipment/ components shall be limited to the permissible value stipulated in the relevant standards and this specification.

**4.0 TEST REQUIREMENTS:**

- 4.1 All equipment to be tested as per latest edition of relevant standards. Further, testing shall include verification of physical, functional & technical parameters of equipment & accessories, in line with approved datasheet.
- 4.2 The tests shall be carried out by the vendor at in-house lab/ OEM lab/ Third party govt. accredited lab. Charges for all these tests shall be deemed to be included in the bid price.
- 4.3 Vendor to furnish test report to BHEL for review/ acceptance. BHEL/BHEL's customer may witness the testing of equipment.

**5.0 PACKING:**

All equipment shall be properly packed in Galvanized sheet steel trunk/ box with proper lock & key arrangement except for equipment which are trolley mounted or are already available in rugged steel/wooden box packing. Further, any damage (reading error/calibration error/broken parts/missing parts etc) found on receipt at site, leading to replacement of parts/whole item, shall be to bidder's account.

**6.0 DEMONSTRATION TO BHEL / BHEL'S CUSTOMER**

- 6.1 The vendor shall be responsible for demonstration of the supplied equipment at site, conforming the satisfactory operation.
- 6.2 The equipment for which demonstration is required at site shall be intimated by BHEL.
- 6.3 The charges for visit to site for demonstration at site shall be in-line with Annexure- I of Section-II.

**7.0 PERFORMANCE GUARANTEE**

The bidder shall guarantee that the equipment offered shall meet the requirement as stipulated in this specification and as confirmed by them in Technical Data Sheet. In case the performance of equipment is not as per performance guarantee, the bidder will have to replace the equipment at site free of cost.



**2 X 660 MW MAITREE STPP  
TECHNICAL SPECIFICATION  
FOR ELECTRICAL LAB EQUIPMENT**

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REVISION 00

DATE: 20.07.2020

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## 8.0 DRAWING DATA & MANUAL

8.1 To be submitted with the bid as technical offer:

- a) Compliance to Technical parameters of various equipment as specified in Annexure-I of Section-I in Data Sheet – B (as enclosed).
- b) Technical leaflets/ Catalogues/Product Manual of the Equipment

The Bidder may note that the drawing, data and manual listed herein are minimum requirement only. The Bidder shall ensure that the other necessary write-ups, curves and information required to fully describe the equipment are submitted with the bid.

8.2 Following documents/drawings shall be submitted after placement of order for BHEL & customer's approval:

- a) Technical Datasheet for each equipment
- b) Technical leaflets/ Catalogues/Product Manual of the Equipment
- c) Tests Reports and calibration certificate
- d) General arrangement drawing showing constructional features, accessories, connections, range and rating, mounting arrangement, space requirement etc.
- e) Detail instructions for application, assembly & testing of equipment.
- f) Wiring and schematic diagrams (if applicable).
- g) Instruction manual/ O&M manual of individual equipment

8.3 Instruction manual/O&M Manual of individual equipment

The manual shall clearly indicate in English the installation and connection method, check list of the tests to be carried out before commissioning of equipment. Maintenance and Calibration method shall also be provided in the manual.

8.4 Bidder to furnish all user instruction manuals, maintenance, handling, installation manuals & all test reports complete in all respect in bound volumes & soft copies to BHEL / BHEL's customer at the time of handing over the same to BHEL / BHEL's Customer.

8.5 Bidder to note that quoted item cost shall include cost of main item, cost of all accessories required for successful operation of equipment and testing cost of all equipment test as per relevant standard.

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**2X660MW MAITREE STPP  
PRE-QUALIFICATION REQUIREMENTS FOR  
ELECTRICAL LAB EQUIPMENT**

DOC. NO. PE-PQ-421-556-E003

REVISION NO. 0 DATE 12.10.2022

SHEET NO. 1 OF 1

**ITEMS:** Electrical Lab Equipment**SCOPE:** Supply: YES; Erection & Commissioning : NO;

1	Vendor can be either OEM (Original Equipment Manufacturer) or Supplier of Electrical Lab equipment.
2	Vendor should have supplied Electrical Lab equipment to process plant/ refinery/ power plant/ nuclear plant / testing Lab.
3	Vendor should be in business of supplying electrical lab equipment for at least last two (2) years from the date of techno commercial bid opening.
4	Minimum two nos. purchase orders for electrical lab equipment shall be submitted which should not be more than 5 years old from the date of techno-commercial bid opening for establishing continuity in business.

**NOTES-**

1. Consideration of offer shall be subject to customer's approval of bidders, if applicable.
2. 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.
3. Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
4. After satisfactory fulfilment of all the above criteria/ pre-qualifying requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.

PREPARED BY

NAME: MEET SAGAR SINGH RAJPAL  
DESIGNATION: MANAGER

CHECKED BY

NAME: AYAN SAHA  
DESIGNATION: SR. MANAGER

REVIEWED BY

NAME: SANDEEP LODH  
DESIGNATION: SR. DGM

APPROVED BY

NAME: DEBASISA RATH  
DESIGNATION: DH ELECT (AGM)

## Annexure B

## Standard Delivery Schedule of PEM BOIs (ELECTRICAL)


Sl. No.	Package Code	Package name	DEPTT	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Sch for Vendors	Standard Delivery Terms for Supply Portion	Scope of Services, (if any, as per Indent) and corresponding schedule for rendering the services
1	556-11000-A	ELECTRICAL LABORATORY EQUIPMENT	ELECT	PE-V0-421-556-A001	Data sheet/GA of equipment with detailed BOM	Primary	R-0 within 21 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	Supply : Within Four (04) months from date of CAT-1 approval of Primary drawing/documents or BHEL manufacturing clearance whichever is later, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/ resubmission of Primary drawing/ documents, then same shall be reduced from the given delivery period.	<b>Service Portion (comprising of supervision of E&amp;C at site, training of Customer's O&amp;M staff, demonstration testing at site, lodging, boarding, travelling, medical insurance, visa, etc.):</b>  Vendor to depute its service engineer for services within 30 days from BHEL's intimation (for deputing service engineer).  For delay in deputing service engineer, LD on Service portion shall be applicable @ ½% of the total Service portion contract value (excluding element of taxes) per week or part thereof. However, total LD (supply + Service) shall be limited to 10% of cumulative total contract value excluding taxes and freight (supply + Service).
				PE-V0-421-556-A002	CATALOGUE of equipment	Primary			
				PE-V0-421-556-A004	O & M Manual (IF APPLICABLE)	Secondary	within 30 days of issuance of MDCC	Notes : 1. Vendor to start manufacturing activities only after obtaining specific manufacturing clearance from BHEL Purchase group. 2. In case BHEL manufacturing clearance date is later than the date of Cat-1 approval of Primary drawing/ documents, then the contractual delivery period will be calculated by setting off the time gap between Cat-1 approval date of Primary drawing/documents and the manufacturing clearance date, from any delay by vendor in submission/re-submission of Primary drawing/documents.	
				PE-V0-421-556-A003	CALIBRATION/TC	Secondary	Submission for issuance of MDCC		

**Following notes are an integral part of delivery schedule :**

- 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.

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**


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 and its corrigendum, if any.

1.0	Project Name	<b>2 X 660 MW MAITREE STPP - BANGLADESH</b>
2.0	Ultimate Customer	Managing Director, Bangladesh-India Friendship Power Company (Pvt.) Limited, Level-17, Borak Unique Height, 117, Kazi Nazrul Islam Avenue, Eskaton Garden, Dhaka-1217, Bangladesh (Contact details – 8823941805)  <b>NOTIFIED TO:</b> DGM(C&M), Bangladesh-India Friendship Power Company (Pvt.) Limited, Level-17, Borak Unique Height, 117, Kazi Nazrul Islam Avenue, Eskaton Garden, Dhaka-1217, Bangladesh
3.0	Delivery Address (Ship To) 	a) For Indian Suppliers - Chennai Port 'or' CHA Godown, Chennai Port b) For Foreign Suppliers - MONGLA PORT, Bangladesh c) For Bangladeshi Suppliers - Maitree site, Rampal, Bangladesh (Refer S.No. 4)
4.0	Location of Plant	2 X 660 MW MAITREE STPP PROJECT SITE, PO – KALEKKHARBER, UNION – RAJNAGAR, UPAJILA - RAMPAL, DISTRICT – BAGERHAT-9343, BANGLADESH  Nearest Port: The nearest port is Mongla Port, Bangladesh.  Nearest Airport: The nearest airport is Hazrat Shahjalal International Airport, Dhaka.
5.0	Entry Point in Bangladesh	1) MONGLA PORT, BANGLADESH 2) DHAKA's INTERNATIONAL AIRPORT, BANGLADESH
6.0	Consignee Address (Bill To)	BHEL, POWER SECTOR - PROJECT ENGINEERING MANAGEMENT, POWER PROJECT ENGINEERING INSTITUTE, PLOT NO.25, SECTOR-16A, NOIDA-201301 STATE - UTTAR PRADESH

*Devi*  
07/05/19





**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

	Notes:	<ol style="list-style-type: none"> <li>1. Consignee address (Bill To) in Invoice &amp; LR should be strictly as per Sl. No. 06. Place of supply along with name of state to be clearly indicated by vendor in invoice.</li> <li>2. Delivery address (Ship To) in Invoice and LR should be as per Sl. No. 03.</li> <li>3. Invoice should clearly specify "Billing from" and "Shipping from" addresses.</li> <li>4. It is Vendor's responsibility to ensure availability of trucks well in advance for dispatch of material to meet contractual delivery requirement.</li> </ol>
7.0	Buyer and Paying Authority	<ol style="list-style-type: none"> <li>1) Packages for which PO is placed by BHEL-PEM - Buyer and Paying Authority shall be <b>BHEL-PEM</b>.</li> <li>2) Packages for which LOA is issued by BHEL-PEM &amp; PO is placed by BHEL-PSER - Buyer and Paying Authority shall be <b>BHEL-PSER</b>.</li> </ol>
8.0	Mode of Dispatch	By Road/Rail/Sea/Air on Door Delivery and freight Pre-Paid Basis.
9.0	Road Permit / E-waybill 	Shall be arranged by vendor (for Indian vendors)
10.0	Countries on banned list	The bidder shall get himself acquainted with the relevant Bangladesh laws as well as the import policy of the Government of People's Republic of Bangladesh remaining in force regarding import of banned item, if any, during the execution of the contract. In case of import of any banned items and/or contraband item, the consequential liability shall rest with the contractor. Similarly, the contractor shall be responsible for any non-conformance of Bangladesh Laws either by its own employees or any of the employees of its sub-contractors during the execution of the contract.
11.0	Certification for the sourcing of material.	As per Contractual requirement, goods and services of minimum 75% of the total EPC contract value are to be sourced by BHEL from India only, therefore, all bidders must be mandatorily required to mention value of content sourced from India in their offer to BHEL-PEM and must be required to submit documentary proof (while claiming payment) certifying the value of content sourced from India.

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07/05/19

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

12.0	  Transit Insurance	<p><b>Indian Supplier:</b> Inland Insurance up to delivery Address (i.e. CHA Godown Chennai port 'or' Chennai port.)</p> <p>a) The inland insurance covering the vendor material from their works to the Chennai port shall be in BHEL scope, however, vendor shall intimate the insurance company (as mentioned at S.No. 13 below) before dispatch.</p> <p>b) Vendor shall not quote for any inland insurance for 2 X 660 MW BIFPCL MAITREE KHULNA STPP.</p> <p>Vendor shall inform the following details of dispatches to the Underwriter (refer details below at S.no. 13) under intimation to BHEL-PEM and BHEL ROD Chennai:</p> <ol style="list-style-type: none"> <li>(1) Policy No.</li> <li>(2) Consignee Name.</li> <li>(3) Consignment Details (items with their weights and value (in INR)).</li> <li>(4) Project Name and P.O. No.</li> <li>(5) LR No. and date, Dispatch origin and destination details, Inv. No.</li> </ol> <p><b>Foreign vendor:</b> For foreign supplies which are direct from third country to Bangladesh port, Insurance from the Vendor's works in the foreign country to the Bangladesh Port shall be covered under Marine Insurance Policy by BHEL. These supplies are on C&amp;F basis.</p>
13.0	<p>Policy No.</p>   Name of the insurance company details:	<p>#GDI/PBD/09/2018/MCE/P/0001 (C-1)</p> <p>GREEN DELTA INSURANCE COMPANY LTD. GREEN DELTA AIMS TOWER, 51-52, MOHAKHALI C/A, DHAKA 1212 CONTACT PERSON: SYED FORHAD ABBAS HUSSAIN PHONE NO.: +88-01911-345995 FAX: +88-02-985-1124 EMAIL: forhad@green-delta.com; info@green-delta.com</p>
14.0	GST Registration No.	BHEL-PEM: 09AAACB4146P2ZC

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**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

15.0	Dispatch Documents required (to be furnished by Vendor for payment)	<p>Vendor to furnish the scanned copy of dispatch documents immediately on the date of dispatch for billing at BHEL end.</p> <p><b>For materials originating from non-Indian Territory</b></p> <p>(a). Three (3) original and Three (3) copies of clean bill of lading or One (1) clean original Airway Bill &amp; Three (3) copies, in case of air freight.</p> <p>(b). One (1) original and Three (3) copies of signed Invoices</p> <p>(c). One (1) original and Three (3) copies of Packing List (clearly showing number of packages, gross weight and net weight).</p> <p>(d). Three (3) copies of certificate of country of origin.</p> <p>(e). Copy of Customer/BHEL MDCC.</p> <p>(f). Three (3) copies of inspection certificate, if any, issued by the customer/his authorised representative.</p> <p>(g). Three (3) 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.</p> <p>(h). Three (3) 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.</p> <p>(i) Shipping Specification – One (1) copy.</p> <p>(j). Quality Certificate – One (1) copy.</p> <p>(k). Approved Test Certificates, if any. - Three (3) copies.</p> <p>(l). Guarantee Certificate – One (1) Original + One (1) copy.</p> <p>(m). Inspection Reports – One (1) Original + One (1) copy.</p> <p>(n). PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies.</p> <p><b>For Claiming Dispatch payments (for materials originating from Indian territory), Freight, MRC &amp; Services Payments - refer GCC.</b></p>
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07/05/19

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

16.0	Material Receipt Certificate (MRC)	<p>For Supply Packages, Material Receipt Certificate shall be arranged by BHEL-PEM.</p> <p><b><u>Payment linked to MRC</u></b> – In case MRC is not received within 120 days from the date of dispatch, then, receipted LR duly endorsed by BHEL-ROD Chennai/ BHEL CHA at Chennai Port (for indigenous bidders) and Bill of lading (for foreign bidders) shall be treated as MRC for vendor payment purpose.</p>
17.0	Taxes & Duties	<p><b>A) GOODS AND SERVICE TAX (GST)</b> Transaction between a manufacturer and merchant exporter is in the nature of supply and is not exempted under the GST laws. Accordingly, the <b>Indian bidder</b> should quote the relevant CGST/SGST/IGST in their bid. However, CGST/SGST/IGST will not be taken into consideration for the purpose of evaluation of the bid.</p> <p><b>B)</b> Being export project, the <b>Indian bidders</b> are required to consider all the applicable export benefits, if any, as per the Foreign Trade Policy 2015-20 and Custom Act. BHEL PEM will provide all the necessary support in this regard. The bidder is required to indicate the support required and the break-up of CIF content at the enquiry stage.</p> <p><b>C)</b> Custom duty shall be payable by BHEL/BIFPCL-BANGLADESH at the port of destination (BANGLADESH) for the clearance of material supplied. However vendors to note that in case material gets rejected due to reasons attributable to the vendor, then the vendor shall bear the customs duty &amp; other incidentals at the port of destination for further replenishment supplies to be made.</p> <p><b>D)</b> After the completion of supply of the ordered quantity, for any further supplies arising due to reasons attributable to the vendor, Customs duty and other incidentals at BANGLADESH port shall be paid by the vendor.</p> <p><b>E)</b> For <b>foreign vendors</b>, if any extra charges are incurred by BHEL during custom clearance at Bangladesh port due to non-compliance/insufficiency by foreign vendor, the same shall be to vendor account.</p>



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07/05/19

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
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	Taxes & Duties	F) In case of Order on <b>foreign Vendor</b> , the dispatches shall be on C&F basis and Taxes & Duties in the country of dispatch (origin) shall be borne by Foreign Bidder & to be accounted in the prices quoted to BHEL/PEM/NOIDA.									
18.0	 <b>Loading criteria</b> (This clause is applicable only if bids are received from different countries against any tender)	<p>FOR Chennai Port Price/ C&amp;F (Mongla port) price shall be loaded by following factors to arrive at Total FOR Site price for evaluation purpose.</p> <p>Loading for transportation &amp; Custom Clearance cost to reach material at Maitree project Site at Rampal right from receiving of Cargo at following Port: -</p> <table border="1"> <thead> <tr> <th>Delivery address</th><th>General Cargo (Rate PER MT in Rs)</th><th>ODC Cargo (Rate PER MT in Rs)</th></tr> </thead> <tbody> <tr> <td>From Chennai Port, India</td><td>3812</td><td>5026</td></tr> <tr> <td>From Mongla Port, Bangladesh</td><td>1201</td><td>1998</td></tr> </tbody> </table> <p><b>NOTES :-</b></p> <ol style="list-style-type: none"> <li>Bidders to quote weight/dimension of material in their quotation to BHEL-PEM.</li> <li>ODC shall be considered for 100MT or 13MX3MX3M Dimension, whichever is Higher.</li> </ol> <p>Also, Loading for any deviation to NIT documents shall be done as per provisions of GCC and its corrigendum, if any.</p>	Delivery address	General Cargo (Rate PER MT in Rs)	ODC Cargo (Rate PER MT in Rs)	From Chennai Port, India	3812	5026	From Mongla Port, Bangladesh	1201	1998
Delivery address	General Cargo (Rate PER MT in Rs)	ODC Cargo (Rate PER MT in Rs)									
From Chennai Port, India	3812	5026									
From Mongla Port, Bangladesh	1201	1998									
19.0	Guarantee Period	Guarantee period shall be as per clause no.12.0 of GCC rev no.06 or as specified in NIT, whichever is later.									
20.0	Unloading, Storage and Movement of Material within Site	<p>-By BHEL site office for Supply packages. (The Vendor shall furnish LR wise Gross Wt. and net weight of the consignment in attached format annex-A for the purpose of handling the consignment by BHEL site loading/unloading contractor).</p> <p>-By Vendor for Turnkey i.e. Supply and Erection &amp; Commissioning Packages.</p>									


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07/05/19

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
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2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

21.0	Inspection Agency (Domestic & Imported supply supplies)	Shall be informed later
22.0	 LD Calculation	<p><b><u>Indigenous vendor</u></b></p> <p>LD to be worked out/levied upto the date of handing over of the goods to BHEL--ROD / CHA at delivery point. Hence, original LR stamped with the date indicating the handing over date of consignments to BHEL--ROD / CHA to be submitted by the supplier to PEM as a proof of goods handed over to BHEL--ROD / CHA.</p> <p>All other LD terms shall be as per Clause no.16.0 of GCC REV 06 along with its GST corrigenda.</p> <p><b><u>Foreign vendor</u></b></p> <p>LD to be worked out/levied based on the date of Bill of Lading as delivery completion.</p> <p>All other LD terms shall be as per Clause no.16.0 of GCC REV 06 along with its GST corrigenda.</p>
23.0	 Clearing House Agents (CHA)	<p>Name of CHA: ABC INDIA LTD (ABCIL) ABCIL Contact Person: Mr. S. Mohapatra (ABCIL) Mobile – 9123679367, Mr. Shukla – 9381094952</p> <p><b><u>Port Address:</u></b> Chennai Port Trust Mr. Harshal Trivedi, Engineer/Docks Bharat Heavy Electricals Ltd Near Marshalling Yard, Chennai Port Trust, Chennai 600 001 Mobile no – 08680850932, 044 25362247/25360446</p> <p><b><u>BHEL-ROD –CHENNAI</u></b> contact details - Mr. Santosh Kumar Jena, Dy. Mgr will coordinate from ROD-Chennai. Mob – 09489202898, 044-24374317, E-Mail - santoshj@bhel.in</p> <p>NOTE: Indian Vendor shall confirm from BHEL about the delivery address (as mentioned above), before the dispatch of material.</p>
24.0	Packing Instructions	Refer Annexure –C for packing instructions.

*Levin*  
07/05/19

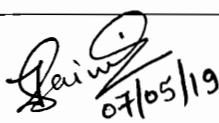
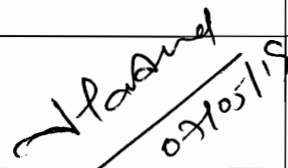
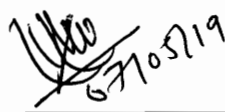
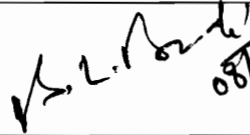
**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

25.0	Excise Attestation at Works	<p>Sealing of containers – Procedure for sealing of containers shall be as per clause no B of circular no 26/2017-Customs dated 1st July, 2017 and other related circular thereof issued from time to time by Govt of India.</p> <p>For this purpose, PEM's supplier should send the packing lists to IO-Projects at least 2 weeks in advance to enable prepare Shipping Invoices for furnishing to the PEM's supplier for requisite attestations and sending to ROD Chennai through fastest means for a smoother and faster customs clearance under intimation to PEM, NOIDA.</p>
26.0	 Packing List and Routing of Packing Lists	<p>Copy of suggestive format is attached as <b>Annexure- A</b>. This format is to be strictly followed by the supplier/ bidder (applicable for those bidders to whom order shall be given by PEM).</p> <p>Packing list is an extremely important document, which forms a part of Export Documentations in connection with the processing of customs formalities. Packing List has to be generated by units/Unit vendors and sent to IO at Lodi Complex, New Delhi, and ROD, Chennai (both at the same time), two weeks in advance, for processing and obtaining shipping bills' clearances. All PEM's suppliers to note that Chennai port would be the major port of shipment from India. Vendor will also provide soft copy (in excel format) of packing list to PEM, Noida.</p>
27.0	Advance intimation about dispatches BHEL-ROD Chennai, BHEL IO Project, New Delhi & BHEL-PEM NOIDA:	<p>An advance e-mail/fax intimation of dispatch of materials / Equipment shall be given by the supplier to PEM NOIDA, BHEL IO Lodi Complex, New Delhi and BHEL-ROD Chennai (The contact person &amp; Tel. no. &amp; address of ROD Chennai etc. shall be furnished later.</p> <p>All PEM's suppliers will give at least 15 days advance intimation to PEM NOIDA, ROD, Chennai &amp; IO-Projects along with package details/ Packing List before actual dispatches to arrange for the storage/shipping arrangements by ROD Chennai and customs invoicing by IO-Projects. Information must be sent to consolidate the details and arrange for shipments in time.</p>

*Signature*  
07/05/19

**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

28.0	Commissioning spares	The commissioning spares shall be properly packed separately in separate box as per approved sea worthy packing 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.
29.0	Mandatory Spares	Packing as per approved seaworthy packing instructions.  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.
30.0	Submission of Final Drawing / Documents along with O&M Manual, Type Test Certificates (if any)	As per GCC/ Technical specification/ Kickoff meeting.
31.0	Monthly Progress Report	Vendor to provide monthly progress report each month after placement of PO, till supply of material. Monthly progress report of vendor shall include raw material status, BOI status, manufacturing, engineering progress including status of major drawings/docs, inspection & latest dispatch plan. Vendor may use their format to provide required information, however format (if any) issued by Purchaser after placement of PO shall be obligatory to vendor.

	Prepared by	Checked By	Reviewed by	Approved by
Signature				
Name	JITENDER SAINI	HASEEN AHMED	ASIF IQBAL QURAISHI	B L BEDI
Designation	SR.ENGR /PG-1	MGR/PG-1	DGM/PG-1	DH/PG-I & II





**ANNEXURE – B to SPECIAL CONDITION OF CONTRACT (SCC) REV 01 dated 07/05/2019**

**2 X 660 MW MAITREE STPP - BANGLADESH**

**Annexure - B**

**Marks & Numbers on Packing Cases:**

**Following name plate (indelible) must be fixed on at least two sides of each box/package-**

Shipping Marks	BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT) LTD 2 X 660 MW MAITREE SUPER THERMAL POWER PLANT PROJECT, BANGLADESH
EPC Contractor	BHARAT HEAVY ELECTRICALS LTD (BHEL), INDIA
Ultimate CONSIGNEE:	MANAGING DIRECTOR, BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LIMITED, LEVEL-17, BORAK UNIQUE HEIGHT, 117, KAZI NAZRUL ISLAM AVENUE, ESKATON GARDEN, DHAKA-1217, BANGLADESH
Destination:	2 X 660 MW MAITREE STPP PROJECT SITE, PO – KALEKKHARBER, UNION – RAJNAGAR, UPAJILA- RAMPAL, DISTRICT – BAGERHAT-9343 (KHULNA DIVISION), BANGLADESH
Origin or Source of Materials	
Box No.	(Numbering scheme as per SI No. 24.0 of this SCC above)
Size in Cms. (LXB XW):	
Net Weight in Kgs.:	
Gross Weight in Kgs.	
Volume in CBM :	
Port of Discharge** :	
Package Name MainSupply/ commissioning spares/ Mandatoy spares	
Handling Marks and delivery Marking	

*Signature*  
07/05/19

**ANNEXURE – C to SPECIAL CONDITIONS OF CONTRACT (REV 01 dated 07/05/19)  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

**ANNEXURE – C for PACKING INSTRUCTIONS**

1.0	Box Numbering System	<p>Following Box Numbering System shall be followed by the PEM's Suppliers:</p> <p>Package number: BHEL/MTR/BD/PEM/YYY/ZZZZZ</p> <p>Series (ZZZZZ) to be used by PEM shall be from 30001 to 39999. Vendor wise package numbers shall be informed by PEM along with MDCC. Bidders to note that no duplication of box numbers is permitted).</p> <p>i.e. First package dispatched from PEM should be numbered as BHEL/MTR/BD/PEM/YYY/30001</p> <p>In addition to the Name plate as per Annexure-B, each package should have the following inscriptions and signs legibly and clearly marked/stenciled with an indelible red ink on at least two sides, covering one fourth of the area of the side.</p> <p><b>BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT) LTD 2 X 660 MW MAITREE SUPER THERMAL POWER PLANT PROJECT, BANGLADESH</b></p> <p><b>EPC CONTRACTOR: BHARAT HEAVY ELECTRICALS LTD (BHEL), INDIA</b></p>
2.0	Provision of Inspection Windows on Packages	<p>PEM's supplier should provide inspection window of size 6"x4" (glass perplex) for customs examination for all such packages (above 1.5 x 1.5 x 1.5 cu m) involving Panels of any kind. Care would be taken to ensure that all packages are properly sealed to avoid ingress of moisture, rodents etc. Packing slip folders shall be attached in each box.</p>
3.0	Marking for safe handling	<p>To ensure safe handling, packing case shall be marked to show the following:</p> <ul style="list-style-type: none"><li>• Upright position</li><li>• Sling position &amp; Centre of gravity position</li><li>• Storage Category</li><li>• Fragile components (to be marked properly with a clear warning for safe handling)</li></ul>

*Sanjay*  
07/05/19

**ANNEXURE – C to SPECIAL CONDITIONS OF CONTRACT (REV 01 dated 07/05/19)**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

4.0	EXPORT PACKING / PACKAGING INSPECTION:	<p>The packing shall conform to the sea-worthy packaging procedure given along with the technical specification/NIT and should be SEA worthy to withstand the Sea &amp; Salt laden conditions. The packages shall be made in line with the packaging Drg. &amp; procedures approved in Cat-I by BHEL PEM Noida. The packaging procedure approved by PEM in cat-I must be available with PEM's supplier before making of the boxes and commencement of the packaging inspection for their ordered scope. All the bidders to note that -</p> <ul style="list-style-type: none"><li>a) Packaging inspection shall be undertaken by Third Party independent surveyor/BHEL based upon PEM approved packaging procedure. It may be noted that NO package shall be dispatched without the acceptance of packaging agency (BHEL/Independent third party inspection agency appointed by PEM.</li><li>b) The bidders to give a check list to BHEL-PEM as well as Packaging Inspection agency, indicating the identified goods under his scope of supply, weight &amp; dimension of the box /packages &amp; its weight for the purpose of shipment on to the vessel and also handling at Port.</li><li>c) The independent packaging agency Release Note OR BHEL-CQS Packaging Inspection clearance certificate as applicable shall be necessary &amp; submitted to BHEL-PEM/PG-I for obtaining MDCC.</li></ul> <p>As far as possible, the packing has to be rectangular in shape for optimum space utilization in the ship and economize on shipping costs. Projections on packages are prohibited.</p> <p>The packing list as per Annexure - A has to be checked and certified by the Inspection agency with due signatures and stamp. No loose items / Gunny bag packing is allowed for shipment. Proper pallets and crates are to be used for packing of Oil drums and Structure.</p> <p>Name plate (indelible) with required details as per Annexure –B must be fixed on at least two sides of every Box/package.</p>
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*Devi*  
07/05/19

**ANNEXURE – C to SPECIAL CONDITIONS OF CONTRACT (REV 01 dated 07/05/19)**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

5.0	Transportation Drawings for Heavy Weight/ODC consignment ( For any package/item weighing above 20000 kgs and/or size greater than 2.5 X 2.5 X 4 m)	Detailed engineering documents (at least 4 sets) for all items of the above category will be furnished by PEM's supplier to issue shipment enquiries in a proper manner. The drawing has to include center of gravity of the item clearly. Units / PEM's supplier to identify such items and notify to IO group through BHEL-PEM as soon as the Engineering Documents are released.
6.0	Proper Capacity of Trailers for inland Transport in India	The PEM's suppliers making arrangements for inland transport in India for the goods ordered by BHEL-PEM should ensure that the trailers would be able to carry the actual weight (not designed weight) of the equipment. No overhanging of the cases should be permitted. This is essential to avoid any damage to the consignment en-route to the port of dispatch. The truck carrying the cargo shall be covered with a Tarpaulin to meet the weather vagaries in inland transport.
7.0	Other important packing instructions	<p>a) All equipment and materials and other Plant shall be suitably coated wrapped, or covered and boxed or crated for export shipment and to prevent damage during handling and storage at All the Site. Cardboard containers shall be enclosed in a solid wooden container.</p> <p>b) Equipment and process materials shall be packed and semi-knocked down, to the extent possible, to facilitate handling and storage and to protect bearings and other machine surfaces from oxidation. Each container, box, crate or bundle shall be reinforced with steel strapping In such a manner that breaking of one strap will not cause complete failure of the packaging. The packing shall be of best standard to withstand rough handling and to provide suitable protection from tropical weather while In transit and while awaiting erection at the Site.</p> <p>c) Equipment and materials in wooden cases or crates shall be properly cushioned to withstand the abuse of handling, transportation and storage. Packing shall include preservatives suitable to tropical conditions. All machine surfaces and bearings shall be coated with oxidation preventative compounds. All parts subject to damage when in contact with water shall be coated with suitable grease and wrapped in heavy asphalt or tar impregnated paper.</p>

*Revised*  
07/05/19

**ANNEXURE – C to SPECIAL CONDITIONS OF CONTRACT (REV 01 dated 07/05/19)**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

		<p>d) Crates and packing material used for shipping will become the property of Employer, but the Contractor will be allowed to use the same for the Work as needed, but the remaining material shall be turned over to Employer upon completion of the Project. Provided however, shippers container used for transportation of material shall be returned to the Contractor.</p> <p>e) Each part of the equipment which is to be shipped as a separate piece or smaller parts packed within the same case shall be legibly marked to show the unit of which it is part, and match marked to show its relative position in the unit, to facilitate assembly in the field. Unit marks and match marks shall be made with steel stamps and with paint.</p> <p>f) Each case shall contain a packing list showing the detailed contents of the package. When any technical documents are supplied together with the shipment of materials no single package shall contain more than one set of such documents. Shipping papers shall clearly indicate in which packages the technical documents are contained.</p> <p>g) Wherever necessary besides usual Inscriptions the cases shall bear special indication such as "Top", "Do not tum over", "Care", "Keep dry", etc., as well as indication of the centre of gravity (with red vertical lines) and places for attaching slings (with chain marks).For all fragile equipment, unit should take special care to pack and label with additional markings such as "FRAGILEHANDLE WITH CARE", " LIFTING POINTS" , " THIS WAY UP" , " DO NOT STACK" etc. to protect them from damage in transit.</p> <p>h) Cases which cannot be marked as above shall have metal tags with the necessary markings on them. The metal tags shall be securely attached to the packages with strong steel binding wire. Each piece, skid, case or package shipped separately shall be labelled or tagged properly.</p>
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*Signature*  
07/05/19

[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

Government of India  
Ministry of Finance  
Department of Revenue

Notification No. 40/2017-Central Tax (Rate)

New Delhi, the 23<sup>rd</sup> October, 2017

G.S.R.....(E).- In exercise of the powers conferred by sub-section (1) of section 11 of the Central Goods and Services Tax Act, 2017 (12 of 2017) (hereafter in this notification referred to as "the said Act"), the Central Government, on being satisfied that it is necessary in the public interest so to do, on the recommendations of the Council, hereby exempts the intra-State supply of taxable goods (hereafter in this notification referred to as "the said goods") by a registered supplier to a registered recipient for export, from so much of the central tax leviable thereon under section 9 of the said Act, as is in excess of the amount calculated at the rate of 0.05 per cent., subject to fulfilment of the following conditions, namely: -

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier –
  - (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or

- (b) directly to a registered warehouse from where the said goods shall be move to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.
2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.

[F. No. 354/117/2017-TRU (Pt. III)]

(Ruchi Bisht)  
Under Secretary to the Government of India



[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

Government of India  
Ministry of Finance  
Department of Revenue

Notification No. 41/2017--Integrated Tax (Rate)

New Delhi, the 23<sup>rd</sup> October, 2017

G.S.R.....(E).- In exercise of the powers conferred by sub-section (1) of section 6 of the Integrated Goods and Services Tax Act, 2017 (13 of 2017), (hereafter in this notification referred to as "the said Act"), the Central Government, on being satisfied that it is necessary in the public interest so to do, on the recommendations of the Council, hereby exempts the inter-State supply of taxable goods (hereafter in this notification referred to as "the said goods") by a registered supplier to a registered recipient for export, from so much of the integrated tax leviable thereon under section 5 of the Integrated Good and Services Tax Act, 2017 (13 of 2017), as is in excess of the amount calculated at the rate of 0.1 per cent., subject to fulfilment of the following conditions, namely: -

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier –

- (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or
  - (b) directly to a registered warehouse from where the said goods shall be move to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.
2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.

[F. No. 354/117/2017-TRU (Pt. III)]

(Ruchi Bisht)  
Under Secretary to the Government of India

## **Uttar Pradesh Shasan**

### **Sansthagat Vitta, Kar Evam Nibandhan Anubhag-2**

In pursuance of the provisions of clause (3) of Article 348 of the Constitution, the Governor is pleased to order the publication of the following English translation of notification no.-KA.NI.-2- १६६३ /XI-9(15)/17-U.P.GST Rules-2017-Order-(१३)-2017 dated November १६, 2017:

#### **NOTIFICATION**

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No.-KA.NI.-2-१६६३ /XI-9(15)/17-U.P.GST Rules-2017-Order-(१३)-2017  
Lucknow : Dated: November १६, 2017

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In exercise of the powers conferred by sub-section (1) of section 11 of the Uttar Pradesh Goods and Services Tax Act, 2017 (U.P. Act no. 1 of 2017) (hereafter in this notification referred to as "the said Act"), the Governor, on being satisfied that it is necessary in the public interest so to do and on the recommendations of the Council, is pleased to exempt the intra-State supply of taxable goods (hereinafter in this notification referred to as "the said goods") by a registered suppliers to a registered recipient for export, from so much of the state tax leviable thereon under section 9 of the said Act, as is in excess of the amount calculated at the rate of 0.05 percent, subject to fulfilment of the following conditions, namely :-

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier,-
  - (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or

- (b) directly to a registered warehouse from where the said goods shall be moved to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
  - (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
  - (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
  - (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.
2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.
3. This notification shall be deemed to have come into force on October 23, 2017.

By Order,



(Rajendra Kumar Tiwari)  
AparMukhyaSachiv



**PROJECT: 2x 660 MW BIFPCL MAITREE  
KHULNA STPP (BANGLADESH)**

**PROJECT INFORMATION**

<b>OWNER</b>	BANGLADESH INDIA FREINDSHIP POWER COMPANY LIMITED (PVT)
<b>CONSULTANT</b>	FICHTNER
<b>NAME OF PROJECT</b>	2x 660 MW BIFPCL MAITREE KHULNA STPP (BANGLADESH)
<b>Site Location</b>	RAMPAL UPAZILA,BAGHEERAT DISTRICT,RAJNAGAR UNION (14 KM NORTHEAST OF MONGLA PORT & 14 KM NORTHWEST OF SUNDARBANS)  LATITUDE: 22 DEG. 37 MIN. 00 SEC. N TO 22 DEG. 34 MIN. 30 SEC N  LONGITUDE: 89 DEG. 32 MIN. 00 SEC E TO 89 DEG. 34 MIN. 05 SEC. E
<b>Climatic Conditions:</b>	
Temperature :	
Highest Temp Recorded	36.9 ° C
Lowest Temp Recorded	12.2 ° C
<b>Relative Humidity</b>	Varies between 20% and 90%
<b>Tidal Range</b>	1.2 m to 3.1 m
<b>Maximum surface rainfall</b>	349mm per day
<b>Rain fall Intensity for design of Storm Water Drains</b>	As per Bangladesh Standards by considering the maximum rainfall intensity of 95 mm/hr for a one hour rainfall with 50 year return period
<b>Wind Load</b>	a) Calculations for wind effect shall be in accordance with as per Bangladesh National Building Code -2012, Part 6, Chapter 2.4. And Basic Wind Speed is 73m/sec
<b>Seismic Data</b>	a) Zone- I as determined by Bangladesh National Building code (BNBC-2012).However, design shall be by Site specific seismic data which shall be furnished by Customer.



भारतीय रिजर्व बैंक  
RESERVE BANK OF INDIA  
www.rbi.org.in

FED.CO.Trade(EXD)/3543/05.11.001/2017-18

October 18, 2017

The General Manager  
State Bank of India  
Corporate Account Group Branch  
11<sup>th</sup> & 12<sup>th</sup> Floor, Jawahar Vyapar Bhawan  
1, Tolstoy Marg  
New Delhi-110001

Dear Sir

**Maitree Super Thermal Power Project in Bangladesh-M/s Bharat Heavy Electricals Ltd (BHEL)**

Please refer to your letter No. CAGND/IB/2017-18/139 dated August 11, 2017.

2. We advise that, as a special case, the captioned company has 'no objection' of RBI from FEMA angle for the proposed payment in foreign currencies to its sub-contractors from India in respect of the Maitree Super Thermal Power Project in Bangladesh only to the extent of the work handled by these sub-contractors on behalf of BHEL. This no objection is, however, subject to the following conditions:

- BHEL uses forex inflows (payment from overseas party for the said export) to pay to the domestic sub-contractors.
- Only one of the party (i.e. either BHEL or domestic sub-contractor) claims export incentives, if any.
- Only one of the parties (i.e. BHEL or domestic sub-contractor) claim the transactions towards export fulfillment, if any.
- The transactions will not be treated as 'deemed export'.
- Payment of domestic taxes, etc by the BHEL/sub-contractors on such payments are ensured.

3. This communication is issued from the foreign exchange angle under the provisions of FEMA and should not be construed to convey the approval by tax authorities or any other statutory authority or Government under any other laws / regulations. Nothing in the approval should be construed as approval from the credit angle and of the financials or any other aspect of the company. If further approval or permission is required from any other regulatory authority or Government under the relevant laws / regulations, the applicant should take the approval of the concerned agency before effecting the concerned transaction. Further, it should not be construed as regularizing or validating any irregularities, contravention or other lapses, if any, under the provisions of any other laws / regulations.

Yours faithfully

  
Satish Joshi  
Manager

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