Bharat Heavy Electricals Limited HIGH PRESSURE BOILER PLANT, TIRUCHIRAPPALLI 620 014.

CONTROLS AND INSTRUMENTATION / FB



TECHNICAL SPECIFICATION

FOR

BHELSONIC PANEL AND ACCESSORIES

SPEC. REF:CI:BS10:EMC:PANEL

REV	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED
00	28/03/2014	Initial Release	-sd/-	-sd/-	-sd/-
00	20/03/2014		SR	MVR	AKP
01	29/03/2017	Revised to indicate	-sd/-	-sd/-	-sd/-
01	29/03/2017	additional EMC tests.	SR	MVR	AKP
02	16/07/2019	Optional offer requirement	T.KEERTHI	T. KEERTHI	ASWINI KUMAR PANDA
		for conducting type tests is removed.	Thurtho	Keetho	Spanch

CONTENTS

- 1. General Instructions to Vendors
- 2. Technical Specification
- 3. Documentation
- 4. Quality plan & Inspection
- 5. Packing
- 6. Special instructions to vendors

Annexure:

System Panel for 30 Channel: 3-97-585-22933 Rev 01 System Panel for 24 Channel: 3-97-585-22764 Rev 01

(The above drawing is only for indicative purpose, however BHEL approved vendor drawing to be followed).

1.0 General Instructions to Vendor:

- 1.1 Vendor shall check receipt of complete documents referred to in the 'Contents'. In the event of order, the entire specification will form part of purchase order for compliance during execution.
- **1.2** Deviation if any shall be clearly brought out in the "Deviation schedule". else it will be construed that the vendor is fully complying with the specification.

2.0 Technical Specification (BHELSONIC Panel)

2.1 General Requirement

- a) The panel should be suitable for indoor & floor mounting and of freestanding type.
- b) Degree of protection of panel enclosure: IP 32.
- c) Front and Back door shall be designed for minimum 120 degree opening.
- d) The panel shall be free from flaws, dents and undulations.

2.2 Panel Size and Material:

- a) Panel size shall be 800 mm (W) x 800 mm (D) x2315 mm (H). (Over all height-2200 mm(H) + 100 mm base frame + 15mm anti vibration pad = 2315 mm)
- b) The panel shall be made of sheet steel material of 2 mm thickness and door with 2 mm thickness.

2.3 Color & Painting:

- a) Exterior: as per RFQ/NITInterior: as per RFQ/NIT
- b) Pre-treatment and painting (powder coating): The sheet steel used shall be pretreated to remove scales, rust etc., and the detailed procedure of painting process shall be furnished.
- c) Thickness of Powder coating paint: 60-80 microns

2.4 Accessories:

- a) Removable cable gland plate of 3 mm thick shall be provided at the bottom (approx. size: 500x500mm) & as indicated in the drawing.
- b) 15 mm thick anti vibration pad of Hard Rubber shall be provided.
- c) Doors shall be provided with 4-point locking arrangement. The lock shall be of good design and reputed make.
- d) Suitable no. of lifting eye bolts with nuts, lock nuts and washers shall be provided.
- e) Other accessories as per the BOM mentioned in the referred drawing.
- f) Mechanical support shall be provided for the fixed tray.

2.5 Special Requirements:

- a) Shelves shall be fixed on a square slotted angle with fixing arrangements.
- b) Any other accessories / items other than the items indicated in this BOM, which are felt necessary to make the system complete, easy mounting and assembling of components, including spare touchup paint, etc., shall be indicated in the offer.
- c) The panel shall be completely assembled and supplied as single unit.
- d) The complete BHELSONIC panel and field amplifier boxes shall be designed in such a way that it shall pass the following type test requirements.
- 1. Dry heat test as per IEC 60068-2-2, Type Bd
- 2. Damp heat test as per IEC 60068-2-30, Type Db
- 3. Vibration test as per IEC 60068-2-6, Type Fc
- 4. Cold Test IEC 600068-2-1 Ad
- 5. Electrostatic discharge test as per IEC 61000-4-2
- 6. Radiated Susceptibility as per IEC 61000-4-3
- 7. Conducted RF immunity test as per IEC 61000-4-6
- 8. Damped Oscillatory Wave test as per IEC 61000-4-12
- 9. Electrical fast Transient test IEC 61000-4-4
- 10. High Energy Surge Immunity Test IEC 61000-4-5
- 11. Conducted Emission Test IEC 61000-6-4
- 12. Radiated Emission Test IEC 61000-6-4

Dry heat test as per IEC 60068-2-2, Type Bd

Temperature: 55°C Duration: 2 Hrs.

Damp heat test as per IEC 60068-2-30, Type Db (Variant-1)

Temperature: 55°C No.of cycles: 1

Vibration Test as per IEC 60068-2-6, Test Fc

Frequency Range: 10HZ to 55HZ

Displacement: 0. 35 mm

No. of sweeps: 20 No. of axis: 3

Cold Test IEC 600068-2-1 Ad

Temperature -5°C Duration: 2Hrs.

Electrostatic discharge test as per IEC 61000-4-2

ESD amplitude: ±2 kV to ±4 kV on Contact Discharge ±2 kV to ±8 kV on Air Discharge

Radiated Susceptibility as per IEC 61000-4-3

Frequency range: 80 MHz - 1000 MHz; 1400 MHZ-2000MHZ

Field strength: 10 V/m

Conducted RF immunity test as per IEC 61000-4-6, Level-3

Frequency range: 0.15 - 80 MHz

Field strength: 10 Vrms

Applicable to 1 No. 1Ø AC Power Line

Damped Oscillatory Wave test as per IEC 61000-4-12

Amplitude: \pm 2.5 kV in common mode; \pm 1.25 kV in differential mode Applicable to 1No. 1Ø AC Power Line 1No. Channel of signal line.

Electrical fast Transient test IEC 61000-4-4, Level-2

Applicable to 1 No. of 1Ø AC Power Line

High Energy Surge Immunity Test IEC 61000-4-5, Level-4

Applicable to 1 No. 1Ø AC Power Line

Conducted & Radiated Emission Test IEC 61000-6-4

Applicable to 1 No. 1Ø AC Power Line & 1 No. Channel of signal line.

3.0 Documentation

3.1 Details required along with the offer:

- a) Supplier shall send detailed GA drawing along with offer.
- b) List of various accessories included along with unit price.
- c) List of deviations / comments on the specification.

3.2 Details required After PO:

- a) Complete catalogue and drawing for the cabinet offered with ordering information.
- b) The panel shall be manufactured after getting approval from C&I/PE, BHEL, Trichy.
- c) Detailed catalogues, dimensional drawings shall be furnished as O&M manuals in 2 sets of CDs.

4.0 Quality Plan & Inspection:

- a) Vendor shall submit vendor's quality plan in BHEL's QP format along with offer for C&I-QA's review and approval.
- b) Inspection will be carried out by BHEL engineer at vendor works. Advance information shall be given to BHEL before 15 days for inspection.

5.0 Packing:

Materials shall be packed as per packing procedure ref. No. QA:CI:STD:PR:02 Rev
 03 shall be followed.

6.0 Special Instructions to Vendor

- Warranty: 12 months from the date of supply for any manufacturing defects/ shortcomings.
- b) Nothing in this specification shall be construed to relieve the vendor from his responsibility. This specification covers briefly the requirements of the system. It is the responsibility of the vendor to take care of other basis and essential requirements to manufacture a quality product.

-----XXXXXXXXXXXXX

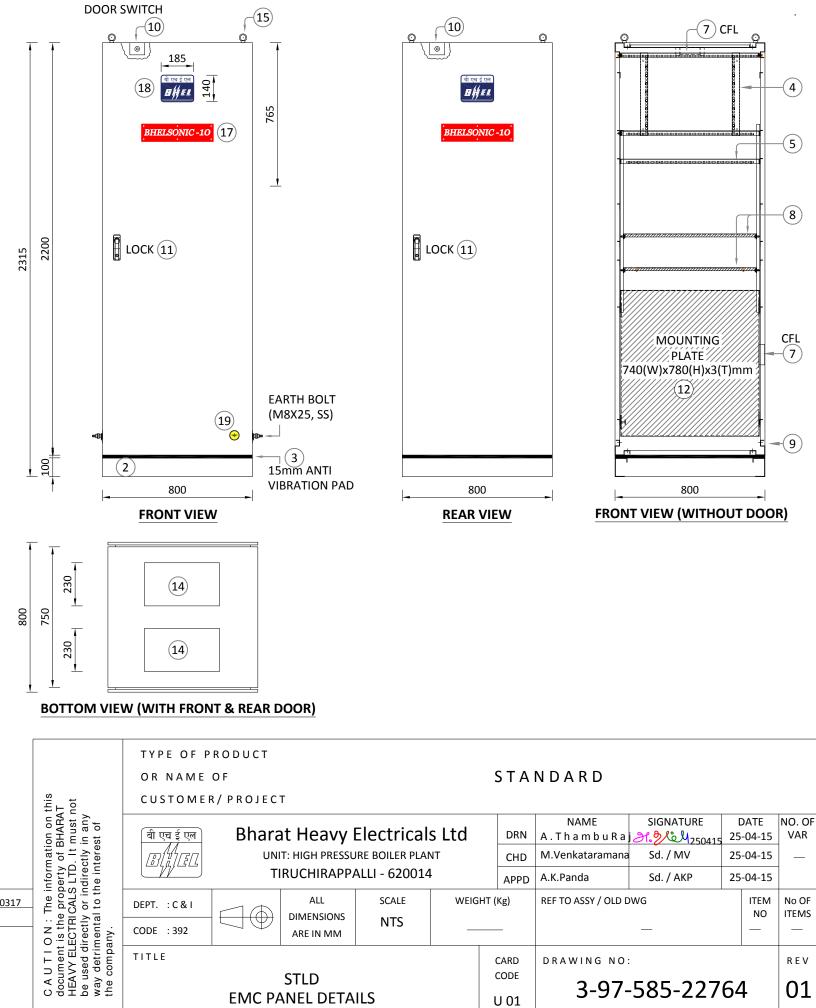
DRAWING NO: 3-97-585-22764

BILL OF MATERIAL

SL. No.	DESCRIPTION	QTY.
1.	EMC ENCLOSURE FRAME, FRONT & REAR DOORS, RIGHT DOOR HINGE, EYE-BOLTS (100mm HEIGHT ALL AROUND THE PANEL) WITH GLAND PLATE, FAN EYE-BOLTS.	1 SET
2.	PLINTH OF 100mm	1 SET
3.	ANTI VIBRATION PAD, 15mm THICKNESS, 40mm WIDTH	1 NO.
4.	19" ANGLES FOR PANELS 402mm(H) - 2 Nos. 802mm(H) - 2 Nos.	2 SETS
5.	PUNCHED SECTIONS WITH FLANGE 23 X 73mm (4 Nos. / PACKET) - 2 Pkts. 23 X 23mm (4 Nos. / PACKET) - 2 Pkts.	1 SET
6.	FIXING SCREWS, NUTS, BOLTS OF M6 & M8	6 SETS
7.	ENCLOSURE LIGHT, 11W , 230V	3 NOS.
8.	COMPONENT SHELF - 708 (W) X 570 (D) mm	2 NOS.
9.	COPPER EARTH BUS BAR - 01 NO. AND ELECTRONIC BUS BAR - 01 NO. WITH INSULATORS REQUIRED ACCESSORIES SIZE : 25 X 3mm	2 SETS
10.	DOOR OPERATING SWITCH WITH 1 "NO" AND 1 "NC"	2 NOS.
11.	FOUR POINT DOOR LOCK WITH COMMON KEYS	2 NOS.
12.	MOUNTING PLATE WITH FIXING ACCESSORIES - 740(W) x 780(H) x 3 mm THICK	1 NO.
13.	MS STRIP - 780 (H) X 50 (W) X 2 mm THICK	1 NO.
14.	GLAND PLATE	2 NOS.
15.	EYE BOLT	-
16.	EMC GASKET/SEAL FOR COMPLETE PANEL	AS. REQD.
17.	MATERIAL OF NAME PLATE: ANODIZED ALLUMINIUM, SLANTING ANGLE OF TEXT 10°, FIXING OF NAME PLATE: 3 SCREWS (HOLE DIA Ø3) ON TOP AND BOTTOM, BACKGROUND COLOUR: RED, FONT COLOUR: WHITE, FONT SIZE: 40mm.	2 NOS.
18.	MATERIAL OF BHEL EMBLEM: ANODIZED ALLUMINIUM, FIXING OF NAME PLATE: 2 SCREWS (HOLE DIA Ø3) ON TOP AND BOTTOM, BACKGROUND COLOUR: BLUE, FONT COLOUR: WHITE. FOR HINDHI FONT BACKGROUND COLOUR: WHITE, HINDHI FONT COLOUR: BLUE.	2 NOS.
19.	BACKGROUND COLOUR OF EARTH SYMBOL : YELLOW & FONT COLOUR : BLACK, EARTH SYMBOL DIA Ø25mm, BORDER THICKNESS : 2mm.	1 NO.

NOTE

- 1. OVERALL PANEL SIZE IS 2315(H) X 800(D) X 800(W) mm.
- SHOWN IS INDICATIVE & FOR VENDORS GENERAL PURPOSE ONLY. VENDOR SHALL FURNISH THEIR STANDARD DETAILED DRAWINGS ALONG WITH THE OFFER.
- TOLERENCE: ±5mm FOR HEIGHT, ±3mm FOR DEPTH AND ±3mm FOR WIDTH.
- FRONT & REAR DOOR SHEET: 2mm THICK CRCA MS SHEET.
- SIDE SHEETS: 1.6mm THICK CRCA MS SHEET.
- TOP SHEET: 1.6mm THICK CRCA MS SHEET.
- GLAND PLATE: 3mm THICK CRCA MS SHEET.
- BASE FRAME: 3mm THICK FORMED CRCA MS SHEET.
- 19" RACK ANGLE: 2.5mm THICK CRCA MS SHEET.
- 10. MOUNTING. PLATE: 3mm THICK CRCA MS SHEET.
- 11. DOOR SHALL BE PROVIDED WITH 4 POINT LOCKING ARRANGEMENT, LOCK SHALL BE OF REPUTED MAKE.
- 12. REMOVABLE CABLE GLAND PLATE SHALL BE PROVIDED AT THE BOTTOM.
- 13. THE DOOR SHALL BE SUITABLE FOR MIN. 100 DEGREE OPENING. (FRONT&BACK)
- 14. FINISH: POWDER COATING, 60-80 MICRONS THICK
- 15. PROTECTON CLASS: IP-32
- 16. VENDOR TO SPECIFY ANY OTHER ACCESSORIES IF REQ. TO MAKE THE PANEL COMPLETE ASSEMBLY.



ARE IN MM

STLD

EMC PANEL DETAILS

TITLE

21. 9 Cel 1070317 ALTERED: REV DATE CHD./APPD. 070317 REVISED TO INCLUDE NAME PLATE & BHEL EMBLEM.

Sheet 01 Of 01 FILE NAME: EMCSTPD1

3-97-585-22764

REV

01

DRAWING NO:

CARD

CODE

U 01

Bharat Heavy Electricals Limited HIGH PRESSURE BOILER PLANT, TIRUCHIRAPPALLI 620 014.

CONTROLS AND INSTRUMENTATION / FB



TECHNICAL SPECIFICATION

FOR

FIELD AMPLIFIER BOX

SPEC. REF:- CI:BS10: EMC:FAB:01

REV	DATE	DESCRIPTION	PREPARED MVR	CHECKED MVR	APPROVED AKP
00	28/03/2014	Initial Release	-sd/MVR	-sd/MVR	-sd/AKP
01	28/03/2017	Revised to indicate name plates in the drawing	Damaner.	Romany.	Apanle

SPEC: REF:CI:BS10:EMC:FAB:Rev.01

CONTENTS

- 1. GENERAL INSTRUCTIONS TO VENDORS
- 2. TECHNICAL SPECIFICATION
- 3. DOCUMENTATION
- 4. QUALITY PLAN & INSPECTION
- 5. PACKING
- 6. SPECIAL INSTRUCTIONS TO VENDORS

Drawing No: 3-97-585-22765/01

1.0 General Instructions to Vendor:

- **1.1** Vendor shall check receipt of complete documents referred to in the 'Contents'. In the event of order, the entire specification will form part of purchase order for compliance during execution.
- 1.2 Deviation if any shall be clearly brought out in the "Deviation schedule". else it will be construed that the vendor is fully complying with the specification.

2.0 Technical Specification (Field Amplifier Junction Box)

1.1 General Requirement

- a) Junction Box shall be suitable for field mounting
- b) Degree of Protection of the enclosure: IP-65.

1.2 Size and Material:

- a) Box size: approx. 200(H) mm x 300(B) mm x 155(D) mm.
- b) Type of material: Cold Rolled Close Annealed (CRCA)
- c) EMC seal

2.3 Colour & Painting:

- a) As per RFQ/NIT.
- b) Pre-treatment and painting (powder coating): The sheet steel used shall be pretreated to remove scales, rust etc., and the detailed procedure of painting process shall be furnished.

1.3 Accessories:

- a) Necessary Accessories to be provided for mounting Printed Circuit Board of size 100mm (D) x 140mm (W).
- b) Earth stud shall be provided inside the field amplifier box.

2.4 Special Requirements:

- a) Cable entry shall be suitable for terminating 4 pair shielded, armoured type of a approx.
 OD of 16mm.
- b) EMC seal for complete box.
 - c) The remote panel and the panel accessories as included in the BOM shall be designed in such a way that it shall pass the following type tests,
 - i. Electrostatic discharge test as per IEC 61000-4-2 or equivalent
 - ii. Radio frequency immunity test as per IEC 61000-4-6 or equivalent
 - iii. Electromagnetic immunity as per IEC 61000-4-3 or equivalent

3.0 Documentation

3.1 Details required along with the offer:

- a) Supplier shall send detailed GA drawing along with offer.
- b) List of various accessories included along with unit price.
- c) List of deviations / comments on the specification.

3.2 Details required After PO:

- a) Complete catalogue and drawing for the cabinet offered with ordering information.
- b) The box shall be manufactured after getting approval from C&I/PE, BHEL, Trichy.
- c) Detailed catalogues, dimensional drawings shall be furnished as O&M manuals in 2 sets of CDs.

4.0 Quality Plan & Inspection:

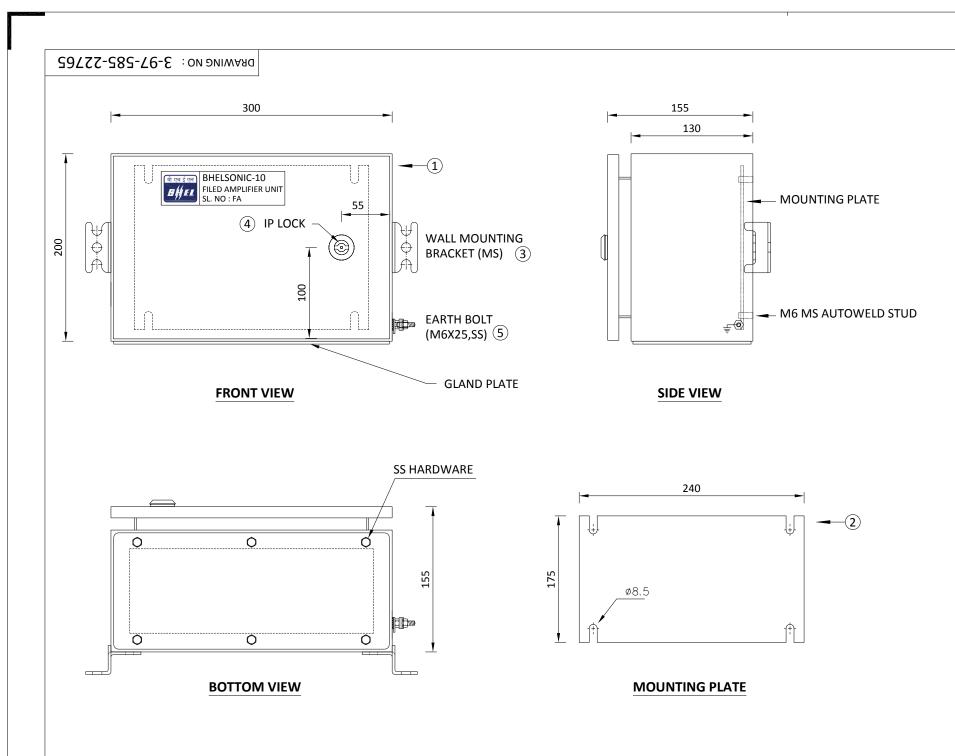
- a) Vendor shall submit vendor's quality plan in BHEL's QP format along with offer for C&I-QA's review and approval.
- b) Inspection will be carried out by BHEL engineer at vendor works. Advance information shall be given to BHEL before 15 days for inspection.

5.0 Packing:

a) Materials shall be packed as per packing procedure ref. No. QA:CI:STD:PR:02 Rev 03 shall be followed.

6.0 Special Instructions to Vendor

- a) Warranty: 12 months from the date of supply for any manufacturing defects/ shortcomings.
- b) Nothing in this specification shall be construed to relieve the vendor from his responsibility. This specification covers briefly the requirements of the system. It is the responsibility of the vendor to take care of other basis and essential requirements to manufacture a quality product.



REV

01

ZONE

DATE

& BHEL EMBLEM.

070317

ALTERED:

CHD./APPD.:

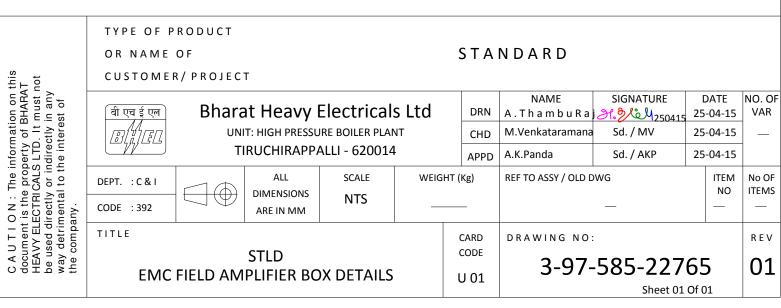
REVISED TO INCLUDE NAME PLATE

21. 9 let 1070317

NOTE

- 1. IP PROTECTION CLASS: IP-65.
- 2. FOR PAINTING, PLEASE REFER PO.
- 3. SHOWN IS INDICATIVE DRAWING FOR VENDOR'S GENERAL PURPOSE ONLY. VENDOR SHALL FURNISH THEIR STANDARD DETAILED DRAWINGS ALONG WITH OFFER.
- 4. TOLERENCE: ±3mm TO TAKECARE OF OVERALL DIMENSIONS.
- 5. JUNCTION BOX WILL BE MADE OF 1.6mm CRCA SHEET IN WELDED CONSTRUCTION.
- 6. FINISH: POWDER COATING, 60-80 MICRONS DFT.

	BILL OF MATERIAL			
SL. NO.	DESCRIPTION	QTY.		
1.	BOX SIZE - 200(H) X 300(W) X 155(D) - EMC	1		
2.	MOUNTING PLATE WITH ACCESSORIES - 240(W) X 175(H)	1SET		
3.	ACCESSORIES REGD. FOR WALL FIXING	1SET		
4.	LOCK & KEY ARRANGEMENT	1SET		
5.	EARTHING STUD	1SET		
6.	VENDOR TO SPECIFY ANY OTHER ACCESSORIES IF REQUIRED TO MAKE THE BOX COMPLETE IN NATURE			
7.	M4 X 15 mm CHEESE HEAD ALONG WITH WASHER, NUT.	4 Nos.		
8.	TEFLON BUSH (SUITABLE FOR M4 SCREW HEIGHT 20mm) OUTER DIA 24mm HEIGHT 10 mm	4 Nos.		
9.	CABLE GLAND PLATE : 3mm THICKNESS CRCA MS SHEET.	1 No.		
10.	MOUNTING PLATE WITH ACC. : 2mm THICKNESS CRCA MS SHEET.	1 No.		
11.	EMC GASKET/SEAL FOR COMPLETE BOX	AS REQD.		



FILE NAME: EMCSTFA2

BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPPALLI

CONTROLS AND INSTRUMENTATION / FB QUALITY ASSURANCE

STANDARD PACKING PROCEDURE FOR

ELECTRICAL AND ELECTRONIC PANELS

(INCLUDING BOXES, CABINETS, CUBICLES, SYSTEMS AND CHASSIS)

Rev	Date	Prepared	Checked	Approved	Revision History
00	01.01.96	Sd/-	Sd/-	Sd/-	Initial History
01	28.03.02	A.J.OMPRAKASH Sd/-	R.VARADARAJAN Sd/-	G.MATHIYALAGAN Sd/-	Department name changed
02	26.02.07	RM.VAIRAVAN	N.SRIDHAR	S.SOMASUNDARAM	Revised after discussion with Shipping Dept.
03	07.02.2017	AVINASH V	RM VAIRAVAN	S DAKSHINAMOORTHY	Type of wood for packing changed

1.0 SCOPE

1.1 This procedure gives minimum guidelines to be complied with for packing of Electrical, Electronics and Instrumentation panels. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for periods more than one year.

2.0 WOOD SPECIFICATION FOR PACKING

- 2.1 Any seasoned wood or plywood as per relevant international standard
- 2.2 Sea worthy packing is envisaged for international shipments.

3.0 PACKING

- 3.1 Any seasoned wood or plywood shall be used .It shall be free from knots, etc. and any kind of decay caused by insects and fungus.
- 3.2 The required wood case for the equipment to be packed shall be made out of individual planks of single length and no joint is permissible. Using such planks, the required wood case for the panel shall be made.
- 3.3 Sufficient number horizontal, vertical and diagonal planks (dimension depending upon case size) shall be used for binding and strengthening. Runners have to be provided with metallic sling plates for handling.
- 3.4 Support planks are to be provided such that, no force is acting on the parts of equipment or its parts.
- 3.5 Panels above 1.5 metre shall be bolted at the bottom.
- 3.6 The equipments covered with a polythene sheet shall be kept inside the box, followed by coir, wooden bottoms, thermo coal, etc to prevent vibration effect during loading, transportation, etc.
- 3.7 On all sides of the inner case, black polythene sheet shall be nailed.
- 3.8 Loose items of the equipment, if any, shall be packed separately.
- 3.9 Delicate components likely to be damaged, example PCB Electronic modules, instrument, etc are to be covered individually in anti-static bags and packed in cartons and filled with fillers like thermo coal, paper cuttings, etc.
- 3.10 Such cartons shall be packed with overall polythene rapping and packed in wooden cases. Mark prominently as "ELECTRONIC COMPONENTS".

4.0 MARKING

4.1 After completing the packing, Stencil marking, as per dispatch instructions and symbol marking as per Annexure – I shall be made. Please ensure the box is stenciled with "FRAGILE ITEM", "HANDLE WITH CARE"

5.0 PACKING SLIP

5.1 A copy of the packing slip, kept in a polythene cover shall be kept inside the box. Another copy of the packing slip, kept in a polythene cover shall be kept out side the box and covered with a metallic plate to the case.

6.0 CAUTION

Do not pack any other Mechanical items with this case.

7.0 GENERAL

7.1 These packing procedures are the minimum requirements in addition to the standard instructions mentioned in the Purchase Order and Specification.

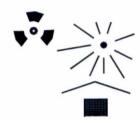
ANNEXURE - 1

TO

PROCEDURE NO:CI:QAC:PR:02/00 ; PR:03/00 ; PR:04/00



FRAGILE, HANDLE WITH CARE



PROTECT FROM HEAT AND RADIOACTIVE SOURCES



USE NO HOOKS

NDTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



KEEP DRY

NOTE: Not all cases have waterproof internal linears: plywood used in the construction may not have a waterproof glueline.



THIS WAY UP

NDTE: Certain designs of small cases make it difficult to distinguish top from bottom.



CENTRE OF GRAVITY

NDTE: This should be stancilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



KEEP AWAY FROM HEAT





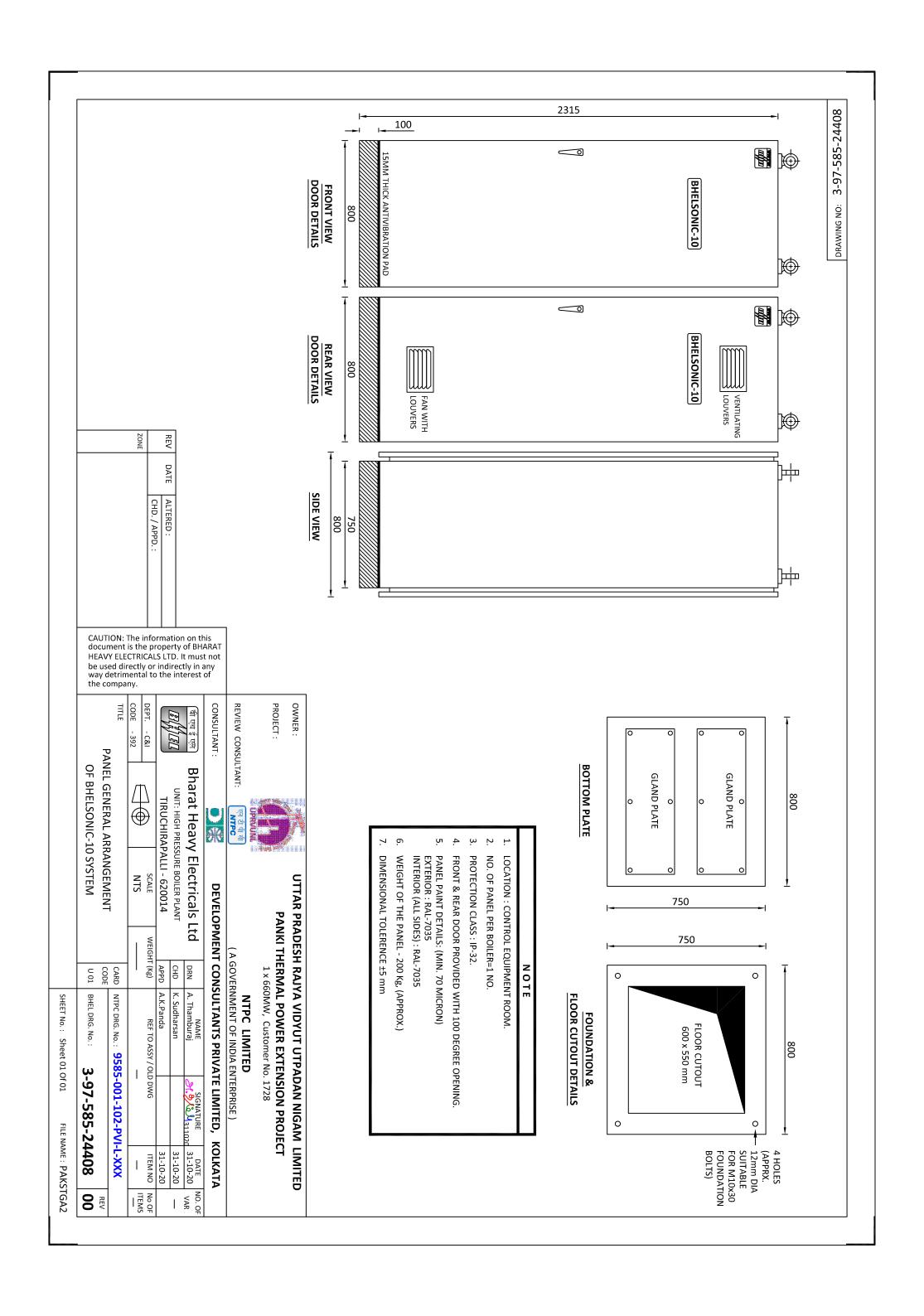


STACKING LIMITATION

NDTE: The maximum load in kilograms should be marked above the arrow.



INTERNATIONAL "SLING HERE" SYMBOL



ANNEXURE - A

TECHNO - COMMERCIAL TERMS AND CONDITIONS

Descr	ription of the Material:	STLD System Panel & Field Amplifier Box	
BHEL	Tender No. & Date	1702100043 dated 09.03.2021	
		GENERAL INFORMATION	
	TATIONS: Interested bidders / :://eprocurebhel.co.in Offers in any othe	Suppliers shall submit their offer through BHEL e-Propression of the submit through BHEL e-Pr	ocurement porta
basis		by viewing the addendum / Corrigendum's Issued by the Purchase mpany calling for tenders shall not be responsible for any claim	
SI. No.	1	erms and conditions	Vendor's confirmation
	This requirement is for STLD System Popojects.	anel & Field Amplifier Box for Panki (1728) & Bhushawal (1727)	
1	 Specification: CI:BS10:EMC:PA Specification: CI:BS10:EMC:FA Drawing: 3-97-585-24408 Rev. Packing Procedure: QA:CI:STD Quality Plan: Vendor quality 	B Rev.01 00 ::PR:02 Rev.03	Accepted
2	quote price according to the requirer there is a change in technical specifica > BHEL will finalize the rates to give their best prices at the file of the final L1 presort to short closure of this. In case of more than one L1 to such L1 bidders & ranking will should be lower than their pranking will be decided by drawing will be decided by d	prices are not reasonable/ acceptable to BHEL; BHEL also may	Accepted
3	Delivery Term: FOR-BHEL/Trichy/Store The quoted Rate shall be inclusive of P is not acceptable to BHEL.) Insurance	acking, Forwarding and Freight. (Ex-Works, Freight to pay basis	Accepted
4	project (Package 2). Offer will be ev	s two packages ie PANKI project (Package 1) and Bhushawal raluated on Project wise package for ranking & ordering. L1 to BHEL on Project wise package basis after loading against	Accepted
5	Indigenous Vendor Payment terms (Nor 100% direct payment after 60 days aga Payment for MSE indigenous vendors w	inst receipt & acceptance of materials at BHEL/Trichy stores.	Accepted / Not Accepted
6		viation in the above Payment Terms, any other conditions in the term will not be accepted and offers are liable to be	Noted

commercially rejected.

7	Liquidated Damages (LD): Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional LD at the rate of ½% of the total order value per week or part thereof subject of maximum of 10% of the total order value.	Accepted / Not Accepted
8	Loading Criteria LD / Penalty: Any deviation of the above LD/Penalty clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).	Noted
9	Warranty Period: 12 months from the date of supply for any manufacturing defects / shortcomings.	Accepted
10	Deviation in Warranty Period: No Deviation is permitted. If still vendor offered any deviation on the warranty period, their offer will be rejected.	Noted
	Delivery Period: BHEL standard delivery is Eight weeks from the date of document approval .	Accepted /
11	Vendor quoted delivery period shall include all the activities i.e. manufacturing / production, Inspection, Packing, Forwarding and dispatch.	Not Accepted
12	Document submission: In case of PO, documents (Specification, Drawing, Quality Plan, Packing Procedure, Data sheet etc.) shall be submitted within 14 days from the date of receipt of PO and the revised documents shall be submitted within 1 week from the date of receipt of engineering / quality comments. Any delay beyond the above specified period will be considered during LD calculation.	Noted
13	Validity: 120 days from techno commercial bid opening date.	Accepted
14	Deviation in Validity: Non-compliance of the same will result in offer being liable for rejection.	Noted
15	RISK PURCHASE: In case of abnormal delays (beyond the maximum late delivery period as per LC clause) or non-fulfilment of any other terms and conditions given in work order, BHEL may cancet the work order in full or part thereof, and may also make a contract of such work/service from elsewhere / alternative source at the risk and cost of the original contractor. BHEL will take all reasonable steps to complete the contract obligations from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract. Risk & cost clause, in line with conditions of contract may be invoked in any of the following cases: 1. Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the contract, backlog attributable to contractor/ supplier including unexecuted portion of work/ supply does not appear to be executable within balance available period (#) considering its performance of execution. 2. Withdrawal from or abandonment of the work by contractor before completion of the work as per contract. 3. Non completion of work / Non-supply by the contractor within scheduled completion/delivery period as per contract or as extended from time to time, for the reason attributable to the contractor. 4. Termination of contract on account of any other reason (s) attributable to contractor. 5. Assignment, transfer, subletting of contract without BHEL's written permission resulting in termination of Contract on part thereof by BHEL. 6. Non-compliance to any contractual condition or any other default attributable to contractor. Risk and Cost amount against balance work will be calculated as follows: Risk & Cost Amount= [(A-B) + (A x H/100)] Where, A Value of B	Accepted

	quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions. However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose. NOTE: In case portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/supply' for calculating Risk & Cost amount.	
16	GST DETAILS, BHEL TRICHY GST No. 33AAACB4146P2ZL	Noted
17	Please mention your GSTIN Number	
18	HSN Codes for Quoted Material:	
19	Applicable GST Rate:	
20	Indigenous suppliers: a) Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration No (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GST portal. The dealer has to submit necessary documents if there is any change in status under GST. b) Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarity contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) it Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTCST) separately, HSNY SAC Code, Place of Supply etc. c) All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code). d) Invoices will be processed only upon completion of statutory requirement and further subject to following: i. Vendor declaring such invoice in Form GST ANX-1 iii. Receipt of Goods or Services and Tax invoice by BHEL e) As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal or despatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal or haterial /rendering of services. The supplier shall ensure availability of Invoice in GST portal or the shortages o	Noted
	invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.	

	j) Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contracts. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Tax Invoice will be issued by BHEL indicating the respective supply invoice number.	
	k) GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 - Central Tax dated 13.09.2018. GST TDS certificate which will be generated in GST portal subsequent to vendor accepting the TDS deduction in the GST portal, will be issued to the vendor.	
21	 Document Submission: Along with the offer All the technical documents which have been attached along with our enquiry i.e., Specification, Drawing, Quality Plan, Packing Procedure, Data Sheet etc., signature to be endorsed on all pages with company seal. Filled-in/signed & sealed Sub-delivery enquiry deviation format. Filled-in/signed & Sealed Annexure-A: Commercial terms and conditions. (Mandatory for Commercial evaluation) If MSE vendor, please attach UAM registration copy along with latest CA Certificate / Udyam Registration Certificate. 	Noted
22	Any deviation on technical/QP/packing requirements shall specifically be indicated in the "subdelivery enquiry deviation format" attached along with the enquiry. Deviations / clarifications declared elsewhere will not be evaluated. Also, any deviations from the commercial terms and conditions shall be clearly spelt out in this format itself. Deviations / clarifications declared elsewhere will not be evaluated. Deviations taken, if any, by vendor as per our requirement above shall be clearly got accepted by BHEL in writing during enquiry stage itself. In the event of an order no deviations, unless accepted clearly by BHEL in writing during enquiry stage will be entertained and all other techno-commercial requirements will be binding on successful bidder and failure to execute the terms will lead to disciplinary action by BHEL against the said bidder.	Accepted
23	MSE status: Whether vendor belongs to MSE category (Micro / Small)	Yes / No
	BENEFITS TO MSE VENDOR: MSE suppliers can avail the intended benefits only if they submit along with the offer, attested/notarized copies of either 1. Valid NSIC certificate or EM II certificate along with CA certificate applicable for the year, certifying quantum of investment in plant and machinery within the permissible limits as per the act for relevant status (MICRO or SMALL) where the deemed validity of EM II is over. OR 2. Udyog Aadhaar Memorandum No. & CA Certificate applicable for the year, certifying quantum of investment in plant and machinery within the permissible limits as per the act for relevant status. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry, in case of any deficiency in the above required documents or in case the documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal even if submitted earlier. Documents should be notarized or attested by a Gazetted officer.	Noted
24(a)	For Package basis (Non-Splitable): i. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor. ii. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing, purchase order will be awarded for full/complete supply of total tendered value to MSE. iii. If more than one MSE vendors are available in the L1+15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on. iv. Finally if none of the MSE vendor in the price band is not accepting, it will be ordered on L1 non MSE vendor. For Item wise evaluation (Splitable): If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing, purchase order will be awarded for 25% of the tendered quantity. 3% reservation for women owned MSEs, within the above mentioned 25% reservation. 6.25% reservation from MSE owned by SC / ST entrepreneurs, within the above mentioned 25% reservation.	
	In case of more than one such MSE, the supply shall be shared proportionately. Definitions of MSEs owned by SC/ST is under:	
	 In case of proprietorship firm, proprietor must be SC/ST. 	

	 In case of partnership firm, the SC/ST partners must be holding at least 51% shares in unit. In case of private limited companies, at least 51% share must be held by SC/ST promoters. Authorised Offices to Issue SC/ST certificate. The caste/Tribe/Community certificate issued by the following authorities in the prescribed form for SCs/STs can be considered. District Magistrate / Additional District Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / 1st class stipendiary magistrate / Sub divisional Magistrate / Taluka Magistrate / Executive magistrate Chief Presidency magistrate / Additional chief presidency magistrate/Presidency magistrate. Revenue Officer not below the rank of Tehsildar. Sub-Divisional officer of the area where the individual and / or his family normally resides. To avail the benefits of MSE under SC/ST category, the related documents as stated above should be submitted along with tender documents. 	
	Payment for MSE indigenous vendors will be as per MSMED Act, 2006. Vendors who have registered themselves as MSE, cannot claim the benefits unless they submit the CA	
	Certificate & UAM Registration copy along-with the EPS offer for each tender; failing which vendor shall not claim MSE benefits. As per Gazette Notification no. S.O. 2119(E) dated 26.06.2020 issued by Ministry of MSME regarding change in definition of Micro, Small & Medium Enterprises (MSMEs) applicable w.e.f. 01.07.2020 as follows:	
	 Udyam Registration is a new process of MSME Registration launched by the Ministry of Micro, Small and Medium Enterprises on July 1, 2020. 	
24(b)	 All existing enterprises registered under EM-Part-II or UAM or any other registration issued by any authority under the Ministry of MSME are required to register again on the Udyam Registration portal (https://udyamregistration.gov.in). Such enterprises are required to apply and obtain Udyam Registration on or after 1st July 2020. 	Noted
	 On registration, an enterprise is assigned with a permanent identity number, known as "Udyam Registration Number". An e-certificate, namely, "Udyam Registration Certificate" will be issued on completion of the registration process. 	
	 The MSE status of existing enterprises registered prior to 30th June 2020 shall be valid only till 31st March 2021. (i.e.) Udyam Registration Certificate is mandatory for all MSME enterprises from 1st April 2021. 	
25	Any pre-bid queries / clarification / document requirement etc. shall be asked within 3-4 days of floating tender in EPS. Tender due date extension will not be given without valid reason. Tender due date extension request has to be given before due date / time along-with a valid reason.	Noted
26	It has been observed that vendor gives confirmation to commercial terms $\&$ conditions specified in this Annexure and gives different terms $\&$ conditions in the unpriced bid / offer documents, which will not be accepted. Only Annexure-A will be considered	Noted
27	"Sub-Delivery Enquiry Deviation Format" is important document which has to be filled, (signed & sealed) with all the technical reference document detail and attached along with the offer in the EPS. In case of no deviations. Please mention NIL DEVIATION.	
28	Technical / commercial clarification, if any, will be initiated through EPS / email. Vendor to respond to the clarifications within 3 working days. If the vendor fails to respond, even after three reminders, then the vendor will be considered as non-responsive and is liable to be rejected. Please note that EPS generates auto email whenever clarification / tender event is scheduled. Vendor to keep track and respond immediately.	Noted
29	PO Acknowledgement: Within 5 days from the date of receipt of scanned PO copy through email.	Accepted
30	Inspection notice period: Vendor shall raise inspection call to Third Party Inspection Agency / BHEL at least one day, prior to the proposed date of inspection.	Accepted

1		
31	FORCE MAJEURE CLAUSE: If, at any time during the continuance of Contract the performance in whole or in part by either party of any obligations under the Contract shall be prevented or delayed by reason of any War, Hostile acts of the public enemy Civil Commotion, Epidemics, or Acts of God (Floods, Storm/Cyclone, Hurricane, Earth Quake etc.) then provided notice of happening of any such event is given by either party to other within 7 days from the date of occurrence therefor neither party shall by reason of such event be entitled to terminate this Contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the Contract is prevented or delayed by reason of any such event, claims for extension of time shall be granted for periods considered reasonable by BHEL, subject to prompt notification by the contractor.	Accepted
32	Fraud Prevention Policy Suppliers involving in fraudulent practices or delayed supply (or) non-Supply will be dealt with provision as indicated in "Guidelines for Suspension of Business Dealings with Suppliers / Contractors" which is hosted in website www.bhel.com The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com. 1.0 Integrity commitment, performance of the contract and punitive action thereof: 1.1 Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in transparent and fair manner, and with equity. 1.2 Commitment by Bidder / Supplier / Contractor: 1.2.1. The bidder / supplier / contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India. 1.2.2. The bidder / supplier / contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issues from time to time by Govt. of India / BHEL. 1.2.3. The bidder / supplier / contractor will perform / execute the contract as per the contract terms & Conditions and will not default without any reasonable cause, which causes loss of business / money / reputation, to BHEL. If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so a	Noted
33	In the event of PO, the reference date for LD calculation will be date of final inspection Agency's signed Inspection report / Test certificates for Ex-Works & FOB contracts. The reference date for F.O.R contracts will be Invoice date / Lorry way bill date LR date/ Railway Receipt date, whichever is later.	Accepted
34	Inspection & testing requirements: Inspection and testing requirements are to be carried out as per the specification and BHEL/customer approved QAP and all test certificates are to be submitted in complete set as indicated in our specification /QAP. In case of Vendor QP the same shall be submitted for approval along with the offer.	Noted
35	BHEL reserves the right to cancel / modify the tender, if the need so arises, without assigning any further notice or reason therefore.	Accepted
36	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.	Noted
37	Subsequent to tender opening, the Part-2 bids (Price bid) of the Supplier will be opened subject to Customer acceptance and Part-1 (PQR & Techno-commercial) qualification. Else, the offer will be rejected.	Accepted

By signing this Annexure, the vendor consents that the terms & conditions accepted, in this Annexure-A alone, shall be binding between BHEL and the Vendor; and no other terms quoted / mentioned, elsewhere in the Offer / Quotation will be considered / accepted by BHEL.



MATERIALS MANAGEMENT / BOI

SUB-DELIVERY ENQUIRY DEVIATION FORMAT

Page:	of
-------	----

Schedule of deviation to Sub-delivery Enquiry No. : 1702100043 dated 09.03.2021

Description : STLD System Panel / Field Amplifier Box

Documents Specification: CI:BS10:EMC:PANEL Rev.02 Specification: CI:BS10:EMC:FAB Rev.01

Drawing No. : **3-97-585-24408 Rev.00**

Quality Plan

Shall submit Vendor's Quality Plan in BHEL format

subject to BHEL / Customer approval

Packing Procedure : QA:CI:STD:PR:02 Rev.03

Document reference	BHEL called for	Firm's alternative offer

Certified that other than the above deviations, we are accepting all the other specifications and requirements in full to your Enquiry.

Station:

Date: Signature of firm's representative Firm seal

Note: 1. Deviations should be taken only in the extreme case

2. If necessary, use additional sheets with page control number

Annexure - I

Certificate by Chartered Accountant on letter head

													office	
													(Entrepr	
									••••••	•• ••• •••	••••••	ata:		••••••
Catego	ory:	• • • • • • • • •	•••••	(Micro/Sr	nail)). (Copy en	closed).							
F	urther	verif	ied fror	n the B	ooks (of Acco	unts t	hat the	invest	ment	of th	e comp	any as p	er the
			ncial ye											
			1		4	1.2								
1.	excludi	ng land		uilding a	and the	items	specifie						(i.e. origina ndustries v	
									,					
2.		e, fittin											and buildi under the N	
	Rs	• • • • • • • • • • • • • • • • • • • •		Lacs										
				(Str	ike of	f which	never i	s not a	pplical	ole)				
The	above	in	vestme	nt of	Rs.			Lacs	is	within	pe	rmissik	ole limi	t of
													not appl	icable)
Catego	ry und	er MS	SMED A	ct 2006	5.									
							Or							
applicab (dd/mn enterpi	le) and n/yyyy rise fro	the) wh m its	date of ich is	gradua within il categ	ation of the property as	of such eriod notifie	enter of 3 y	prise fr ears f S.O. N	rom its rom ti o. 332	origin ne da 2(E) da	nal ca te of	tegory gradu	off which isation of 013 publ	such
Date:											110	۱۳۰		
Date.														
(Signatu	ıre)													
Name -											-	*		
Member	ship nu	ımber	<u>.</u>											

Seal of Chartered Accountant