

Bharat Heavy Electricals Ltd
Electronics Division
Mysore Road, Bangalore – 560026

**Tender Document for Design, supply and Erection of
Pre-Engineered Building (PEB) rooms for 50MWp
Solar PV Power Plant at NTPC, Anantpur, AP
RFQ REF: SAMBOS001**

Technical Bid Opening Date: 29th July, 2015 (Wednesday)

This Tender Document Contains:

- (i) Request for Quotation
- (ii) Technical Specification-PS-439-955 Rev 01.
- (iii) Commercial Enclosures (a) Annexures
 - (b) Annexure B: Commercial terms & Conditions,
 - (c) Annexure B1: Unpriced Bid Format &
 - (d) Annexure-B2: Price Bid Format.
 - (e) ITB (Doc Ref: SCPV: BOS: 01-Rev 00)
 - (f) GCC (General Conditions of Contract)
- (iv) Annexure-C: List of I&C & O&M Documents to be submitted

Note: Part – I: **To be submitted in a separate sealed cover**

Part – II: **To be submitted in a separate sealed cover.**

And Part-I & Part-II sealed covers should be put in outer envelope and super scribing the Name of work and Name & Address of the tenderer. Tender document should be dropped in Tender drop box super scribed “**SC&PV-MM, Wednesday**” kept in reception area of BHEL – EDN, Bangalore.

Contact Person at BHEL:

- 1. Mr. Chendhil Kumar : DGM (SC&PV-MM)**
Ph: 080-26988391, Mob: 09449869644
Email:chendhil@bheledn.co.in
- 2. Ms. Sarita Mohapatra: Sr.Engineer (SC&PV-MM)**
Ph: 080-26998239, Mob: 07406555022
Email:sarita@bheledn.co.in

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: SAMBOS001 RFQ DATE : 08.JUL.2015	Due Date 29.JUL.2015 Time: 13:00 HRS VENUE : NEW ENGG. BLDG
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : Sarita Phone : 080 26998239 Fax : E-mail: sarita@bheledn.co.in
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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no. and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

1. Offer shall be submitted in two parts :

Part 1 : Techno-Commercial Bid

Part 2 : Price Bid

2. This RFQ document comprises of :

(i) Request for Quotation

(ii) Technical Specification-PS-439-955 rev 01.

(iii) Commercial Enclosures (a) Annexures

(b) Annexure B: Commercial terms & Conditions

(c) Annexure B1: Unpriced Bid Format

(d) Annexure-B2: Price Bid Format

(e) ITB (Doc Ref: SCPV: BOS: 01-Rev 00)

(f) GCC (General Conditions of Contract)

(iv) Annexure-C: List of I& Documents to be submitted as applicable.

3. The delivery date indicated in RFQ is tentative. The actual delivery date shall be as indicated in Annexure B.

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PS0679054502 Supply: Structural Material for Inv room Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for inverter rooms as per clause 9.1 of BHEL spec PS-439-955 (Note: 1 set is for one inverter room). Test Certificate	9	ST	9	01.OCT.2015
2	PS0679054510 Supply: Architectural items for Inv Room Supply of PEB architectural items such as doors, windows, rolling shutters etc for inverter rooms as per clause 9.2. of BHEL spec PS-439-955 (Note: 1 set is for one inverter room). Test Certificate	9	ST	9	01.OCT.2015
3	PS0679054537 Erection: Structural material of Inv room I&C: Erection of PEB inverter room structural materials as per clause 9.3 of BHEL spec PS 439-955. (Note: 1 AU represents one inverter room)	9	AU	9	10.SEP.2015
4	PS0679054545 Erection: Architectural items of Inv room I&C: Erection of PEB inverter room architectural items as per clause 9.4 of BHEL spec PS-439-955. (Note: 1 AU represents one inverter room)	9	AU	9	10.SEP.2015
5	PS0679059091 Supply: Structural item for security room Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for security room as per clause 9.1. of BHEL spec PS-439-955	1	ST	1	05.OCT.2015

For and On behalf of BHEL.

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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no.and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
	Test Certificate				
6	PS0679059105 Architectural item of security Room Supply of PEB architectural items such as doors, windows etc for security room as per clause 9.2.of BHEL spec PS-439-955 Test Certificate	1	ST	1	05.OCT.2015
7	PS0679059113 I&C:Structural material of security room I&C: Erection of PEB security room structural materials as per clause 9.3 of BHEL spec PS-439-955	1	AU	1	06.AUG.2015
8	PS0679059121 I&C:Architectural items of security room I&C: Erection of PEB security room architectural items as per clause 9.4 of BHEL spec PS-439-955	1	AU	1	06.AUG.2015

Total Number of Items - 8

Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.


Please specify Terms of delivery, Excise duty, sales tax, Ex-BHEL, Ex-works surcharge, Insurance,P&F, Freight and othertaxes very clearly .

For evaluation,exchange rate(TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid incase of two part bid) shall be considered.

The offers of the bidders who are on the banned list as also the offer 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

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ Sl. No. should be mentioned clearly.
- iv). Quotation Envelope / Fax not superscribed with RFQ No.and due date is liable for rejection.
- v). Quotation should remain valid for a minimum peiod of 90 days from due date.
- vi). In case of non-receipt of Quotation or regret letter for 3 consecutive RFQs you are liable to be removed from our vendors list.
- vii). All Prices should be written in words and numbers.
- viii). Excise Chapter Heading should be mentioned for all items where VAT is applicable .


For and On behalf of BHEL.

	PURCHASE SPECIFICATION	PS-439-955
	Design, supply and erection of Pre-Engineered Building (PEB) rooms for 50MWp Solar PV Power Plant at NTPC, Anantapur, AP	REV NO: 00
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**Technical specification
For
Design, supply and erection of
Pre-Engineered Building (PEB) rooms for
50MWp Solar Photovoltaic Power Plant at NTPC, Anantapur, AP**

Approved by : NHK			
Revision details :R 01	Prepared	Checked	Date
	VJ	PRV	07-July-2015

	PURCHASE SPECIFICATION	PS-439-955
	Design, supply and erection of	REV NO: 00
	Pre-Engineered Building (PEB) rooms for 50MWp Solar PV Power Plant at NTPC, Anantapur, AP	PAGE : 2 OF 14

1.0 Introduction

Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up 50MWp Grid-connected Solar PV Power Plant for NTPC at Anantapur (AP). This technical specification describes the vendor scope of design, supply and erection of PEB-based rooms of the power plant (nine inverter rooms, one security room).

2.0 Location / approach particulars of the power plant

- (a) District: Anantapur, Andhra Pradesh
- (b) Nearest highway:
Anantapur to Kadri: 90 Km double line BT road SH-205
Kadri to site: 35 Km single line BT road which goes to Kadapa via Rayachoti
- (c) Nearest railway station:
Kadri: 35 Km from project site on the Anantapur – Tirupathi rail line
- (d) Nearest commercial airport:
Puttaparthi: 70 Km, Tirupathi: 170 Km, Bangalore: 200 Km


3.0 Pre-qualification criteria (PQC)

Following are PQC criteria that the bidders shall essentially meet in order to qualify in the tendering process. Offers from bidders not meeting this PQC shall be rejected.

- (a) Bidder should have supplied PEB structures with PUF insulation (for wall cladding/roofing) for a minimum base area of 100 sqm per building and minimum cumulative base area of 1000 sqm considering all PEB rooms supplied. Bidder shall, along with technical bid, enclose copies of purchase orders (during the past five years from the date of tender) from their clients for supply of such PEB structures. Bidder shall also enclose supporting documents (PO copies, drawings etc) for supply of PUF insulation based PEB structures.
- (b) Erection shall be carried out under the supervision of OEM at the site. Bidder shall submit an undertaking for same.
- (c) Bidder shall, along with technical bid, submit a duly-signed undertaking (in their company letter head) that they shall be willing to submit all necessary structural design calculations proof checked and endorsed by IIT/NIT, as per applicable clauses of this tender specification, in order to obtain approval from NTPC.
- (d) Bidder shall, along with technical bid, submit list of supplies of PEB structures made to their customers (with customer names) during the past five years from the date of tender.

4.0 Overview of solar PV power plant

The 50MWp solar photovoltaic power plant for NTPC at Anantapur comprises of an array of solar PV modules that produce DC electrical output. 40 power conditioning units (inverters) are deployed to convert the electricity from DC to AC. The inverter output (in the range ~ 340-380V) is further stepped up to 33kV by oil immersion outdoor transformers. Power generated at 33kV is exported to transmission grid.


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The various electrical panels such as inverters, 33kV vacuum circuit breakers (VCB), AC/DC distribution boards, UPS panels, SCADA panels etc are housed in 10 control rooms. Among these, nine are inverter rooms of PEB type for which foundation up to plinth level is of RCC structure and, above plinth, PEB steel structures/sheets are used for construction. Each PEB inverter room is equivalent to 5MWp. Thus, all nine rooms collectively generate 45MWp. Balance 5MWp is generated at a main control room (completely RCC type) called as central monitoring control station (CMCS) that is in BHEL scope of construction. In addition to the inverter rooms, the security room is also of PEB type.

The nine PEB inverter rooms are located at distributed locations within the power plant. AC outputs from all these rooms are combined at CMCS room. Security room is located near the entrance gate.

5.0 Vendor scope

#	Item Description	Quantity
5.1	Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for inverter rooms as per clause 9.1. (Note: 1 set is for one inverter room).	9 set
5.2	Supply of PEB architectural items such as doors, windows, rolling shutters, etc for inverter rooms as per clause 9.2. (Note: 1 set is for one inverter room).	9 set
5.3	Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for security room as per clause 9.1.	1 set
5.4	Supply of PEB architectural items such as doors, windows, etc for security room as per clause 9.2.	1 set
5.5	I&C: Erection of PEB inverter room structural materials as per clause 9.3 (Note: 1 AU represents one inverter room)	9 AU
5.6	I&C: Erection of PEB inverter room architectural items as per clause 9.4 (Note: 1 AU represents one inverter room)	9 AU
5.7	I&C: Erection of PEB security room structural materials as per clause 9.3	1 AU
5.8	I&C: Erection of PEB security room architectural items as per clause 9.4	1 AU
5.9	Warranty Vendor shall provide warranty for 12 months for the supply and erection of PEB rooms from the date of start of erection or 18 months from the date of completion of erection whichever is earlier.	-

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6.0 BHEL scope

For the sake of clarity, BHEL scope (supply, I&C) of PEB inverter room / security room is detailed as below:

- 6.1 Complete civil foundation works for all the nine PEB inverter rooms and the security room.
- 6.2 RCC cable trenches within all inverter rooms
- 6.3 Flooring works within all inverter rooms and security room
- 6.4 Plinth protection around all inverter rooms and security room
- 6.5 Steps/ ramps on front/back sides of the room as applicable.
- 6.6 Plastering / painting work for civil portions
- 6.7 Complete electrical works including supply and I&C of wiring, room appliances (lights, ceiling fans, exhaust fans, ventilators, etc), switch boards, MCB boxes etc for the nine inverter rooms and the security room. **Note:** However, all the necessary cut-out/support provisions for mounting the exhaust fans and ventilators shall be in vendor scope.

7.0 Enclosures to this tender specification


7.1	Vicinity map of project site (Note: P4 is allocated area for BHEL)
7.2	Typical site layout with solar array, CMCS room, PEB inverter rooms (tender purpose only)
7.3	NTPC drawing 5711-004-POC-A-005 showing typical outline of inverter room – pre-engineered building architectural plan, elevation, section details.
7.4	Typical layout of PEB inverter room showing electrical panel placement (tender purpose only)
7.5	Indicative field quality plan of NTPC
7.6	Request for Quotation with instructions, terms and conditions, formats for filling-up etc.

Notes:

- 1) Overall base area of PEB inverter room shall be as per the typical layout mentioned above.
- 2) Overall base area for PEB security room shall be 4 sqm minimum.
- 3) Height of vertical column structure of PEB inverter room / security room shall be 3.5m minimum above FFL.

8.0 Instructions to bidders on bid submission

8.1	Offer shall be submitted in two-parts (Two-part bid). Both parts shall be in separate sealed envelopes as per instructions in tender. The individual envelopes shall be enclosed in a common bigger envelope with markings (address etc) on the envelope as per instructions provided in tender.
8.2	First-part shall be techno-commercial bid. Following details shall be furnished: <ol style="list-style-type: none"> 1. Supporting documents as per pre-qualification criteria 2. Techno-commercial offer covering letter 3. Filled-up enclosures as per BHEL formats (meant for first-part) provided in tender. 4. This specification duly signed by the bidder with seal indicating compliance in total. 5. In case of deviations in the offer from this specification, separate clause-wise list shall be enclosed. 6. Details of company of the bidder
8.3	Second-part shall be price bid with filled up enclosures as per BHEL formats provided in tender.

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8.4	In addition to the above instructions, tender document provides detailed instructions for bid submission. Vendor shall submit the bid based on instructions in tender document.
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9.0 Technical specification – Design, supply and erection of PEB inverter rooms / PEB security room

9.1 Design and supply of PEB structural materials


- a) After receipt of BHEL PO, following documents shall be submitted to BHEL/NTPC for approval:
 1. Structural design calculations including STADD.Pro
 2. GA drawings along with BOM.
- b) Design calculations, checked and certified by IIT/NIT, shall be submitted to BHEL/NTPC for approval.
- c) Vendor shall supply the structural materials such as columns, rafters, beams, purlins, tie rods, sheets, wall cladding/roofing PUF insulation, hardware etc to the site as per the NTPC approved drawings. Raw materials for steel sections, sheets etc shall be of reputed make such as Jindal, RINL, SAIL, Tata steel etc. Vendor shall take prior approval from BHEL for the make prior to proceeding with procurement action.
- d) Vendor shall also supply the J bolts/nuts/washers, alignment plates and other related hardware that are used for positioning and anchoring of the PEB structures to the RCC foundation plinth.
- e) All the items shall be supplied directly to the project site.
- f) Relevant clauses of “**Detailed specification of PEB inverter room / PEB security room**” section shall be adopted.

9.2 Design and supply of PEB architectural items

- a) After receipt of BHEL PO, vendor shall submit GA drawings along with BOM (item-wise description, quantity, make, model etc) of the architectural items for BHEL/NTPC approval.
- b) The architectural items submitted for approval shall meet the requirements of various aspects of the room such as electrical, illumination, ventilation, exhaust, thermal, safety, security etc.
- g) Accordingly, this shall include all items (except the electrical wiring and appliances as listed under BHEL scope) such as windows with shades, doors with shades/lock/key, rolling shutters with lock/key, ventilator provisions, exhaust provisions, rain water gutters/ downcomers/ pipes etc. Raw materials for steel sections, sheets etc shall be of reputed make such as Jindal, RINL, SAIL, Tata steel etc. Vendor shall take prior approval from BHEL for the make prior to proceeding with procurement action.
- c) Vendor shall supply the items directly to the project site.
- d) Relevant clauses of “**Detailed specification of PEB inverter room / PEB security room**” section shall be adopted.

9.3 Erection of structures of PEB inverter room / PEB security room:

- a) Vendor shall erect the structural items such as columns, rafters, beams, purlins, tie rods, sheets, wall cladding/roofing insulation, hardware etc as per the BHEL/NTPC approved drawings / BoM.
- b) Vendor shall also carry out necessary finishing activities such as painting etc.
- c) Vendor shall deploy qualified/competent team at site to carry out the above erection activity.
- d) Vendor shall also deploy their specialized team during plinth casting of J bolts / alignment (base) plates etc in order to provide the needed support/guidance to the BHEL civil construction team at site.

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- e) All necessary labour, tools & tackles, shuttering materials, measuring instruments, machinery shall be in vendor scope of supply. This shall include spanner sets, drilling machines, welding machines, hydra, JCB, truck, trolley etc as required for the erection work.
- f) For the above, relevant clauses of “**Detailed specification of PEB inverter room / PEB security room**” section shall be adopted.

9.4 Erection of architectural items of PEB inverter room / PEB security room:

- a) Vendor shall carry out erection of the architectural items such as windows with shades, doors with shades/lock/key, rolling shutters with lock/key, structural provisions for ventilators / exhausts, rain water gutters/ downcomers/ pipes etc as per the BHEL/NTPC approved drawings / BoM.
- b) Vendor shall also carry out necessary finishing activities such as painting etc.
- c) Vendor shall deploy qualified/competent team at site to carry out the above erection activities.
- d) All necessary labour, tools & tackles, shuttering materials, measuring instruments, machinery shall be in vendor scope of supply. This shall include spanner sets, drilling machines, welding machines, hydra, JCB, truck, trolley etc as required for the erection work.
- e) For the above, relevant clauses of “**Detailed specification of PEB inverter room/ PEB security room**” section of this specification shall be adopted.

10.0 Detailed specification of PEB inverter room / PEB security room:


10.1 PEB inverter room / security room

The Inverter room / Security room shall be made of Pre-Engineered Buildings (PEB). The PEB shall be made of structural steel construction with double skinned metal roofing and wall cladding of approved profile. It shall be designed, manufactured, supplied and erected by the bidder/PEB agency. PEB shall be complete with painting, metal facia, metal gutter, rain water down comers, sun-shades, openings, etc., along with associated structural steel, cladding and roofing work insulation, Trims & Flashings. Each item of PEB like panels, masonry, plastering, flooring, foundation, fittings etc. shall be suitable or complete life of solar plant. The construction methodology for PEB shall also be submitted for NTPC approval before start of works.

The layout of Inverter room / Security room shall be designed so as to divert the heat generated from each inverter outside the room. The inverter room / security room shall be designed for a life of 25 years. The successful bidder shall have to get the structural design done as per the prevailing Indian standard codes and International Standard. **The structural design of inverter room of each type shall have to be proof checked by any IIT / NIT and subsequently submitted to NTPC for approval before actual starts of the work.**

The architectural drawing of double skin insulated roofing & cladding system are given in the tender relevant drawing (Pre Engineered Building Drawing No: 5711-004-POC-A-005, Rev A) to provide general idea about work to be performed under the scope of the contract. The PEB shall have robust water tightness at all joints and connections. The building shall have a high class durability and performance during the adverse weather conditions.

10.2 Structure and material specification

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The PEB inverter room / security room shall have a steel frame primary structural members. Primary members fabricated from plates shall conform to IS2062 min Grade E250 Quality BR/ ASTM A572-12 Grade 50 with minimum yield strength of 345 MPa. Steel shall be semi-killed/killed. Minimum thickness of steel plates shall be 4 mm. Hot rolled primary structural members and Rod/Angle bracing shall conform to IS2062 Grade E250 Quality A. Secondary members for Purlins and Girts shall conform to the specification of IS 811 or ASTM A1003-12 made from steel sheets conforming to ASTM A1011-12b Grade 50 having a minimum yield strength of 345 MPa. The minimum thickness of secondary members shall be 3.15 mm. All other miscellaneous secondary members shall have minimum yield strength of 250 MPa.

Insulated wall cladding or roofing shall consist of double skin metal cladding with Poly Urethane Foam (PUF). PUF must be made of continuous method PU foam and must be CFC free, self-extinguishing, fire retardant type with density 40 +/-2 kg/m³ and thermal conductivity 0.019-2.2 W/(m.K) at 10°C. The PUF panels shall be a factory made item ready for installation at site.

10.3 Fasteners & Connections:

Special coated self-drilling screws/fastener shall be used conforming to class 3 as per AS: 3566.1 and AS: 3566.2. Steel bolts, nuts and washers complying with AS 1112:2000. High Strength Bolts for Primary Connections IS: 1367 (Part III) Gr. 8.8 / ASTM A325. Bolts for Secondary Connection IS: 1367 (Part III) Gr. 4.6 / ASTM A307. Anchor/foundation Bolts shall conform to IS: 5624 and relevant IS code.

10.4 Roof and Wall cladding:


PUF panels shall be made of troughed permanently colour coated metal sheets of steel for roofing and side cladding (internal and external) shall conform to the requirements of Table-1 and IS: 513 for Hot-dip Zinc coated or Al/Zn coated sheets. The insulation material thickness and details shall be as specified at relevant para in the specification.

PUF insulated panels Metal Sheet for Roofing and side cladding consist of external sheet as troughed permanently colour coated sheet & internal sheet as plain permanently colour coated sheet.

Chemical composition of Troughed permanently colour metal sheet for roofing and side cladding shall conform to the provisions of same reference code to which the mechanical properties conform to.

Plain permanently colour coated steel metal sheet for ridge and hips, flashing, trimming, closure for vertical and horizontal joints, capping etc. shall conform to the same requirements as those of troughed permanently colour coated metal sheet for roof and side cladding.

The maximum spacing of the fastener shall be 390 mm c/c along the length of purlins / runners. However exact spacing shall be as per the design done by the bidder of the fastener considering the wind load, self-load and other associated load. Minimum diameter of the fastener shall be 5.5 mm and at least 3 nos. of fastener shall be used per sheet.

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Fillers blocks as a trough filler shall be used to seal cavities formed between the profiled sheet and the support or flashing. The fillers blocks shall be manufactured from black synthetic rubber or any other material approved by engineer.

10.5 Roof Insulation and type:

Both metal sheets shall have an under insulation of minimum 70 mm thick PUF with density 40 +/- kg/m³ and thermal conductivity 0.019-2.2 W/(m.K) at 10°C with gutters and down take pipes along with Flashing & Top cap of required size and colour complete with all necessary hardware complete. Roof shall be projected at-least 300 mm from the wall.

Stiffening ribs / subtle fluting for effective water shedding and special male/female ends with full return legs on side laps for purlin support and anti-capillary flute in side lap.

Both upper and lower sheets shall be separated through spacers and fastened through zinc /zinc-tin coated self-drilling screws. The fastener size shall be calculated as per the design or manufacturers recommendations.

Bidder may also alternatively make the PEB roofing with composite slab (RCC slab with permanent formwork). The composite slab scheme, design and drawings shall be subject to approval from NTPC before start of work.

10.6 Wall Insulation:

All voids of external and internal metal walls shall have an under insulation of minimum 60 mm thick PUF with density 40 +/- kg/m³ and thermal conductivity 0.019-2.2 W/(m.K) at 10°C with proper supports etc. as approved.


Both the walls should be separated by spacers system made up of cold formed steel bars and fastened through zinc /zinc-tin coated self-drilling screws.

The external wall of Inverter room / security room facing the transformer area shall be as per IS: 1646 - Code of practice for fire safety of buildings (general): electrical installations.

10.7 Doors Frames:

Door frames shall be of T-iron frame of mild steel Tee-sections as per DSR-2013 item no 10.13. All doors shall be provided necessary fittings like hinges, handles, mortice locks, tower bolts, stopper, hydraulic door closer, etc. of CP brass complete.

Black powder coated aluminium doors shall be with extruded built up standard tubular sections, appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixed to Pre-Engineered structure including necessary filling up of gaps at junctions with required PVC/neoprene felt etc. including hinges / pivots and double action hydraulic floor spring of approved brand and manufacture IS: 6315 marked, lock, handle and all necessary fittings as detailed in tender drawing or submitted by bidder in shop drawing and approved by NTPC

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The door entrance shall include Mild Steel single leaf door. The structural steel shall conform to IS: 7452 and IS: 2062. The holdfasts shall be made from steel flats (50 mm and 5 mm thick). The fixtures, fastenings and door latch are to be made with same materials.

10.8 Windows Frame:

Aluminium black powder coated section, frame shall be of 92x31 mm, minimum 16G thick as per approved design. Tinted glass and aluminium grill shall be provided.

10.9 Ventilators:

Aluminium black powder coated frame of minimum size 62x25 mm and 16G thick as per approved design. Ventilators/duct shall be provided with bird guard. Size of opening at wall for ducts shall be as per PCU manufacture and min 18 gauge GI sheet. Ducts shall be supported with suitable means, as approved during detail engineering.

All accessible ventilators and windows of all buildings shall be provided with min. 4mm thick float glass, tinted for preventing solar radiations. Suitable sunshades made out of approved colour sheet will be provided to all external windows and door. The minimum projection for the sunshades will be 450 mm and 300mm wider than the width of the opening.

10.10 Rolling shutter:

Rolling shutter (Hand operated) shall be fabricated from 18 gauge steel and machine rolled with 75 mm rolling centres with effective bridge depth of 12 mm lath sections, interlocked with each other and ends locked with malleable cast iron clips to IS:2108 and shall be designed to withstand a wind load without excessive deflection. Metal rolling shutters and rolling grills as IS: 6248.

10.11 Paint and Coating:

Steel shall be colour coated with total coating thickness of 25 microns (nominal) dry film thickness (DFT) comprising of silicon modified polyester (SMP with silicon content of 30% to 50 %) paint or Super Durable Polyester (XRW) paint of 20 microns (nominal) on one side (exposed face) on 5 micron (nominal) primer coat and 10 microns (nominal) SMP or Super Durable Polyester paint over 5 micron (nominal) primer coat on other side. SMP and polyester paints system shall conform to Product type 4 as per AS/ANZ 2728.


The structural steel shall be hot-dipped galvanized, conform to IS: 4759 or relevant Indian standard

10.12 Lighting:

Vendor shall ensure that the room is designed to utilize maximum natural light during the day. BHEL scope includes furnishing the room with electric lights to achieve average illumination level of 150 Lux.

10.13 Design Parameters and Design Loads:

The structure shall be designed for loads and load combination as per Indian Standards (latest revisions) such as IS: 875, IS: 1893, IS: 800, IS: 456 etc.

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Dead Load: Self Weight of Structure including Purlins, Sheeting, Girts, Bracings, weight of turbo ventilators to be added as Dead load etc.

Imposed Load (Live Loads) Live loads shall be as per IS - 875. For sloped roofs up to 10 deg. it shall be 0.75 KN/M².

Wind Load: The basic wind speed of the site is taken as 150 km/hr. Design wind load co-efficient shall be as per IS: 875-III.

Earthquake Load: All PEB structures shall be designed for Seismic forces. Vertical Deflection and Horizontal Sway Limits:

- a) Limiting Deflection: The limiting permissible vertical deflection for structural steel members shall be as per IS 800 2007.
- b) The limiting permissible horizontal deflection for as per IS 800 2007 code where 'h' is height of building at eaves.

10.14 Descriptions of PEB Structures:

Primary Members: Primary structural framing shall include the transverse rigid frames, columns, corner columns, end wall wind columns, beams, truss member, base plate.


Secondary Members: Secondary structural framing shall include the purlins, girts, eave struts, bracing, flange bracing, base angles, clips, flashings and other miscellaneous structural parts. Suitable wind bracings sag rods to be reckoned while designing the structure.

Sealant: Sealant used for cladding shall be butyl based, two parts poly sulphide or equivalent approved, non-staining material and be flexible enough not to interface with fit of the sheets.

Closures: Solid or closed cell closures matching the profiles of the panel shall be installed along the eaves, rake and other locations.

Flashing and Trim: Flashing and / or trim shall be furnished at the rake, corners, eaves, and framed openings and wherever necessary to provide weather tightness and finished appearance. Colour shall be matching with the colour of wall. Material shall be 26 gauge thick conforming to the physical specifications of sheeting.

Gutters and Downcomers: Gutters shall be fabricated out of same metal sheet. Material shall be same as that of sheeting. Down comers shall be of galvanized steel pipes or PVC designed to ensure proper roof drainage system.

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Group	Grade/ Reference code	Yield strength (min) MPa	Tensile strength (min) MPa	Coating class designation	BMT (mm)	+ve tolerance (mm)	Upper limit of BMT	-ve tolerance (mm)	Lower limit of BMT (mm)
I	G250/ AS1397	250	320	Z275	0.6	0.04	0.64	-0.04	0.56
	SS255/ ASTM A653M	255	360						
	S250GD/ EN10326	250	330						
II	G350/ AS1397	350	420	AZ150	0.5	0.04	0.54	-0.04	0.46
	SS340 Class 4/ ASTM A792M	340	410						
	S350GD/ EN10326	350	420						

NOTE: Minimum elongation % shall be as per relevant Standard and Code.

All steel materials supplied by the Agency shall be in a sound condition, of recent manufacture, free from defects, loose mill scale, slag intrusions, laminations, pitting, flaky, rust, etc. and be of full weight and thickness specified.

11.0 General construction requirements

11.1 Structural Steel


All structural steel design shall be carried out as per IS 800. Structural steel shall conform to IS 2062, Pipe shall be as per medium/high grade of IS 1161, checkered plates shall conform to 3502 and Hollow steel sections for structural use shall conform to IS: 4923.

11.2 Grouting

Cement mortar (1:2) grout with non-shrink additives shall be used for grouting below base plate of column. The grout shall be high strength grout having a minimum characteristic compressive strength of min 30 N/mm² at 28 days. The grout shall be chloride-free, cement based, free flowing, non-metallic grout.

11.3 List of applicable Indian Standards

Indian codes, and/or standards shall govern, in all the cases wherever they are available. In case of a conflict between such codes and/or standards and the specifications, the stringent provisions shall govern. Such codes and/or standard referred to shall mean the latest revision, amendments/changes adopted and published by the relevant agencies. In case of any further conflict in this matter the same shall be referred to the Engineer-in-charge, whose decision shall be final and binding.

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Other internationally acceptable standards shall be accepted, only if, no Indian Standards are existing. However, other standards also will be accepted if the Contractor establishes that the works are meeting the requirements of Indian Standards also. A brief list of Indian Standards applicable to these works is as below:

General


IS: 875-I	Code of Practice for Design Dead Loads for Building and Structures
IS: 875-II	Code of Practice for Design Imposed Loads for Building and Structures
IS: 875-III	Code of practice for design loads (other than earthquake) for buildings and structures.
IS: 1893	Criteria for earthquake resistant design of structures.
IS: 4326	Code of Practice for earthquake resistant design and construction of buildings

Steel structures

IS:800	Code of practice for use of structural steel in general building construction
IS:801	Code of practice for use of cold-formed light gauge steel structure members
IS:802	Code of practice for use of structural steel in overhead transmission line towers
IS:806	Code of practice for use of steel tubes in general building construction
IS:808	Dimensions for hot rolled steel beam, column channel and angle section
IS:811	Specification for cold formed light gauge structural steel sections
IS:813	Scheme of symbols for welding
IS:1079	Hot rolled carbon steel sheet and strip – specification
IS:2062	Hot rolled medium and high tensile structural steel – specification
IS:4923	Hollow steel sections for structural use.
IS:1161	Steel tubes for structural purpose
IS:2721	Galvanized steel chain link fence fabric – specification

Painting and coating

IS:4736	Hot dip zinc coatings on mild steel tubes
IS:4759	Hot dip zinc coatings on structural steel and other allied products – specification
IS:1868	Anodic coatings on aluminium and its alloys
IS:2395-I	Paintings of concrete, Masonry and plaster surfaces – code of operations and workmanship
IS:2395-II	Code of practice for painting concrete, masonry and plaster surfaces: schedule
IS:1477-I	Code of practice for painting of ferrous metals in buildings: pre-treatment
IS:1477-II	Code of practice for painting of ferrous metals in buildings: painting


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Miscellaneous

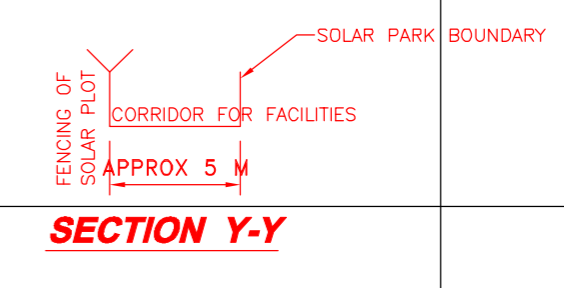
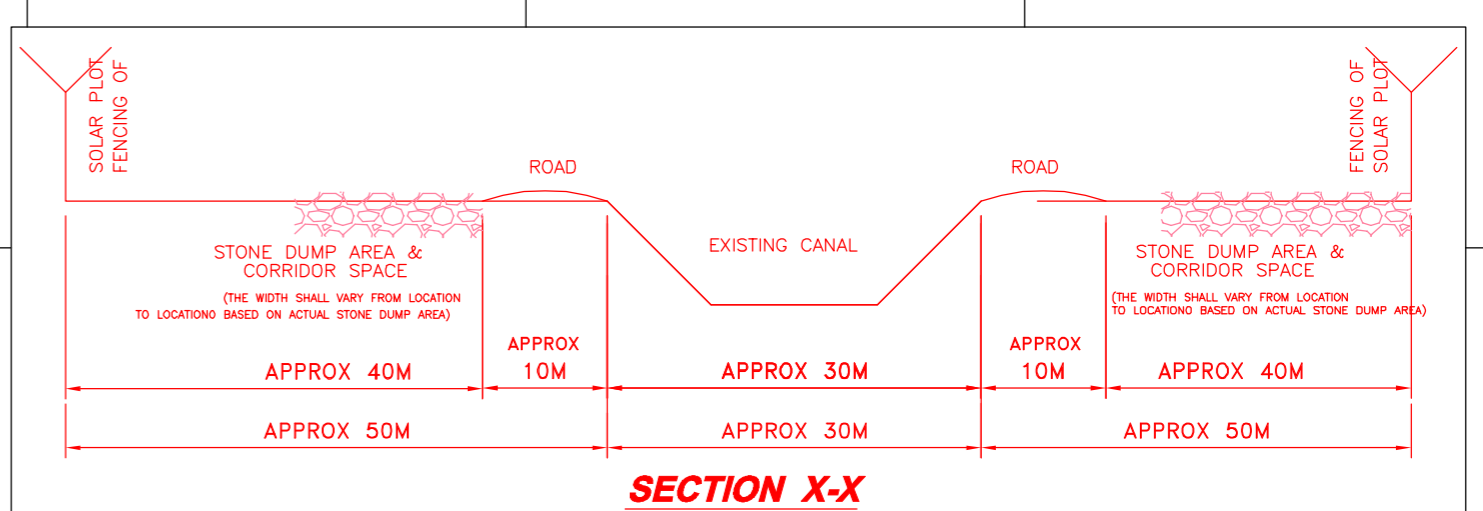
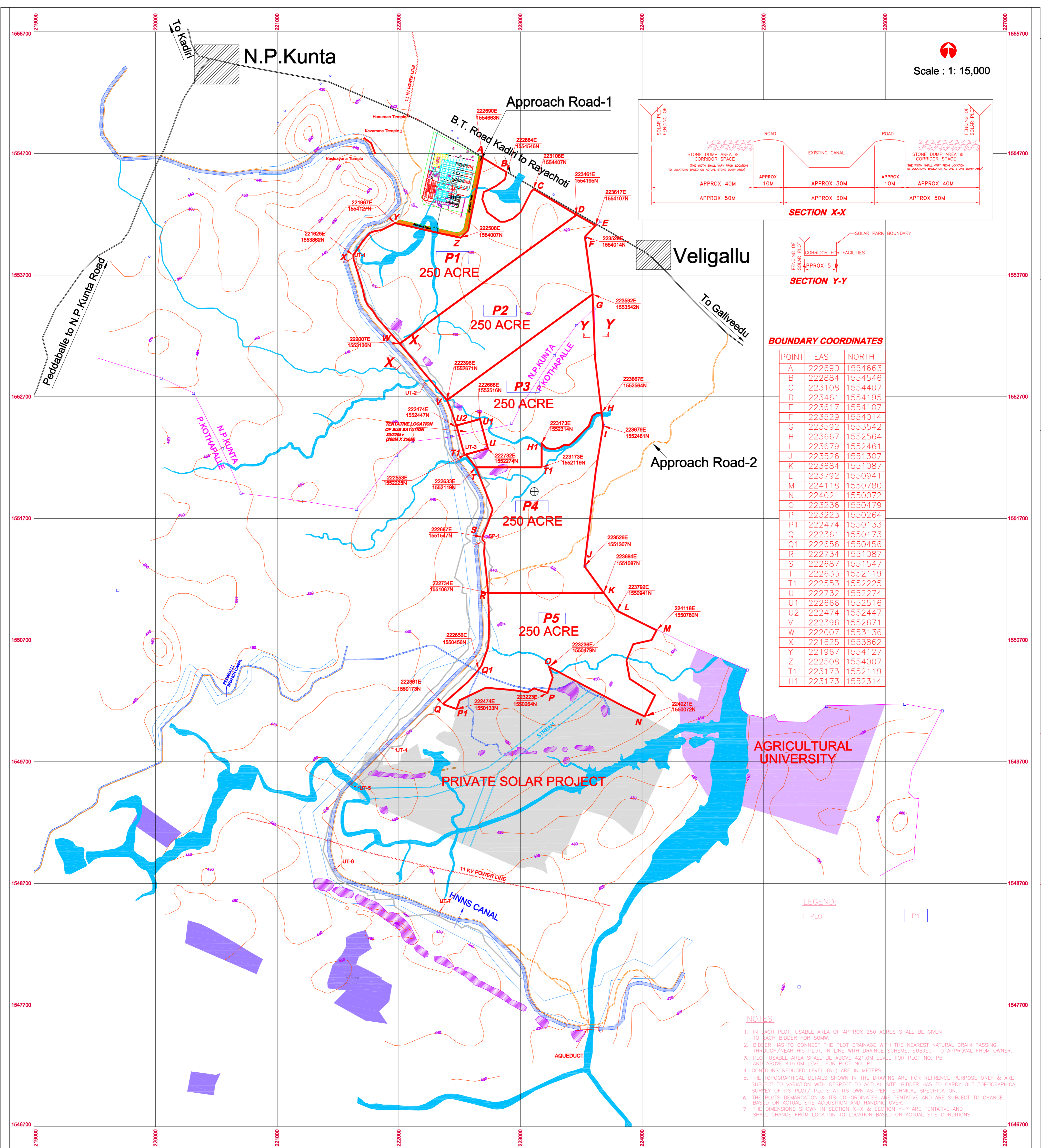
IS:19805	Code of practice for structural use of un-reinforced masonry
IS:3067	Code of practice for general design details and preparatory works for damp/water proofing
SP:6	Handbook for structural engineers (all parts)
SP:7	National Building Code of India
SP:16	Design Aids for reinforced concrete to IS:456
SP:20	Handbook on masonry design and construction
SP:22	Explanatory handbook on codes for earthquake engineering
SP:24	Explanatory handbook on Indian Standard Code of Practice for plain and reinforced concrete
SP:25	Handbook on causes and prevention of cracks in buildings
SP:32	Handbook on functional requirements of industrial buildings
SP:34	Handbook of concrete reinforcement & detailing

12.0 General conditions applicable during supply, installation and commissioning phase

12.1	Vendor shall organize construction power supply on their own. Accordingly, if required, DG sets of suitable capacity shall be deployed by the vendor for construction works.
12.2	Similarly, water required for construction works shall be organized by vendor. Vendor shall organize bore wells at the site if required. In case bore well is not successful, vendor shall make their own alternate arrangements (water tankers etc).
12.3	All machinery such as cranes, hydra, JCBs, forklifts, transport trucks, trolleys, concrete mixers, Ajax machines etc necessary for movement and installation of materials shall be organized by the vendor.
12.4	All necessary tools and tackles such as screw driver set, power screw drivers, cutting pliers, nose pliers, spanner sets, adjustable spanners, hole saw cutter set, bending tools, torque wrenches, hack saw blades, pipe wrenches, flat / round files, drilling machines, welding machines, steel bar bending tools / templates for RCC works, spade, shovel, hammer etc shall be organized by the vendor.
12.5	All necessary measuring instruments such as measuring tapes, digital multimeters, electrical testers, meggers etc shall be organized by the vendor.
12.6	Vendor shall make their own arrangements for necessary food, drinking water and accommodation for their labour and employees posted at the site. Similarly, food and drinking water required at the site, during the construction operations, shall also be in scope of vendor.
12.7	Vendor shall organize all necessary steps to meet statutory requirements such as labour license, PF, ESI, insurance etc and also ensure compliance with relevant acts such as minimum wages act, income tax act, employee insurance act etc for their labour deployed at site.
12.8	Vendor shall organize activities such as receipt of all supply items of PEB rooms at site, unloading from the trucks, safe storage at site, movement from storage location to point of construction etc. Vendor shall deploy their own security watch and ward to safeguard their supply items from pilferage. Insurance for the supplied items until the completion of erection of all the PEB rooms shall be the responsibility of vendor.

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12.9	Vendor shall maintain updated labour register, with name, age, qualification, salary, attendance details etc at the site.
12.10	Vendor shall use danger boards, wherever required, to ensure safety of the persons during the work at site.
12.11	Vendor shall adhere to all necessary safety norms such as use of helmet, goggles, hand gloves, gumboots, aprons etc. It is the ultimate responsibility of the vendor in all respect to prevent accidents at the site and safeguard their labour from accidents.
12.12	Vendor shall, at the completion of every work, clear off the debris, which resulted out of the work.
12.13	Vendor shall carry out the work without causing inconvenience to other contract groups at the site. In case of conflicts with other groups, vendor shall ensure that the matter is resolved at once amicably so that the progress of work is not affected.
12.14	Any damages on the other buildings, structures etc of the site, if attributable to the acts of labour / employees of vendor, shall be rectified and made good by the vendor at their own cost.
12.15	No child labour shall be employed for execution of the present contract.
12.16	Any miscellaneous materials, which are found essential for technical completion of the contract but not mentioned explicitly in this specification, shall be deemed to be included in the specification. Accordingly, such materials shall be included by the vendor as part of the offer.
12.17	<p>BHEL / NTPC shall witness routine / acceptance tests performed at manufacturer works for the items supplied by vendor. Vendor shall accordingly provide inspection call to BHEL with submission of quality assurance plan in advance.</p> <p>For the items bought out from dealers, test certificates, as per relevant IS / IEC standards, as issued by manufacturer shall be submitted to BHEL. However, prior approval shall be obtained from BHEL/NTPC for procurement of the item from dealers.</p>
12.18	<p>Field Quality Plan / Quality control system:</p> <p>Vendor shall make arrangements for testing of all construction materials in accordance with FQP (Field quality control plan) as approved by BHEL/NTPC. If required for this purpose, an exclusive testing laboratory shall be established at site. Vendor shall deploy a well experienced quality control engineer to monitor all QC activities at site as per approved FQP.</p>
12.19	Any deviations during construction shall be discussed with BHEL / NTPC site engineers and implementation shall be taken up only after approval from BHEL / NTPC.
12.20	Vendor shall submit periodic status report, on daily as well as weekly consolidated basis, to BHEL on the progress of the contract.



BOUNDARY COORDINATES

POINT	EAST	NORTH
A	222690	1554663
B	222884	1554546
C	223108	1554407
D	223461	1554195
E	223617	1554107
F	223529	1554014
G	223592	1553542
H	223667	1552564
I	223679	1552461
J	223526	1551307
K	223684	1551087
L	223792	1550941
M	224118	1550780
N	224021	1550072
O	223236	1550479
P	223223	1550264
P1	222474	1550133
Q	222361	1550173
Q1	222656	1550456
R	222734	1551087
S	222687	1551547
T	222633	1552119
T1	222553	1552225
U	222732	1552274
U1	222666	1552516
U2	222474	1552447
V	222396	1552671
W	222007	1553136
X	221625	1553862
Y	221967	1554127
Z	222508	1554007
T1	223173	1552119
H1	223173	1552314

LEGEND:

- 1. PLOT

NOTES:

- IN EACH PLOT, USABLE AREA OF APPROX 250 ACRES SHALL BE GIVEN TO EACH BIDDER FOR 50MW.
- BIDDER HAS TO CONNECT THE PLOT DRAINAGE WITH THE NEAREST NATURAL DRAIN PASSING THROUGH/NEAR HIS PLOT, IN LINE WITH DRAINAGE SCHEME, SUBJECT TO APPROVAL FROM OWNER.
- PLOT USABLE AREA SHALL BE ABOVE 421.0M LEVEL FOR PLOT NO. P5 AND ABOVE 416.0M LEVEL FOR PLOT NO. P1.
- CONTOUR REDUCED LEVEL (R.L.) ARE IN METERS.
- THE TOPOGRAPHICAL DETAILS SHOWN IN THE DRAWING ARE FOR REFERENCE PURPOSE ONLY & ARE SUBJECT TO VARIATION WITH RESPECT TO ACTUAL SITE. BIDDER HAS TO CARRY OUT TOPOGRAPHICAL SURVEY OF ITS PLOT/ PLOTS AT ITS OWN AS PER TECHNICAL SPECIFICATION.
- THE PLOTS DEMARCATION & ITS CO-ORDINATES ARE TENTATIVE AND ARE SUBJECT TO CHANGE BASED ON ACTUAL SITE ACQUISITION AND HANDING OVER.
- THE DIMENSIONS SHOWN IN SECTION X-X & SECTION Y-Y ARE TENTATIVE AND SHALL CHANGE FROM LOCATION TO LOCATION BASED ON ACTUAL SITE CONDITIONS.

NOTE:

- ALL DIMENSIONS ARE IN METERS.
- GRID LINES ARE DRAWN AT 1000m X 1000m INTERVAL.
- CONTOUR INTERVAL 2.00 MTR.

GENERAL:	LEGEND:	CANAL AS PER REVENUE MAP	SCALE:
VILLAGE: P.KOTHAPALLE & N.P.KUNTA	ASSIGNED LAND	STREAMS	1 : 15,000
TALUK: KADIRI	SALES OCCURRED LANDS	VILLAGE BOUNDARY	DRN BY : M.R
DISTRICT: ANANTHAPUR	EXCAVATED CANAL	B.T. ROADS, ROADS	DATE : 08-12-2014
STATE: ANDHRA PRADESH		TEMPLE	CHK BY : K.D.L
		AQUEDUCT	DATE : 08-12-2014
			TYPE OF DWG: AUTO CAD
			DRAWING NO.: REV-01/08-12-14
			CAD FILE NAME: REVISED TOPO MAP

PROJECT: 1000 MW SOLAR POWER PROJECT AT N.P.KUNTA SITE, ANANTHAPUR DISTRICT,	SUB. DATE: 08-12-2014
TITLE: REV TOPO MAP OF P. KOTHAPALLE & N.P.KUNTA VILLAGES	
CLIENT: NREDCAP LTD. REGD. OFF. 5-8-207/2, PISGAH COMPLEX, NAMPALLY, HYDERABAD.	SURVEYED BY: TOP VIEW INFRATECH INDIA PVT.LTD
	F-204,Viswa Central, Nizamia Observatory Road, Near Lalburglow, Ameerpet, Hyderabad-500016. Ph:040-65451076, Mobile: 9440151076 E-mail - info@topviewtech.com www.topviewtech.com

TOTAL AREA OF SURVEY NO. 539 & 679 = APPROX. 7200 ACRES

REV. NO.	DESCRIPTION	DRAWN	DESIGN	CHKD.	M	E	C	C&I	ES	APPD	DATE
F	PLOTS LAYOUT REVISED AFTER INCORPORATING PGCIL SWITCHYARD REVISED LAYOUT LEAVING 12.5 ACRES PLOT	MANOJ	CMV								09.05.15
E	PLOTS LAYOUT REVISED AFTER INCORPORATING PGCIL SWITCHYARD LOCATION/LAYOUT	MANOJ	CMV								29.04.15
D	FOR TENDER PURPOSE ONLY	MANOJ	CMV								26.12.14
C	FOR TENDER PURPOSE ONLY	MANOJ	CMV								05.11.14
B	FOR TENDER PURPOSE ONLY	MANOJ	CMV								14.10.14
A	FOR TENDER PURPOSE ONLY	MANOJ	CMV								25.09.14
		BINU									

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
ENGINEERING DIVISION

PROJECT DEVELOPMENT OF 250MW (5X50MW) SOLAR PV PROJECT IN ANANTAPUR DISTRICT OF AP

TITLE VICINITY MAP

SIZE AO

SCALE —

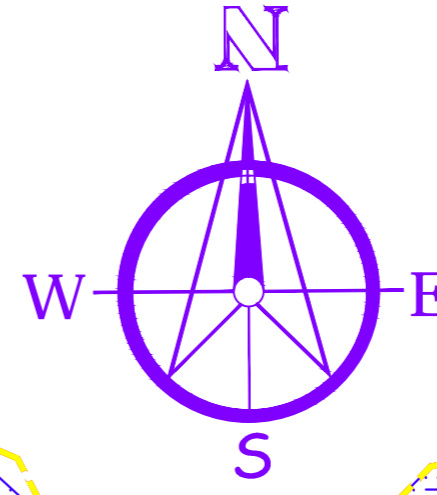
DRG. NO. 5711-004-POC-A-001


REV. NO. F

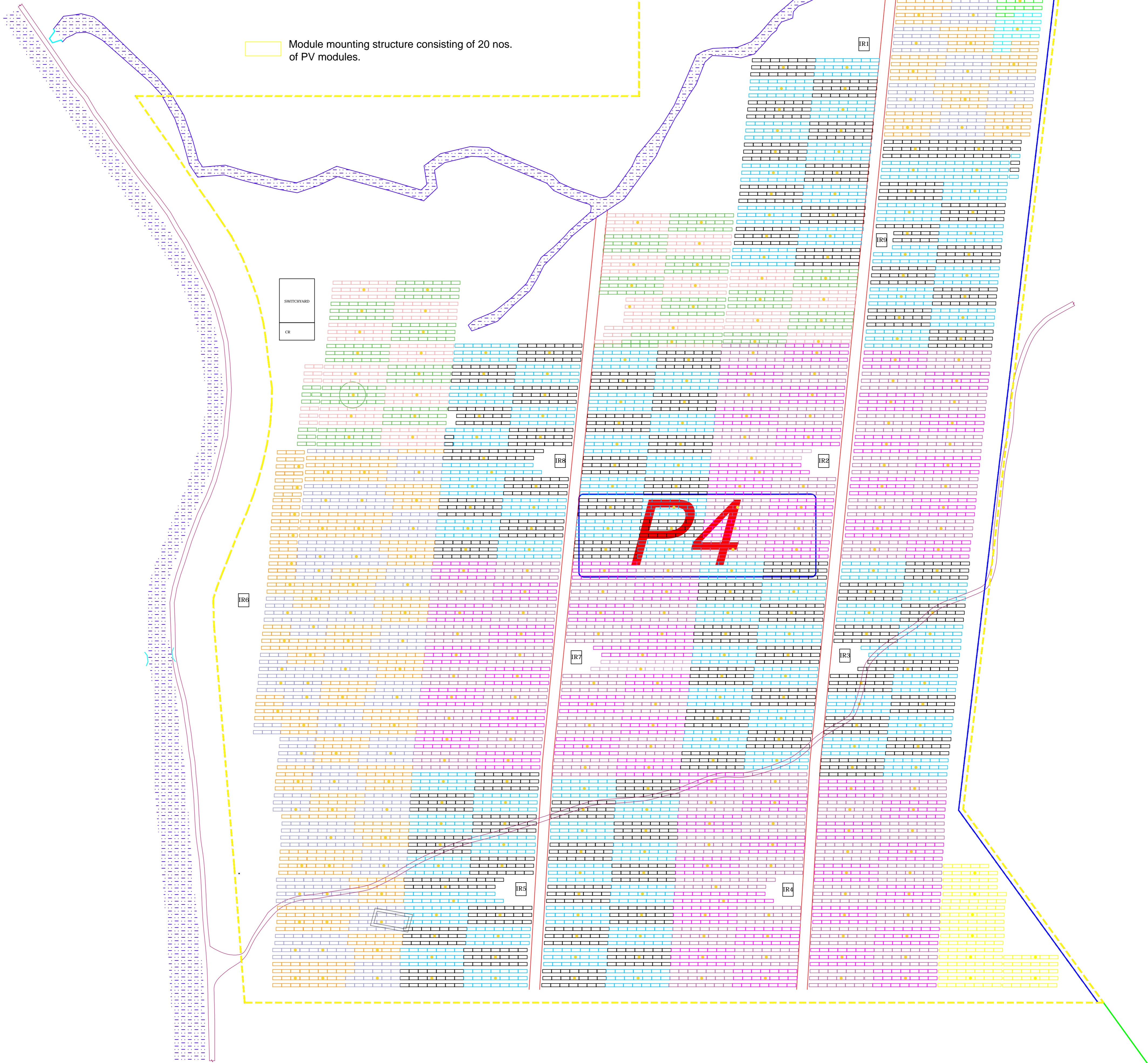
50 MW_p SOLAR PV POWER PLANT AT ANANTAPUR DIST

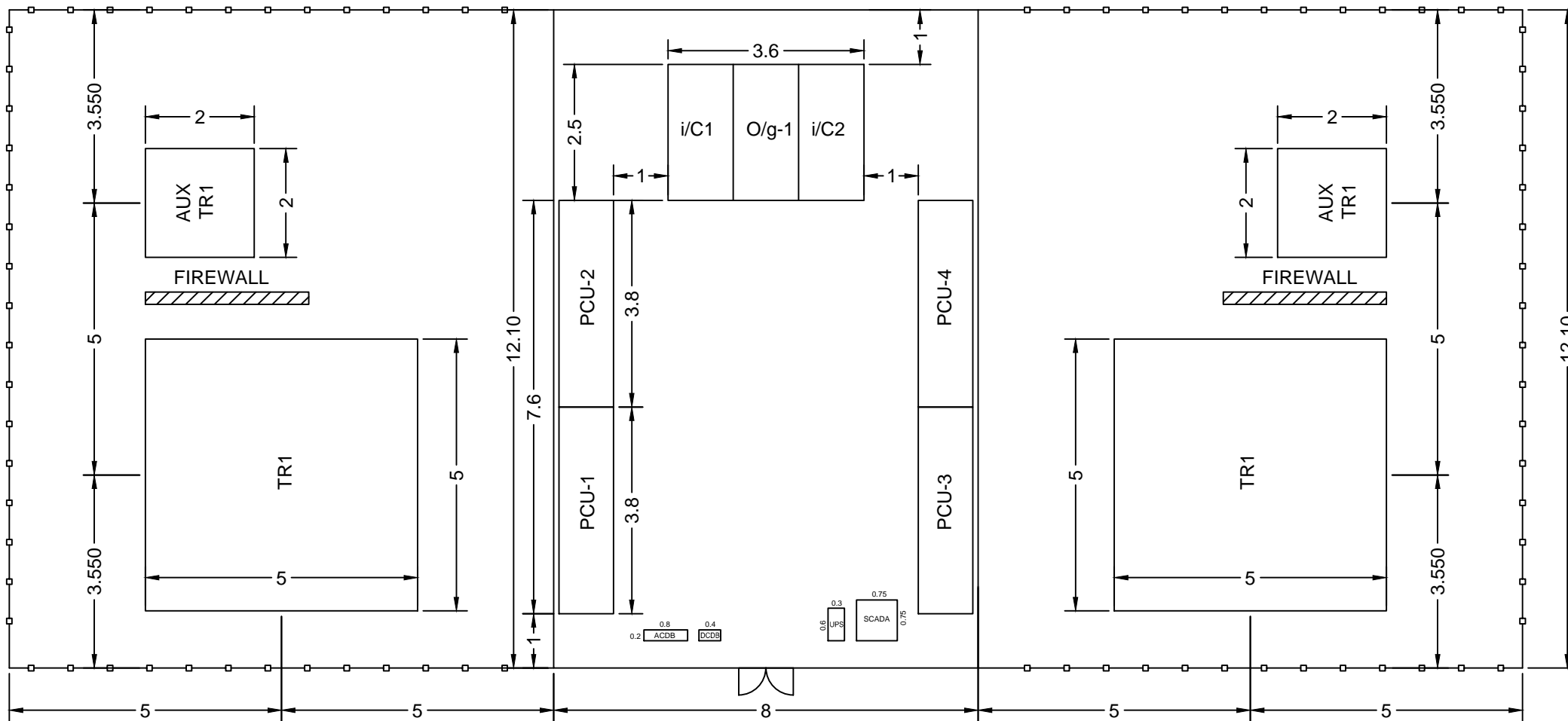
ARRAY DETAILS

PV ARRAY CAPACITY	50 MW _p *
Total no.of PV Modules (290Wp)	
PV Modules per series string	
Total No. of strings	8480 nos .
Main Control Room with 2 bays of Switchyard	1 set
No. of Inverter rooms	
Center to center Inter Row Gap	
Land Area	



 Module mounting structure consisting of 20 nos. of PV modules.





INVERTOR ROOM LAYOUT FOR NTPC 50 MW_p

NOTE:

1. ALL THE DIMENSIONS ARE IN METERS.

FIELD QUALITY PLAN										
		ITEM : CIVIL WORK			QP NO. :	1	PROJECT:	SOLAR PV PROJECT		
		SUB-SYSTEM : CIVIL AND STRUCTURAL STEEL WORKS			REV. NO. :	1	PACKAGE:			
					DATE :		CONTRACT NO.			
					PAGE :	Page 1 of 10	MAIN CONTRACTOR			
Sl. No	Activity and operation	Characteristics / instruments		Class of check	Type of Check	Quantum Of check	Reference Document	Acceptance Norms	Format of Record	Remarks
1	2	3		4	5	6	7	8	9	D* 10
1 GENERAL REQUIREMENTS										
A	Availability of QA& QC manpower and laboratory	-		A	Physical	Once prior to start of work and thereof monthly	Tech Specs and Const. Drawings		SR	√
B	Sampling for testing of building materials, concrete mix design etc.	As agreed / required		A	Physical	As specified in FQP for various materials	Tech Specs and Const. Drawings		SR/TR	√ Test report along with the recommendations from specialist agency to be submitted to NTPC.
C	Submission of schedule of tests to be done monthly / quarterly	-		A	Physical	Once prior to start of work and thereof monthly	Tech Specs and Const. Drawings		SR	√
D	Stacking and storage of construction materials and components at site	As per IS:4082		C	Physical	Random	Tech Specs and Const. Drawings and IS: 4082		SR	√
2 EXCAVATION AND FILLING IN FOUNDATION WORKS										
Excavations-										
2.1		Nature, type of soil/rock before and during excavations	As agreed / required	C	Visual	Random in eah shift	Tech Specs and Const. Drawings		SR	
2.2		Initial ground level before start of excavations	As agreed / required	C	Measurement	100%	Tech Specs and Const. Drawings		SR	√
2.3		Final shape and Dimensions of excavations.	As agreed / required	C	Measurement	100%	Tech Specs and Const. Drawings		SR	
2.4		Final excavation levels	As agreed / required	B	Measurement	100%	Tech Specs and Const. Drawings		SR	√
2.5		Side slope of final excavation	As agreed / required	B	Measurement	Random in each shift	Tech Specs and Const. Drawings		SR	
Fill/ Backfill -										
2.6	Standard proctor Test	Optimum moisture content and max. dry density before fill	As per IS: 2720, Proctor needle apparatus,etc.	B	Physical	One in every 2000 cum for each type and source of fill materials	IS 2720 (Pt.VI), Tech Specs and Const. Drawings		SR/TR	√
2.7	Moisture content	Moisture content of fill before compaction	As per IS: 2720, balance, oven, rapid moisture meter, etc.	B	Physical	One in every 2000 cum for each type and source of fill materials	IS 2720 (Pt.II), Tech Specs and Const. Drawings		SR/TR	√
2.8 Degree Of Compaction Of Fill / Backfill										
i		Dry density by core cutter method ---- OR---- Dry density in place by sand displacement method	As per IS: 2720/compaction test (core cutter), balance, rapid moisture meter etc.	A	Physical	One sample for every 2000 SQM area for each compacted layer.	IS 2720 (Pt. XXIX), Tech Specs and Const. Drawings OR IS 2720 (Pt. XXVIII), Tech Specs and Const. Drawings		SR/TR	√
3.0 MATERIALS										
3.1 CEMENT										
		Retesting of cement	as per IS:4031	A	Testing	At Random	As per relevant IS Codes		TR	√ Each consignment of cement shall be duly correlated with manufactureres TC.
3.2	Coarse Aggregate	Moisture content	as per IS:2386	B	Physical	Once for each stack of 100 Cu.M. or part there of	IS : 456 IS : 383/Tech Spec		SR/LB	√ during monsoon when this has to be done every day before start of concreting
ii		Specific gravity, water absorption	IS:2386	A	Physical	Once for each source & for every change of source	IS: 2386 Part-III, IS:383/Tech Spec	IS:456,	SR/LB/ TR	√
iii		Sieve analysis, flakiness index, elongation index,	IS:2386	B	Physical	One per 100 cum., or part thereof	IS: 2386 Part-I, Spec	IS:383/Tech	SR/LB	√
iv		Deleterious materials (coal & lignite, clay lumps, material finer than 75 micron sieve, soft fragment, shale)	IS:2386	B	Physical	Once per source/ on every change of source	IS: 2386 Part-II, Spec	IS:383/Tech	SR/LB/ TR	√
v		Soundness	IS:2386	A	Physical	-do-	IS: 2386 Part-V, IS:383		SR/LB/ TR	√

FIELD QUALITY PLAN										
		ITEM : CIVIL WORK			QP NO. :	1	PROJECT:	SOLAR PV PROJECT		
		SUB-SYSTEM : CIVIL AND STRUCTURAL STEEL WORKS			REV. NO. :	1	PACKAGE:			
					DATE :		CONTRACT NO.			
					PAGE :	Page 2 of 10	MAIN CONTRACTOR			
Sl. No	Activity and operation	Characteristics / instruments		Class of check	Type of Check	Quantum Of check	Reference Document	Acceptance Norms	Format of Record	Remarks
1	2	3		4	5	6	7	8	9	D* 10
vi		Crushing value abrasion value and impact value	IS:2386	A	Physical	-do-	IS:383, IS-2386 Part IV/Tech Spec	SR/LB/TR	√	
3.3 Fine Aggregate										
i		Moisture content, water absorption	balance , oven, rapid moisture meter etc	B	Physical	To be done every day before start of work	IS: 2386 Part-III IS:383	SR/LB/TR	√	
ii		Deleterious materials (coal & lignite, clay lumps, material finer than 75 micron sieve, soft fragment, shale)	IS:2386	B	Physical	Once per source& for on every change of source	IS: 2386 Part-II, IS:383	SR/LB/TR	√	
iii		All other tests similar to coarse aggregates as mentioned above.					IS-2386, IS-383	SR/LB/TR	√	except test for flankiness index,elongation index, abrasion value, impact value
3.4 Water										
i		Complete tests as per IS:456	Buret, conical flask, pipette etc	B	Testing	One for each source.	IS:3025 part 22 and 23 (for test procedure), IS:456(for acceptance criteria)	SR/LB/TR	√	
3.5 CONCRETE										
i		Crushing strength (works Tests cubes)	IS:516	A	Physical	AS PER IS:456	IS:516, IS:456, NTPC Tech. Spec.	SR/LB/TR	√	Min. of 6 cubes for each mix, 3 specimen shall be tested at 7 days remaining 3 shall be for 28 days comp. Strength.
ii		Workability - slump test	IS:1199	B	Physical	random	IS:456/NTPC Tech. Spec.	SR/LB/TR	√	
3.5.1 Admixtures for Concrete										
	Type of admixture	As per IS:9103		B	Review of MTC	For each lot received at site	Designed mix and IS:9103	MTC	√	Admixture of appd. Brand and tested quality shall be used (each lot of admixture will included with brochure in which the type of admixture and its properties shall be clearly indicated)
3.6 Concrete conveying, placing & compaction										
i		mixing of concrete shall be done in a approved mixer such as to produce a homogenous mix		C					√	
ii		Arrangement for transportation & placement of concrete.	As required	C	Visual	100%	Before clearance for concreting	Inspection Report	√	
iii		Handling and Transportation of concrete	As required	C	Physical	100%	As per construction/erection methodology (to be approved one week prior to start of	SR		
iv		Placement of concrete	Visual	B	Physical	100%	As per construction/erection methodology and tech.specs / No segregation	SR	√	
v		Compacting	As required	C	Physical	At Random	IS:456	SR	√	
vi		Curing	As required	C	Physical	At Random	Period of curing as per IS 456 (use gunny bags / curing compound)	SR	√	
3.7 TEST/CHECK ON RCC STRUCTURE IN HARDENED CONDITIONS										
i		Dimensional check on finished structures & Dimensional tolerances	As required	B	Measurement	Approved Drawing	As per IS:456/ tech. Specification.	SR/LB	√	
ii		Water Tightness Test of liquid retaining structure/ tanks	As required	B	Test	100%	IS:3370/ Tech. Specification	SR/LB	√	
3.8 REINFORCEMENT STEEL										
i		Physical and Chemical Properties for each lot as per relevant IS codes	As required/ agreed	A	Review of MTC	Each batch of delivery	IS : 1786, IS:432, IS:1566, Tech Specs and Const. Drawings	MTC	√	

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ii		Freedom from cracks surface flaws, Lamination.	As agreed / required	C	Visual	Random in each shift	IS: 1852, IS:432, IS:1786, Tech Specs and Const. Drawings	SR		To be checked at site. Steel collected from source should be free from excessive rust. To be stored as per Technical Specs.
3.9 PLACEMENT OF REINFORCEMENT STEEL										
i		Bar bending schedule with necessary lap, Spacers & Chairs	As agreed / required	B	Visual & Measurement	Random in each shift	Approved Drawings, Tech Specs and Const. Drawings, IS:2502	SR	√	
ii		Bending of bars, cutting tolerance	As agreed / required	C	Visual & Measurement	Random in each shift	Approved Drawings, Tech Specs and Const. Drawings, IS:2502	SR	√	
iii		Acceptance - Cover, spacing of bars, spacers and chairs after the reinforcement cage is put inside the formwork	As agreed / required	B	Visual & Measurement	Random in each shift	Approved Drawings, Tech Specs and Const. Drawings	SR	√	
3.10 STAGING AND FORMS										
i		Materials and accessories	As agreed / required	C	Visual	Once before start of work	As per relevant IS, Tech Specs and Const. Drawings	SR		
ii		Soundness of staging, shuttering and scaffolding including application of mould oil / release agent	As agreed / required	C	Visual	Once before start of work	As per manufacturer's spec.and as per 3696,4014, 4990, Tech Specs and Const. Drawings	SR		
iii		Acceptance of formwork before start of concreting		B	Physical / visual	Before start of each concreting	As per provisions and tolerances, Tech Specs and Const. Drawings	SR	√	
3.11 DAMP PROOF COURSE										
i		Material - Hot bitumen and water proofing materials etc	As agreed / required	B	Review of MTC	Each batch of delivery at site	Tech Specs and Const. Drawings, IS 702	SR	√	
ii		Acceptance of damp proof course	As agreed / required	B	Acceptance	100%	Tech Specs and Const. Drawings	SR		
3.12 GROUTING										
i		Material	As agreed / required	B	Review of MTC	Each batch of delivery	Tech Specs and Const. Drawings	SR	√	
		Type of mix - fluid mix, plastic mix, stiff mix etc.	As agreed / required	C	Physical	Prior to start of work	Tech Specs and Const. Drawings	SR	√	
ii		Mixing, placement, application and grout pressure	As agreed / required	C	Physical	Random in each shift	Tech Specs and Const. Drawings	SR		
iii		Compressive strength	As agreed / required	C	Physical	Random in each shift	Tech Specs and Const. Drawings	SR	√	
iv		Acceptance of the grouts	As agreed / required	B	Physical	Each grout section	Tech Specs and Const. Drawings	SR		
4.00 BRICK MASONARY										
4.1 Test on Bricks										
		Dimensions , shape, compressive strength, water absorption, warpage, efflorescence.	As agreed / required	B	Measurement/ Physical Test	As per relevant IS Code/ One Sample for 30,000 nos. or part thereof	IS: 1077, IS:13757, IS: 12894 / Tech Specs and const. Drawings	Inspection Report	√	Efflorescence shall be checked at each source.
4.2	Masonry construction	Workmanship, verticality and alignment	As agreed / required	B	Visual/ Physical	100%	IS 2212, IS 1905 , Tech Specs and Const. Drawings	SR/LB		
5.00 FINISHING AND ALLIED WORKS										
5.1 PLASTERING - WORKMANSHIP										
i		Curing	As agreed / required	C	Physical	100%	Tech specifications, construction drawings and agreed methodology	SR		
ii		Thickness and finishing of plaster, grooves etc	As agreed / required	B	Visual/ Measurement	Random in each shift	Tech Specs and Const. Drawings	SR/LB		

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iii		Truness of plastering system	As agreed / required	B	Visual/ Physical	Random in each shift	Tech Specs and Const. Drawings	SR		
5.2 STONE GRIT PLASTER/ GRANULAR TEXTURED COAT FINISH										
i		Material	As agreed / required	B	Review of MTC	For each lot received at site	Tech Specs and Const. Drawings	SR	√	
ii		Thickness, finishing and grooves etc	As agreed / required	C	Visual/ Measurement	Random in each shift	Tech Specs and Const. Drawings	SR	√	
6.00 SHEETING AND OTHER WORKS										
6.1 PAINTING SYSTEM - CONCRETE WORKS AND PLASTERED MASONARY SURFACES										
i	Materials and accessories- Oil Bound, Acrylic Emulsion, Chemical Resistant, Oil Resistant Paint etc.	Shade, type from brand and manufacturer as approved by NTPC EIC	As agreed / required	B	Review of MTC	Each batch of delivery	Tech Specs and Const. Drawings	SR/MTC	√	
ii	Surface prepration	As required	As agreed / required	C	Physical /visual	Random in each shift	Tech Specs and Const. Drawings	SR		
iii	Acceptance of painted surfaces	As required	As agreed / required	B	Physical	Each surface at random	Tech Specs and Const. Drawings	SR		
6.1.1 PAINTING SYSTEM - STEEL WORKS (OTHER THAN STRUCTURAL STEEL WORKS)										
i		Painting Materials and accessories	-	B	Review of MTC	Each batch of delivery	Tech Specs and Const. Drawings	SR/MTC	√	
ii		Surface prepration	As agreed / required	C	Physical /visual	Each Erection Mark	Tech Specs and Const. Drawings, Relevant code/ standards	SR	√	
iii		Primer Thickness	Elcometer	C	Measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR	√	
iv		DFT of paint	Elcometer	C	Measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR	√	
v		Acceptance of painted surfaces	Elcometer	B	Visual and measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR		
6.2 INSULATION WORKS										
i	Material	Insulation material, galvanised wire net, aluminium foil, fasteners	As agreed / required	B	Review of MTC	For each lot received at site	Tech Specs and Const. Drawings	SR / LB	√	
ii		Acceptance of each type of installation	As agreed / required	B	Visual/ Physical	Each installation	Tech Specs and Const. Drawings	SR/LB		
7.00 DOORS , WINDOWS VENTILATORS & GRILL										
7.1 False Ceiling										
i		Materials (gypsum glass, glass fibre membrane, fibre board acoustical tiles etc)	As agreed / required	B	Review of MTC	For each lot received at site	Tech Specs and Const. Drawings	SR	√	Compare MTC with technical specification and requirement
ii		Installation finishing and acceptance	As agreed / required	B	Visual / physical	Random	Tech Specs and Const. Drawings	SR		
7.2 WATER PROOFING										
		Methodology for the application of water proofing system	As required	B	Review	for each type of treatment	Tech Specs and Const. Drawings	SR	√	
7.2.1. General Requirement- Water Proofing										
i	Polyurethane based coating, polyester scrim cloth, extruded HD dimpled polyurethane	Material	As agreed / required	B	Review of MTC	For each lot received at site	Tech Specs /Const. Drawings	SR	√	MTC shall contain all the parameters specified in the technical specifications
ii		Acceptance of water proofing work	As agreed / required	B	Physical	100%	Tech Specs and Const. Drawings			
7.2.2 Roof / Basement Treatment										
i	Graded under bed	Levels / slopes	As required	C	Physical	100%	Tech Specs and Const. Drawings			
ii	Elastomeric coatings	Material- Primer coat, finishing coat	As required	B	Review of MTC	Each lot of delivery	Tech Specs and Const. Drawings	SR	√	


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iii	Wearing course	Materials - PCC, chicken wire mesh, elastomeric sealant	As required	B	Review of MTC	Each lot of delivery	Tech Specs and Const. Drawings	SR	√	
iv		Acceptance of water proofing work	As agreed / required	B	Physical	100%	Tech Specs and Const. Drawings			
7.3 Fencing and Gates										
i	Chain link fencing, Reinforced barbed tape galvanised (IS 2629) etc.	Materials	As agreed / required	B	Review of MTC	Each batch of delivery	Tech Specs and Const. Drawings	SR/MTC	√	MTC shall contain all the parameters specified in the technical specifications / relevant IS Codes
ii		Acceptance of the installation	As agreed / required	B	Physical / measurements	Each installation	Tech Specs and Const. Drawings	SR		
7.4 FLOOR FINISHES AND ALIED WORKS										
7.4.1 Cement Concrete Flooring										
i		Glass/ PVC strips in joints	As agreed / required	C	Physical	Random in each shift	Tech Specs and Const. Drawings	SR		
ii		Finishing and acceptance	As agreed / required	B	Physical	100%	Tech Specs and Const. Drawings	SR		
7.4.2 Tiles										
i	Ceramic, vitrified, glass mosaic, acid alkali resistant, heavy duty cement concrete tiles	Materials	As agreed / required	B	Review of MTC	Each lot of delivery	Tech Specs and Const. Drawings	SR	√	MTC shall contain all the parameters specified in the technical specifications / relevant IS Codes
ii		Finishing and acceptance	As agreed / required	B	Physical	100%	Tech Specs and Const. Drawings	SR		
8.0 WATER SUPPLY / SANITARY INSTALLATIONS										
8.1 Water supply fittings and fixtures										
i	Materials	GI/ MS pipes and fittings	As agreed / required	B	Review of MTC	Each lot of delivery as per Specifications	Tech Specs and Const. Drawings	SR	√	
ii	Disinfection	Before use	As agreed / required	C	Physical	Each installation	Tech Specs and Const. Drawings	SR		
iii	Hydraulic test	Before use / leakage	As agreed / required	B	Physical	Each installation	Tech specs and const drawings	SR	√	
iv		Acceptance and working	As agreed / required	A	Acceptance	Random	Tech Specs and Const. Drawings	SR		
8.2 Sand cast iron / cast iron pipes										
i	Material	SCI / CI pipes and fittings / joints	As agreed / required	B	Review of MTC	Each lot of delivery as per Specifications	Tech Specs and Const. Drawings	SR	√	
ii		Acceptance and leakage	As agreed / required	B	Physical	Random	Tech Specs and Const. Drawings	SR		
8.3 Sanitary fittings and fixtures										
i	Material	Sanitary items and fixtures i.e. water closets, urinals, wash basins, sinks, mirrors, shelves, towel rail, soap containers, geyser, water cooler, etc, water supply / sanitation pipes, manhole cover and frames etc	As agreed / required	B	Physical	Each lot of delivery as per Specifications	Tech Specs and Const. Drawings	SR	√	
ii		Acceptance of installations of all sanitary items and fixtures	As agreed / required	B	Acceptance	100%	Tech Specs and Const. Drawings	SR		
8.4 RCC Pipes										
i	Material	RCC pipes	As agreed / required	B	Review of MTC	Each lot of delivery as per Specifications	Tech Specs and Const. Drawings /IS 458	SR	√	
ii		Acceptance and leakage	As agreed / required	B	Physical	Random	Tech Specs and Const. Drawings	SR		
8.5 Water Storage Tanks										

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i	Material	Over head / loft type	As agreed / required	B	Physical	Each lot of delivery as per Specifications	Tech Specs and Const. Drawings		SR	√
ii		Acceptance and leakage	As agreed / required	B	Acceptance	Random	Tech Specs and Const. Drawings		SR	
9.0 SPECIAL ITEMS										
9.1 Earthing Mat (Grounding System)										
i	Material	Earthing mat	As agreed / required	B	Physical	Each lot of delivery as per Specifications	As per relevant IS and Tech. Specs / Manufacturer's, IS 3043		SR/MTC	√
ii		Weld sizes & length	Visual/Tape	B	Visual/ Measurement	100%	Tech Specs and Const. Drawings			NTPC approved electrodes shall be used
iii		D P test	DP test Kit	B	Physical	10% at random of the offered lot	Tech Specs and Const. Drawings		TR	√
iv		Earth test	Earthing test kit	A	Physical	100%	Tech Specs and Const. Drawings,		SR	√
10.00 STRUCTURAL STEEL MATERIAL (For Site Fabrication)										
i	Procured by contractor	Structural steel procured from NTPC approved sources- Mechanical (YS, UTS, Elg, UT if specified),,and Chemical properties (CE as per IS)		A	Review	For each batch of each section delivered at site	Technical Specification and Construction Drawings, IS 2062, 8500		SR	√ Correlated MTC shall be verified.
10.1 PRE-WELDING REQUIREMENTS										
i		Welding Procedure Specification * (WPS*)	-	A	Review	Each Welding Process	Technical Specification and Construction Drawings, ASME-IX/ AWS D 1.1		WPS	√ *To be approved by CQA
ii		PQR and Welder's Qualification	-	A	Physical	Each welder	PQR/ WQR, AWS-D1.1/ASME-IX,		TR	√
iii		Welding consumables	-	B	Physical	Random in each shift	Approved WPS, Latest NTPC		SR	√
10.2 FIT-UP										
i		Marking and Cutting	Tape, ruler etc	B	Visual & Measurement	Each plate/ Section	Technical Specification and Construction Drawings/ Approved cutting plan		SR	
ii		Match markings for trial assembled components	-	B	Physical	Each fit-up	Technical Specification and Construction Drawings		SR	
iii		Weld Fit Up- Edge Preparation/ Gap/ Alignment	Tape, ruler etc	B	Physical	Each fit-up	Technical Specification and Construction Drawings, IS 7215		SR	√ If required suitable stiffeners shall be provided to prevent deflection.
10.3 PRE HEATING (wherever applicable)										
i		Pre-Heating Temperature	Thermal chalk	B	Measurement	Each pre-heating	Technical Specification and Construction Drawings, Approved WPS		SR	√
ii		Post Weld Heat Treatment (PWHT), if required	Thermo couple with time temperature recorder	A	Time & Temperature	Each PWHT	Technical Specification and Construction Drawings, Approved WPS		SR	√
10.4 WELDING REQUIREMENTS										
i		Sequence of welding	-	B	Physical	Random in each shift	Technical Specification and Construction Drawings, Agreed scheme		SR	
ii		Removal/ grinding of temporary attachments	-	B	Measurement	All cleats/ attachments	Technical Specification and Construction Drawings, Approved Drg.		SR	
iii		Completeness after welding- Dimensions/ distortion	Weld gauge	B	Visual	Each structure component	Technical Specification and Construction Drawings, IS 822		SR	√
iv		Completeness of welding (each butt & fillet weld)		B	Visual	Each structure component	Technical Specification and Construction Drawings, Approved Drg.		SR	√
10.50 NON DESTRUCTIVE AND DESTRUCTIVE TESTING										
10.5.1 FILLET WELDS										

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i		size and visual examination	As required/ agreed	B	Visual/ Measurement	100%	As per technical specifications and construction drawings, IS 822, AWS D 1.1	SR		As per requirement of NTPC Engineer
ii		Dye Penetration Test	As required/ agreed	B	Physical	5% of Weld length with min. 300mm at each loaction	As per technical specifications and construction drawings, IS 822, AWS D 1.1	SR		
10.5.2	BUTT WELDS									
i		Visual examination	As required/ agreed	B	Visual	Random in each shift	As per technical specifications and construction drawings, IS 822, AWS D 1.1	SR		As per requirement of NTPC Engineer
ii		DPT	As required/ agreed	B	Physical	100% on all butt welds after back gouging on root run and 10% on	As per technical specifications and construction drawings, IS 822, AWS D 1.1	IR		All butt welds to be back gouged before DPT
iii		Radiography Test	As required/ agreed	A	Physical	10%	As per technical specifications and construction drawings, IS 822, AWS D 1.1	IR	√	Wherever RT is not feasible UT to be carried out. In case of failure of any welds in SPOT/RT or UT the % of retesting shall be doubled at that particular loaction. Acceptance criteria of NDT on welds shall be as per AWS D1.1.
10.60	FOUNDATION CHECKS									
i		Dimensions and levels- Shape, lines (including diagonal checks)	Theodolite, Tape etc	B	Physical/ Measurement	Each Foundation	Tech Specs and Const. Drawings	SR	√	
ii		Foundation Bolts and Embedments- Verticality, Levels, pitch distance	Theodolite, Tape, Piano wires etc	B	Physical/ Measurement	Each Foundation	Tech Specs and Const. Drawings	SR	√	
10.70	PAINTING SYSTEM									
i		Paining Materials and accessories	-	A	Review of MTC	Each batch of delivery	Tech Specs and Const. Drawings	SR/MTC	√	Mfr.'s T.C. shall be correlated with the consignment received.
ii		Submission of painting methodology	-	B	For Review of painting system	Before start of painting work	Tech Specs and Const. Drawings			
iii		Surface prepration	As agreed / required	B	Physical /visual	Each Erection Mark	Tech Specs and Const. Drawings,	SR	√	
iv		Primer Thickness	Elcometer	B	Measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR	√	
v		DFT of paint	Elcometer	B	Measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR	√	
vi		Acceptance of painted surfaces	Elcometer	B	Visual and measurement	Each Erection Mark	Tech Specs and Const. Drawings	SR		
10.80	PRE-ASSEMBLY CHECKS									
i		Punch Erection marks and match marks on members	-	B	Visual/ Physical	Each structural member	Tech Specs and Const. Drawings			Markings for - Assembly designation, Part number, Weight, Any other important
ii		Pre-assembly as per match mark	-	B	Visual/ Physical	Each structural member	Tech Specs and Const. Drawings			
iii		Camber, sweep and total length after trial assembly of structure.	Theodolite, Tape, plumb, piano wires etc	B	Visual/ Physical	Each structural member	Tech Specs and Const. Drawings	SR	√	
iv		Control assembly check at shop	Theodolite, Tape, plumb, piano wires etc	B	Visual/ Physical	Every first and tenth set of identical structure	Tech Specs and Const. Drawings			
v		Completion of primer & intermediate coat of paint		B	Visual / Physical	Random	Tech Specs and Const. Drawings	SR		
10.90	ERECTION CHECKS									
i		Alignment, slopes, level, tolerances of erected member	Theodolite, Tape, plumb, piano wires etc	B	Measurement	Each structural member	Tech Specs and Const. Drawings	SR	√	
ii		Tightening of bolts/ Torque including foundation bolts with lock nuts	Wrench/ Torque wrench if specified	B	Visual/ Physical	Each structural member	Tech Specs and Const. Drawings	SR	√	
iii		Completion of all erection fillet & butt welds		B	Visual	Each structural member	Tech Specs and Const. Drawings	SR	√	

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iv		Acceptance of erected structure	Theodolite, Tape, plumb, piano wires etc	B	Visual/ Physical	Each erected structure	Tech Specs and Const. Drawings, IS 7215 and IS 12843	SR	√	
10.10	PERMANENT BOLTS AND NUTS AND WASHERS									
i		Material- Permanent mild steel Bolts, mild steel Nuts, High strength structural Bolts, Washers-Dimensions, properties, Class, storage along with MTC	Screw gauge, Vernier, Tape etc.	A	Physical and MTC Review	Once for each lot of delivery	Tech Specs and Const. Drawings	SR/MTC	√	
ii		Contact surfaces before bolting	-	B	Physical	Random before assembly for bolting	Tech Specs and Const. Drawings, IS 4000	SR		
iii		Inspection of the assembled bolts	-	B	Physical	Randomly in each shift for assembeled bolts	Tech Specs and Const. Drawings, IS 4000	SR		
iv		Tensioning	As agreed / required	B	Physical	Randomly during snug tight test and after full tensinoning	Tech Specs and Const. Drawings, IS 4000	SR	√	
v		Acceptance of installed bolts	-	B	Physical	Each bolt	Tech Specs and Const. Drawings	SR		
11.0	ROAD WORKS									
11.1	Construction of Sub-Grade and earthen/hard soulders									
i		Standard proctor Test	As per IS: 2720	B	Physical	One in every 2000 cum for each type and source of fill materials	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification, IS 2720 (Pt.VII)	SR/TR	√	In cutting or existing levelled ground - quantum of check shall be one per 1000 SQM
ii		Moisture content of fill before compaction	As per IS: 2720	B	Physical	One in every 2000 cum for each type and source of fill materials	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification, IS 2720 (Pt.II)	SR/TR		In cutting or existing levelled ground - quantum of check shall be one per 1000 SQM
iii		Dry density by core cutter method ---- OR---- Dry density in place by sand displacement method	As per IS: 2720	A	Physical	One in every 500 SQM area for each compacted layer.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification, IS 2720 (Pt. XXIX)/ IS 2720 (Pt. XXVIII),	SR/TR	√	Both for embankment and cut formation quantum of check - One in every 1000 SQM area for each compacted layer.
iv		Lines, grade and cross section	As required / agreed	B	Physical	One in every 500 SQM area	As per Tech Specs and Const. Drawings	SR		Template, straight edge
11.2	Water Bound Macadam (Non-Bituminous) for base course and sub-base course									
i		Aggregate Impact value	Aggragate Impact value Test Apparatus	B	Physical	One test per 200 cum of Test aggregate	As perTech Specs and Const. Drawings, Section 900 of MORTH specification,	SR	√	
ii		Grading	Set of IS Sieves	B	Physical	One test per 100 cum of aggregate	As perTech Specs and Const. Drawings, Section 900 of MORTH specification,	SR		
iii		Flakiness index and elongation index	Flakiness test gauge	B	Physical	One test per 200cum of agregate	As perTech Specs and Const. Drawings, Section 900 of MORTH specification,	SR		
iv		Atterberg Limits of binding material	Atterberg limits determination	B	Physical	One test per 25 cum of binding material	As perTech Specs and Const. Drawings, Section 900 of MORTH specification,	SR	√	
v		Atterberg Limits of portion of agreggate passing 425 micron sieve	Atterberg limits determination	B	Physical	One test per 100cum of aggregate	As perTech Specs and Const. Drawings, Section 900 of MORTH specification,	SR	√	
vi		Camber, surface, slope	As required / agreed	B	Physical	One in every 500 SQM area	As per Tech Specs and Const. Drawings	SR		Template, straight edge
11.3	Bituminous Macadam for base and binder course									
i		Quality of binder	Penetrometre with St. needle	B	Physical	No. of samples per Lot & tests as per IS:73, IS:217, IS:8887 as applicable	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification, IS 73	SR	√	

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ii		Aggregate Impact Value / Los angeles abrasion value	Aggregate Impact Value Test apparatus	A	Physical	Once per source	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
iii		Flakiness Index and elongation index of aggregates	Flakiness test gauge	B	Physical	One test per 50 cum of aggregate	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
iv		Stripping value of aggregate (Immersion tray test)	As required / agreed	B	Physical	Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
v		Water sensitivity of mix	As required / agreed	B	Physical	Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
vi		Grading of aggregates	Set of Sieves	B	Physical	Two test per day per plant both on individual constituents and mixed aggregate from dryer	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
vii		Water absorption of aggregate	As required / agreed			Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
viii		Soundness (Magnesium and Sodium Sulphate)	As required as per IS:2386	A	Physical	Once per source by each method and on every change of source	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
ix		Percentage of fractured faces	As required / agreed	B	Physical	When gravel is used one test per 50cum of aggregates	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
x		Binder content and aggregate grading	Bitumen extractor	A	Physical	Periodic, subject to a min of two tests per day per plant	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
xi		Control of Temperature of binder and aggregate for mixing and of the mix at the time of laying and rolling	Thermometer	B	Physical	At regular close intervals	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
xii		Rate of spread of mixed materials	As required / agreed	B	Physical	Regular control through checks of layer thickness	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
xiii		Density of compacted Layer	As required / agreed	A	Physical	One test per 250 sqm of area	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
11.4 Bituminous Surfacing - Open graded premix carpet and Seal coat										
i		Quality of binder	Penetrometre with St. needle	A	Physical	No. of samples per Lot & tests as per IS:73, IS:217, IS:8887 as applicable	IS 73, Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
ii		Aggregate Impact Value / Los angeles abrasion value	Aggregate Impact Value Test apparatus	B	Physical	One test per 50 cum of aggregate	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
iii		Flakiness Index and elongation index of aggregates	Flakiness test gauge	B	Physical	One test per 50 cum of aggregate	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
iv		Stripping value of aggregate (Immersion tray test)	As required / agreed	B	Physical	Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		

FIELD QUALITY PLAN										
		ITEM : CIVIL WORK		QP NO. :	1	PROJECT:	SOLAR PV PROJECT			
		SUB-SYSTEM : CIVIL AND STRUCTURAL STEEL WORKS		REV. NO. :	1	PACKAGE:				
				DATE :		CONTRACT NO.:				
				PAGE :	Page 10 of 10	MAIN CONTRACTOR				
Sl. No	Activity and operation	Characteristics / instruments		Class of check	Type of Check	Quantum Of check	Reference Document	Acceptance Norms	Format of Record	Remarks
1	2	3		4	5	6	7	8	9	D* 10
v		Water absorption test		B	Physical	Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
vi		Water sensitivity of mix	As required / agreed	B	Physical	Initially one set of 3 representative specimen per source, and on every change of source.	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
vii		Grading of aggregates	Set of Sieves	B	Physical	One test per 25 cum of aggregates	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
viii		Soundness (Magnesium and Sodium Sulphate)	As required as per IS:2386	A	Physical	Once per source by each method and on every change of source	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
ix		Polished stone value	As required as per BS:812(Part 114)	B	Physical	As required	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
x		Temperature of binder at application	Thermometer	B	Physical	At regular close intervals	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
xi		Binder content	Bitumen extractor	A	Physical	One test per 500 cum & not less than two tests per day	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
xii		Rate of spread of materials	As required / agreed	B	Physical	One test per 500 cum and not less than 2 tests per day	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
xiii		Percentage of fractured faces	Bitumen extractor	B	Physical	When gravel is used one test per 50cum of aggregates	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
11.5 Tack Coat/ Prime coat/ fog coat										
i		Quality of binder	Penetrometre with Standard needle	A	Physical	No. of samples per Lot & tests as per IS:73, IS:217, IS:8887 as	IS 73, Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
ii		Temperature of binder at application	Thermometer	B	Physical	At regular close intervals	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
iii		Rate of spread of binder	As required / agreed	B	Physical	One test per 500 cum and not less than 2 tests per day	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
11.6 Alignment, Level, Surface regularity and rectification										
i		Horizontal alignment, Surface levels and Surface regularity	As required / agreed	B	Physical	As per section 900 of MOSRTH specification	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR		
ii		Rectification	As required / agreed	B	Physical	Each rectification	As per Tech Specs and Const. Drawings, Section 900 of MORTH specification	SR	√	
Legend to be used: Class # : A = Critical, B=Major, C=Minor; SR, TR, MTC, LB										
Manufacturer/ Sub-supplier	Main-supplier	Categorization Witnessing & Accepting (As per NTPC QA&I System) Category 'A' FQA Engineer in association with Executing Engineer, Category 'B' Executing Engineer, Category 'C' Executing Engineer ;SR = Site Register , TR= Test Report, MfrTC = Manufacturer's Test Certificate				For NTPC USE 				
Signature		This document shall be read in conjunction with NTPC Tech. Specifications, BOQ, Drawings						REVIEWED BY	APPROVED BY	APPROVAL SEAL

COMMERCIAL TERMS & CONDITIONS				
RFQ No.SAMBOS001 Dt.08.07.2015 Due Date (Tech Bid): 29.07.2015				
SI No.	Terms	BHEL Term	Confirmation	Deviation / Remarks
1	Bidding	(a) Bid has to be submitted as Two Part – in two sealed covers-Techno Commercial Bid(Part-1) & Price Bid (Part-II)- clearly written on each cover both put in a single sealed envelope super-scribed with RFQ No. and Due date.	Complied	
		(b) Annexures-B & B1 to be submitted along with technical bid (Part-1) & Annexure-B2 to be submitted along with Price bid (Part-II).	Complied	
		(c) Clause-wise compliance to BHEL Purchase specification along with all documents as called in Technical specification to be submitted along with technical bid(Part-1).	Complied	
2	Price Basis	Firm i.e., from the date of PO to completion of supply if I&C is not applicable. If I&C is in supplier's scope, then the prices shall remain Firm till commissioning & handing-over of the complete system. (PVC clause not acceptable).	Acceptable / Not acceptable	
3	Terms of Delivery	Free On Road Basis to Project site :NTPC,ANANTPUR	Complied	
4	Delivery Period	(a) Supply : Twelve (12) weeks from the date of Drawing Approval. Drawing Submission : One (1) week from PO date.	Acceptable / Not acceptable	
		(b) I&C : Eight (8) weeks from the date Of Supply.	Acceptable / Not acceptable	
5	Payment Term	(a)Supply : 90% of basic Supply value + 100% of taxes, duties and freight charges will be paid with 45 days credit from the receipt of material. 2) 10% of basic Supply value (retention money) will be paid on submission of documents as a proof of receipt against supplementary invoice with proof of completion of I&C along with I & C charges (if any)+ against submission of PBG valid for Warranty Period+6 months Claim Period from BHEL Consortium Bank.	Acceptable / Not acceptable	
		(b) I&C: 100% on completion of I&C and certification line item wise on pro-rata basis.	Acceptable / Not acceptable	
		(c)For any deviation in payment term, the offer will be liable for loading as per Clause G of ITB,(Doc Ref : SCPV: BOS: 01-Rev 00)	Acceptable / Not acceptable	
6	Excise Duty	(a) To confirm whether applicable. If applicable, indicate prevailing rate of Excise duty.	Applicable / Not applicable	Prevailing rate of Excise duty : %
		(b) BHEL is trying to avail Customs Duty & Excise duty exemption through MNRE. Successful bidder shall support with all relevant documents failing which ED shall not be reimbursed.	Complied	
7	Sales Tax	(a) To confirm whether applicable. If applicable, indicate prevailing rate of Sales Tax against Form C.	Applicable / Not applicable	Prevailing rate of Sales Tax against Form C: %
		(b) For issue of form "C", vendor has to furnish "E1/E2" form.Please confirm that "E1/E2 Sale form" will be submitted.	Acceptable / Not acceptable	
		(c) Wherever E1/E2 transactions are made, CST paid by sub vendor will not be reimbursed (As it is input cost to vendor)	Complied	
8	Value Added Tax	Both are in the same State, VAT is applicable please indicate VAT applicable.	Acceptable/Not Acceptable	Prevailing rate of VAT : %
9	Octroi	To confirm whether applicable, if applicable indicate current rate of Octroi. If Applicable, the same will be in BHEL scope.	Complied	Octroi %
10	Service Tax	To confirm whether applicable, if applicable indicate current rate of Service Tax.	Applicable / Not applicable	Prevailing rate of Service Tax: %
		Furnish Service Tax Regn. No. Confirmation that Service Tax register is maintained.	Applicable / Not applicable	Service Tax Regn. No. S.Tax Register maintained : Yes/No

AUTHORISED SIGNATORY WITH SEAL

COMMERCIAL TERMS & CONDITIONS				
RFQ No.SAMBOS001 Dt.08.07.2015 Due Date (Tech Bid): 29.07.2015				
Sl No.	Terms	BHEL Term	Confirmation	Deviation / Remarks
11	Evaluation of L1 vendor	Over all L1 of Supply + I&C on "FOR" basis to site will only be considered.	Acceptable / Not acceptable	
12	Warranty	(a) Warranty for Supply : 18 months from date of supply or 12 months from I&C whichever is earlier (b) Workmanship / I&C : 12 months from I&C	Acceptable / Not acceptable	
13	Pre Shipment Inspection	Pre Shipment Inspection will be carried out by BHEL/Customer for which test report shall be sent one week in advance.	Acceptable / Not acceptable	
14	Penalty	(a) Penalty of 0.5% per week at the basic price of the good for undelivered quantity of supply portion, subject to a maximum of 10%. For Supply, Pre Shipment Inspection Call Letter Date (Receipt of test report) will be treated as delivery for purpose of penalty.	Acceptable / Not acceptable	
		(b) For any deviation in penalty term, the offer will be liable for loading as per Clause No. G, Point No.(b) of ITB (Doc Ref : SCPV: BOS: 01-Rev 00)	Acceptable / Not acceptable	
15	Road Permit	Road permit if applicable will be given by BHEL before Dispatch of ordered Items	BHEL	
16	PBG	(a) PBG shall be furnished in the BHEL prescribed format. (b) Deviation if any Please specify	Acceptable / Not acceptable	
17	Despatch Documents	Complete set of despatch documents in 3 sets shall be forwarded to BHEL directly. Despatch documents include Commercial Invoice, Excise Invoice (if ED is applicable), Lorry receipt (L/R), Packing list, Warranty certificate, Insurance intimation letter, & Original Performance Bank Guarantee (Directly from issuing bank to BHEL). One set of Invoice, Packing list and L/R shall be faxed immediately after despatch to BHEL-EDN, Bangalore.	Complied	
18	Reverse Auction	BHEL reserves the right to conduct Reverse auction.Procedure for the same will be informed by BHEL .	Acceptable / Not acceptable	
19	Other terms & conditions	For any other Terms and Conditions, kindly refer to the following: A: ITB (Doc Ref : SCPV: BOS: 01-Rev 00) B: GCC (General Conditions of Contract)	Acceptable / Not acceptable	
20	Validity	Quotation should remain valid for a period of 90 days from the due date.	Acceptable / Not acceptable	
21	Shipment	Kindly indicate the state from where the shipment will take place.	State/Place	
22	Documents Submission	All the documents pertaining to I&C as per Annexure-C as applicable to be submitted.	Enclosed/Not Enclosed	

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Address of Site:
50 MW Solar PV Project - P4 Block
NTPC Ltd.
Village: NP Kunta, Near Kadiri
Dist.: Anantpur
Andhra Pradesh - 515521

UNPRICED BID ENCLOSURE									
RFQ No.SAMBOS001 Dt.08.07.2015 Due Date (Tech Bid): 29.07.2015									
Sl No.	Short Text	Qty	Unit	Quoted	Taxes				Remarks
					ED %	CST %	VAT %	Service Tax%	
A SUPPLY									
1	PS0679054502: Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for inverter rooms as per clause 9.1 of BHEL spec PS-439-955 Rev 01. (Note: 1 set is for one inverter room).	9	ST	Yes / No				NA	Taxes Included
2	PS0679054510 :Supply of PEB architectural items such as doors, windows, rolling shutters etc for inverter rooms as per clause 9.2. of BHEL spec PS-439-955 Rev 01. (Note: 1 set is for one inverter room).	9	ST	Yes / No				NA	Taxes Included
3	PS0679059091:Supply of PEB structural materials such as columns,rafters, beams, purlins, steel sheets, insulation etc for security room as per clause 9.1.of BHEL spec PS-439-955 Rev 01.	1	ST	Yes / No				NA	Taxes Included
4	PS0679059105: Supply of PEB architectural items such as doors, windows etc for security room as per clause 9.2.of BHEL spec PS-439-955 Rev 01.	1	ST	Yes / No				NA	Taxes Included
B INSTALLATION & COMMISSIONING									
5	PS0679054537: I&C: Erection of PEB inverter room structural materials as per clause 9.3 of BHEL spec PS 439-955 Rev 01. (Note: 1 AU representes one inverter room)	9	AU	Yes / No	NA	NA	NA		Taxes Included
6	PS0679054545: I&C: Erection of PEB inverter room architectural items as per clause 9.4 of BHEL spec PS-439-955 Rev 01. (Note: 1 AU represents one inverter room)	9	AU	Yes / No	NA	NA	NA		Taxes Included
7	PS0679059113: I&C: Erection of PEB security room structural materials as per clause 9.3 of BHEL spec PS-439-955 Rev 01.	1	AU	Yes / No	NA	NA	NA		Taxes Included
8	PS0679059121: I&C: Erection of PEB security room architectural items as per clause 9.4 of BHEL spec PS-439-955 Rev 01.	1	AU	Yes / No	NA	NA	NA		Taxes Included
C FREIGHT CHARGE INCLUDING SERVICE TAX ON 25% OF FREIGHT VALUE									
9	**Freight Charge including Service Tax on Freight	LUMPSUM		Yes / No	NA	NA	NA	NA	**Freight : Included
D INSURANCE									
10	**Insurance	LUMPSUM		Yes / No	NA	NA	NA	NA	**Insurance : Included

NOTE: 1.YOUR QUOTED PRICES SHALL BE on "FREE ON ROAD" basis to Project Site: **NTPC, ANANTPUR.**

2.PLEASE INDICATE TAXES : ED, VAT/CST, SERVICE TAX CLEARLY APPLICABLE AS ON DATE.

3. USE THIS FORMAT FOR COMPLIANCE(REPRODUCING ON YOUR LETTER HEAD IS ACCEPTABLE).

4. ***ED shall not be considered as the project is under MNRE approval. Hence all inclusive rate for Supply is to be quoted without ED for Sl No.1-4. However, the percentage of taxes considered against each item may pls be indicated in the column of Taxes for the purpose of**

5.Over all L1 of Supply + I&C on "FOR" basis to site will only be considered.

6. SUCCESSFUL VENDOR SHALL PROVIDE BOM ALONG WITH MAKE MODEL, TEST CERTIFICATE, CALIBRATION REPORT & QTY OF EACH ITEM SHALL BE FURNISHED TO BHEL/NTPC.

7. SUCCESSFUL VENDOR SHALL SUBMIT THE BILLING BREAK UP FOR SUPPLY & I&C FOR APPROVAL AND IMPLEMENTATION.

AUTHORISED SIGNATORY WITH SEAL

PRICE BID ENCLOSURE										
RFQ No.SAMBOS001 Dt.08.07.2015 Due Date (Tech Bid): 29.07.2015										
Sl No.	Short Text	Qty	Unit	UNIT RATE (Rs.)	TOTAL RATE (UNIT RATE*QTY) (Rs.)	Taxes				Remarks
						ED %	CST %	VAT %	Service Tax%	
A	SUPPLY									
1	PS0679054502: Supply of PEB structural materials such as columns, rafters, beams, purlins, steel sheets, insulation etc for inverter rooms as per clause 9.1 of BHEL spec PS-439-955 Rev 01. (Note: 1 set is for one inverter room).	9	ST						NA	Taxes Included
Unit Rate in Words Rs.										
2	PS0679054510 :Supply of PEB architectural items such as doors,windows, rolling shutters etc for inverter rooms as per clause 9.2. of BHEL spec PS-439-955 Rev 01. (Note: 1 set is for one inverter room).	9	ST						NA	Taxes Included
Unit Rate in Words Rs.										
3	PS0679059091:Supply of PEB structural materials such as columns,rafters, beams, purlins, steel sheets, insulation etc for security room as per clause 9.1.of BHEL spec PS-439-955 Rev 01.	1	ST						NA	Taxes Included
Unit Rate in Words Rs.										
4	PS0679059105: Supply of PEB architectural items such as doors, windows etc for security room as per clause 9.2.of BHEL spec PS-439-955 Rev 01.	1	ST						NA	Taxes Included
Unit Rate in Words Rs.										
B	INSTALLATION & COMMISSIONING									
5	PS0679054537: I&C: Erection of PEB inverter room structural materials as per clause 9.3 of BHEL spec PS 439-955 Rev 01. (Note: 1 AU representes one inverter room)	9	AU				NA	NA	NA	Taxes Included
Unit Rate in Words Rs.										
6	PS0679054545: I&C: Erection of PEB inverter room architectural items as per clause 9.4 of BHEL spec PS-439-955 Rev 01. (Note: 1 AU represents one inverter room)	9	AU				NA	NA	NA	Taxes Included
Unit Rate in Words Rs.										
7	PS0679059113: I&C: Erection of PEB security room structural materials as per clause 9.3 of BHEL spec PS-439-955 Rev 01.	1	AU				NA	NA	NA	Taxes Included
Unit Rate in Words Rs.										
8	PS0679059121: I&C: Erection of PEB security room architectural items as per clause 9.4 of BHEL spec PS-439-955 Rev 01.	1	AU				NA	NA	NA	Taxes Included
Unit Rate in Words Rs.										
C	FREIGHT CHARGE INCLUDING SERVICE TAX ON 25% OF FREIGHT VALUE									
9	**Freight Charge including Service Tax on Freight	LUMPSUM		**Freight : Included						
D	INSURANCE									
10	**Insurance	LUMPSUM		**Insurance : Included						

NOTE: 1.YOUR QUOTED PRICES SHALL BE on "FREE ON ROAD" basis to Project Site: **NTPC, ANANTPUR.**

2.PLEASE INDICATE TAXES : ED, VAT/CST, SERVICE TAX CLEARLY APPLICABLE AS ON DATE.

3. USE THIS FORMAT FOR COMPLIANCE(REPRODUCING ON YOUR LETTER HEAD IS ACCEPTABLE).

4. ***ED shall not be considered as the project is under MNRE approval. Hence all inclusive rate for Supply is to be quoted without ED for Sl No.1-4. However, the percentage of taxes considered against each item may pls be indicated in the column of Taxes for the purpose of availing Tax Credit.**

5.**Over all L1 of Supply + I&C on "FOR" basis to site will only be considered.**

6. SUCCESSFUL VENDOR SHALL PROVIDE BOM ALONG WITH MAKE MODEL, TEST CERTIFICATE, CALIBRATION REPORT & QTY OF EACH ITEM SHALL BE FURNISHED TO BHEL/NTPC.

7. SUCCESSFUL VENDOR SHALL SUBMIT THE BILLING BREAK UP FOR SUPPLY & I&C FOR APPROVAL AND IMPLEMENTATION.

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LIST OF INTERNATIONAL AIRPORTS

Sl. No	Country	Air Ports
1	Austria	Vienna, Linz, Graz
2	Australia	Sydney, Melbourne, Perth
3	Belgium	Antwerp, Brussels
4	Canada	Toronto, Montreal
5	China	Shanghai
6	Cyprus	Lamaca
7	Czech Republic	Prague (Via Frankfurt)
8	Denmark	Copenhagen
9	Egypt	Cairo
10	Finland	Helsinki
11	France	Paris (Rossy), Lyon
12	Germany	Darmstadt, Manheim, Nurnberg, Hamburg, Stuttgart, Munich, Koln, Dusseldorf & Hannover, Frankfurt, Berlin
13	Hong Kong	Hong Kong
14	Italy	Rome, Milan, Turin, Bologna, Florence
15	Ireland	Dublin
16	Israel	Telaviv
17	Japan	Tokyo, Osaka
18	Malaysia	Kuala lumpur, Penang
19	Netherlands	Amsterdam, Rotterdam
20	New Zealand	Auckland
21	Norway	Oslo
22	Oman	Muscat
23	Philippines	Manila
24	Romania	Bucharest
25	Russia	Moscow
26	Saudi Arabia	Riyad
27	Singapore	Singapore
28	Slovakia	Bartislowa
29	South Africa	Johannesburg, Durban
30	South Korea	Kimpo
31	Spain	Barcelona
32	Sweden	Stockholm, Gothenburg, Milano
33	Switzerland	Basle, Zurich, Geneva
34	Taiwan	Taipei
35	U.A.E.	Dubai
36	U.K.	Landon (Heathrow), Newcastle, Oxford, Cheltham, Bristol, Welling borough, Birmingham, East Midland, Manchester, Leeds, Glasgow.
37	U.S.A.	New York, Chicago, San Francisco, Los Angeles, Atlanta
38	Ukraine	Kiev

Terms & Conditions of Reverse Auction

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

- (1) For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- (2) Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- (3) BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- (4) In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- (5) Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- (6) Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- (7) In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- (8) Reverse auction will be conducted on scheduled date & time.
- (9) At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- (10) The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- (11) In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL"s standard practice.
- (12) Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the „Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.
- (13) If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- (14) The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- (15) In case BHEL decides to go for reverse auction, the H1 bidder(s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

PERFORMANCE BANK GUARANTEE
(FOR FOREIGN PURCHASE ORDERS)
BANK NAME AND ADDRESS

Bharat Heavy Electricals Limited (BHEL),
 Electronics Division,
 PB No. 2606,
 Mysore Road,
 BANGALORE- 560 026
 INDIA
 Dear Sirs,

Ref: CONTRACT PERFORMANCE GUARANTEE.

WHEREAS you have entered into a contract reference No PO NO. _____ with M/s _____ having its registered office at _____ for the supply of _____ as detailed in your purchase order No. _____ which is hereinafter referred to as "the said contract" and WHEREAS M/s _____ has undertaken to produce a Bank Guarantee for 10% (Ten Percent) of _____ the contract price amounting to _____ (_____) to secure its obligations to Electronics Division, BHEL having its registered office at New Delhi for the performance of the contract including the warranty of the equipment supplied, We _____ Bank _____ hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of M/s _____ that in the event Bharat Heavy Electricals Ltd. (B.H.E.L.) declares to us in writing that M/s _____ has not fulfilled any obligation according to the contractual obligation of the said contract, to pay you on demand and without demur to Bharat Heavy Electricals Ltd., Electronics Division , Mysore Road, P.B.No. 2606, Bangalore-560 026, India an amount of _____ (in words _____) subject to as may be determined below:

- 1) Notwithstanding any right M/s. _____ may have directly against you or any disputes raised by M/s _____, Your written demand shall be conclusive evidence to us that repayment is due under the terms of the said contract and shall be binding on us.
- 2) We shall not be discharged or released from this undertaking and Guarantee by any arrangements, variations made between you and M/s. _____ with or without our consent and Knowledge or by any alterations in the obligations of M/s. _____ by any forbearance whether as to payment, time, performance or otherwise.
- 3) This guarantee shall remain valid until the end of twenty-four weeks after the close of the warranty period or until the same is reported by BHEL to us whichever is earlier.
- 4) We agree and undertake not to revoke this guarantee during its validity unless discharged in writing by you subject to the provision of clause (7) below.
- 5) This guarantee shall be a continuing guarantee subject to the foregoing and shall not be discharged by any change in the constitution of the Bank or M/s. _____.
- 6) This guarantee shall be governed by and constructed in accordance with the Laws of India.
- 7) At any time _____ Bank may render this guarantee null and void by paying to Bharat Heavy Electricals Ltd. the full amount being _____ (in words _____)

Note:

- (1) To be executed in Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted

PERFORMANCE BANK GUARANTEE
(FOR INDIGENOUS PURCHASE ORDERS)

THIS DEED OF GUARANTEE made and executed on the _____ day of _____ (year), by the _____ (Bank), registered under the Companies Act 1956/Nationalized Bank constituted under the Banking Companies (acquisition and transfer of undertakings) Act constituted under the State Bank of India Act / Subsidiary Banks Act, having its registered / head office at _____ represented herein by its Branch Manager / authorized representative Sri. _____ & Sri. _____ (Hereinafter called 'guarantor' which term shall mean and include its successors and assigns)

IN FAVOUR OF BHARAT HEAVY ELECTRICALS LIMITED

_____ (Buyer's Name), a company registered under the companies Act, 1956 having its registered office at BHEL House at Siri Fort , New Delhi -100 049 and its Electronics Division at Mysore road, Bangalore-26 (hereinafter referred to as the 'Company' Which term shall include its successors and assigns):

Whereas the company has placed an order on _____ (State the name of _____ the company / firm and its address) (hereinafter referred to as the 'Supplier' which term shall mean and include its liquidators, successors and assign) for the supply of system under order / Contract No. _____ Dt. _____

AND WHEREAS the supplier has agreed to supply the materials and carryout the works as detailed and in accordance with the terms set out in the said order/contract.

AND WHEREAS the company is not required to pay to the supplier a sum of Rupees _____ being the 10% of the value of the goods supplied / Works performed / Services rendered under the said order / contract between the supplier and the company, till the company is satisfied with the mechanical Warranties and the performance standards stipulated in the said order / contract between the company and the supplier has been duly fulfilled, except against a Bank Guarantee for the said sum of Rs _____ in favour of the company by reputed Bank, in which case the company has agreed to make payment to the supplier of the said sum of Rupees _____ being (...%) of the value of the goods supplied / Works performed / Services rendered under the agreement between the supplier and the company and the Guarantor has at the request of the supplier, agreed to furnish this Guarantee subject to the terms and conditions stated below:

NOW THIS DEED WITNESSES THAT IN pursuance of the above said agreement, the guarantor hereby agrees and covenants With company is as follows :-

- 1) That during the period this contract of Guarantee remains effectual, the guarantor shall be liable in respect of the amount due and owing to the company in respect of the payments to the extent of Rs _____ (in words) _____ against any loss or damage caused to or suffered by the company by reasons of any breach of the terms of the said order / contract / Agreement by the supplier.
- 2) The Guarantor hereby undertakes to pay the amounts due and payable under this guarantee without any demur, merely on demand from the company intimating that the amount claimed is due by way of loss or damage caused to or suffered or would be caused or suffered by the supplier of any terms contained in the said order / contract. Any such demand made on the guarantor shall be conclusive as regards the amount due and payable by the Guarantor irrespective of the fact whether the Contractor / supplier admits or denies.
- 3) The Guarantor further agrees that the agreement herein contained shall remain in force and effect till all the supplies to be made / Works to be performed / Services to be rendered under the said order / contract / agreement are completed to the entire satisfaction of the company or till company certifies that the terms and conditions of the said order / contract / agreement have been fully and properly carried out by the said supplier and accordingly discharges the Guarantee. Unless a demand or claim under this guarantee is made on the guarantor in writing on or before the expiry of claim period indicated in clause 6 below, the guarantor shall be discharged from all the liability under this guarantee thereafter.
- 4) The guarantor further agrees with the company that the company shall have the fullest liberty without the consent of the guarantor and without effecting in any manner the obligations of the guarantor hereunder to vary

any of the terms of the said order / contract / agreement or extend the time of performance by the said supplier from time to time or refrain from exercising the power exercisable by the company against the said supplier or to forebear or omit to enforce any of the terms and conditions relating to the said order / contract / agreement, and the guarantor shall not be relieved of its liability in whole or in part , by reason of any act, commission or forbearance on the part of the company or by reason of any such variation, or extension being granted to the said

supplier or by reason of any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving the guarantor.

- 5) The guarantor undertakes not to revoke this guarantee during its currency except with the previous consent of the company in writing.
- 6) Notwithstanding anything herein above contained, the liability of the guarantor under these presents is restricted to Rs _____ . The guarantee shall be in force till its expiry on _____ unless a demand is made on _____ the guarantor within SIX months from the date of expiry, all the liability of the guarantor under this guarantee shall stand fully discharged. The decision of the claimant in regard to breach of contract is final and binding on the Bank.

IN WITNESS whereof, the guarantor, acting through it authorized representative has executed this deed of Guarantee on the day, month and year first above written.

(Seal of the Bank to be affixed)

WITNESS

- 1.
- 2.

Note:

- (1) To be executed in INR 100 Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted.

LIST OF CONSORTIUM BANKS**BANK GUARANTEE (BG) SHALL BE ISSUED FROM THE FOLLOWING BANKS ONLY:****Nationalized Banks**

- 1 Allahabad Bank
- 2 Andhra Bank
- 3 Bank of Baroda
- 4 Canara Bank
- 5 Corporation Bank
- 6 Central Bank
- 7 Indian Bank x
Corporation Ltd. (HSBC)
- 8 Indian Overseas Bank
- 9 Oriental Bank of Commerce
- 10 Punjab National Bank
- 11 Punjab & Sindh Bank
- 12 State Bank of India
- 13 State Bank of Hyderabad
- 14 Syndicate Bank
- 15 State Bank of Travancore
- 16 UCO Bank
- 17 Union Bank of India
- 18 United Bank of India
- 19 Vijaya Bank

Public Sector Banks

- 20 IDBI

Foreign Banks

- 21 CITI Bank N.A
- 22 Deutsche Bank AG
- 23 The Hong Kong and Shanghai Banking
- 24 Standard Chartered Bank
- 25 The Royal Bank of Scotland N.V.
- 26 J P Morgan

Private Banks

- 27 Axis Bank
- 28 The Federal Bank Limited
- 29 HDFC Bank
- 30 Kotak Mahindra Bank Ltd
- 31 ICICI Bank
- 32 IndusInd Bank
- 33 Yes Bank

Note:

- BG should be directly sent to BHEL by the issuing Bank along with covering letter.
- All BGs must be issued from BHEL consortium banks listed above.
- BHEL may accept BG from other Public Sector Banks also which are not listed above.
- BG will not be accepted from Scheduled Banks and Co-operative Banks.
- In case BG is issued from a bank located outside Indian Territory and is issued in foreign currency, the BG must be routed through and confirmed by any one of the above mentioned consortium banks.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.

DISCREPANCY IN WORDS & FIGURES – QUOTED IN PRICE BID

Following guidelines will be followed in case of discrepancy in words & figures-quoted in price bid:

- (a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- (d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

BENEFITS FOR MSE SUPPLIERS AS PER MSMED ACT 2006 AND PUBLIC PROCUREMENT POLICY 2012

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of Acknowledgement in EM II).

Or

Valid NSIC certificate or EM II certificate along with attested copy of CA certificate (Format enclosed: ANNEXURE VIII) where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited).

Date to be reckoned for determining the deemed validity will be the date of bid opening (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 if any deficiency in the above required 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. Documents should be notarized or attested by a Gazette officer.

CERTIFICATE BY CHARTERED ACCOUNTANT ON LETTER HEAD

This is to certify that M/s
.....(Hereinafter referred to as `Company`) having
its registered office at is registered under MSMED Act 2006, (Entrepreneur
Memorandum No ((Part-II) dtd Category:
(Micro/Small). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the
latest audited financial year **as per MSMED Act 2006 is as follows:**

1. For Manufacturing Enterprises: Investment in plant and machinery (i.e., original cost excluding land
and building and the items specified by the Ministry of Small Industries vide its notification No.S.O.1722
(E) dated October 5, 2006:

Rs.Lacs.

2. For Service Enterprises: Investment in equipment (original cost excluding land and building
and furniture, fittings and other items not directly related to the service rendered or as may be
notified under the MSMED Act, 2006:

Rs.Lacs.

The above investment of Rs. Lacs in within permissible limit of Rs..... Lacs
for.....Micro / Small (Strike off which is not applicable) Category under MSMED
Act 2006.

(or)

The company has been graduated from its original category (Micro/Small) (Strike off which is not
applicable) and the date of graduation of such enterprise from its original category is
.....(dd/mm/yy) which is within the period of 3 years from the date of graduation of such enterprise
from its original category as notified vide S.O.No.3322(E) dated 01.11.2013 published in the gazette
notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership Number -

Seal of Chartered Accountant

PURCHASE PREFERENCE FOR MSE VENDORS:

MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 20% of the requirement against this tender provided

1. The MSE vendor matches the L1 price
2. L1 price is from a non MSE vendor
3. L1 price will be offered to the nearest vendor nearest to L1 in terms of price ranking (L2 – nearest to L1). In case of non-acceptance by the MSE vendor (L2) next ranking vendor will be offered who is within the L1 + 15% band (if L3 is also within 15% band).
4. 20% of the 20% (i.e. 4% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) and (2) are fulfilled.

REQUEST FOR C FORM

NAME OF VENDOR :

VENDOR CODE ALLOTTED BY BHEL :

E mail id for c form correspondence :

BHEL PO NO	INVOICE NO	INVOICE DATE	INVOICE AMOUNT	SUPPLY FROM - STATE	SUPPLY TO - STATE	CST TIN NUMBER (SUPPLIER)	INVOICE AMOUNT EXCLUDING FREIGHT	C FORM QTR	YEAR	SUPPLY TO BHEL EDN / SITE
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Please note that one 'C' form will be issued for a quarter.

Any modification and cancellation of c form is not possible from our end since it is generated online therefore include all invoices pertaining to quarter in your request
Also check the data are correct in all respect

General Instruction:

1. C form request should be given only in this file.
2. Amount should be 100% of Invoice value but should Not include freight, Insurance etc.
3. PO No. should be numeric, starting with 4 and has 10 digits
4. For every quarter separate file to be provided
5. All Invoices pertaining to the relevant quarter to be included.
6. No corrections will be entertained once c-form is issued.

**Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form**

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): CREATE CHANGE

BHEL Vendor / Supplier Code:	<input type="text"/>
Company Name :	<input type="text"/>
Permanent Account Number(PAN):	<input type="text"/>
Address	<input type="text"/>

City: <input type="text"/>	PINCODE <input type="text"/>	STATE <input type="text"/>
----------------------------	------------------------------	----------------------------

Contact Person(s)	<input type="text"/>
Telephone No:	<input type="text"/>
Fax No:	<input type="text"/>
e-mail id:	<input type="text"/>

Bank Name:	<input type="text"/>
Bank Address:	<input type="text"/>
Bank Telephone No:	<input type="text"/>
Bank Account No:	<input type="text"/>
Account Type: Savings/Cash Credit	<input type="text"/>
9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank	<input type="text"/>
Bank swift Code(applicable for EFT only)	<input type="text"/>
Bank IFSC code(applicable for RTGS)	<input type="text"/>
Bank IFSC code(applicable for NEFT)	<input type="text"/>

I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.

If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.

This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.

I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone NO. with STD Code

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date: _____ (.....)
Place: _____ Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:
Bharath Heavy Electricals Ltd,
Attn:
Electronics Division, Mysore Road,
BANGALORE - 560 026

In case of any Query, please call : concerned Purchase Executive.

Terms & Conditions of Reverse Auction

Against this enquiry (**RFQ No.**) for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry (**RFQ No.**)) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g. EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the „Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

ANNEXURE-A
BUSINESS RULES FOR REVERSE AUCTION

This has reference to tender no **(RFQ NO.) BHEL** shall finalise the Rates for **Supply of Transformers for various** Projects through Reverse Auction mode. BHEL has made arrangement with (Service Provider), who shall be BHEL's authorized service provider for the same. Bidders should please go through the guidelines given below and submit acceptance of the same.

The technical & commercial terms are as per (a) BHEL Tender Enq. No., (b) Bidders' technical & commercial" bid and (c) subsequent correspondences between BHEL and the bidders, if any.

1. Schedule for reverse auction:

The Reverse Auction is tentatively scheduled on **DD.MM.YYYY**:

Online Sealed Bid: Start Time: 00.00 Hrs

Close Time: 00.00 Hrs

Online Reverse Auction: Start Time: 00.00 Hrs

Close Time: 00.00 Hrs

2. **Auction extension time:** If a bidder places a bid in the last **05 minutes** of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another **05 minutes**, for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last **05 minutes** and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto-extension will not take place even if that bid might have come in the last **05 minutes**. In case, there is no bid in the last **05 minutes** of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to (Service Provider) with a copy to BHEL within **15 minutes** from the initial closing time of Online Reverse Auction.

3. **Bid price:** The Bidder has to quote the F.O.R. destination Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, ED + cess (if applicable), CST against C-form, Freight (bidder to provide original Freight paid receipt), insurance charges, etc. including loading (if indicated by BHEL due to deviations in commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of Landed cost.

Note: For the consideration of L1 bidder, the bid value shall be reduced by loading amount, if applicable.

4. **Bidding currency and unit of measurement:** Bidding will be conducted in {*Indian Rupees per Unit*} of the material as per the specifications.

In case of foreign currency bids, exchange rate (TT selling rate of State Bank of India) as on scheduled date of tender opening (Part-I bid in case of two part bid) shall be considered for conversion in Indian Rupees.

5. **Validity of bids:** Price shall be valid for **8 weeks** from the date of reverse auction. These shall not be subjected to any change whatsoever.

6. **Lowest bid of a bidder:** In case the bidder submits more than one bid, the lowest bid at the end of Online Reverse Auction will be considered as the bidder's final offer to execute the work.

7. **Post auction procedure:** BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.

8. **Procedure of Reverse Auctioning:**

i. **Online Sealed Bid:** This duration of online sealed bid will be **30 minutes**. All bidders have to submit their online sealed bids during this period.

ii. **Online Reverse Auction:** The "opening price" i.e. start price for RA and "bid decrement" will be decided by BHEL.

iii. **If BHEL decides the lowest online sealed bid as the starting price, then the lowest bidder in online sealed bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1.**

iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become "L1" and this continues as an iterative process.

v. After the completion of the online reverse auction, the Closing Price (CP) shall be available for further processing.

9. If no bid is received in the auction system/ website within the specified time duration of the online RA, then BHEL will scrap the online reverse auction process and proceed with the conventional mode of tendering (opening of the envelope sealed bids earlier submitted by the bidders).

In cases where no bidder accepts the start price, the RA may be treated as failed and sealed envelope price bids of all the techno-commercially qualified bidders shall be opened and the tender processed accordingly. **Wherever the techno-commercially acceptable bidder(s) had agreed to participate in the RA and had failed to submit the online sealed bid, the envelope sealed bids of such bidder(s) shall not be entertained.** Wherever, the evaluation is done for individual items of the package, and no bid is received for some of the item(s), RA will be considered as failed for these item(s), re-reverse auction/ retendering will be conducted for these items.

10. **Only those bidders who have submitted the "online sealed bid" within the scheduled time shall be eligible to participate further in RA process. However, the H1 bidder(s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.**

11. Any commercial/ technical loading shall be intimated to bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during online sealed bid & Online Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders.

12. Computerized reverse auction shall be conducted by BHEL through (Service Provider), on pre-specified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA if a bidder is not able to bid and requests for extension of time by fax/ e-mail/ phone then time extension of additional **15 minutes** will be given by the service provider provided such requests come before **5 minutes** of auction closing time. However, only one such request per bidder can be entertained.

Despite this extension if bidder fails to upload his prices due to extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the "bidders" responsibility/ decision to send fax communication immediately to (Service Provider), furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price on line so that the service provider will upload that price on line on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable/ legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be uploaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time /reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor (Service Provider) is responsible for such eventualities.

13. Proxy bids: Proxy bidding feature is a pro-bidder feature to safe guard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process.

The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid.

Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant.

In case of more than one proxy bid, the system shall bid till it crosses the threshold value of 'each lowest proxy bid' and thereafter allow the competition to decide the final L1 price.

Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

14. Bidders are advised to get fully trained and clear all their doubts such as refreshing of Screen, quantity being auctioned, tender value being auctioned etc.

15. (Service Provider), shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. (Service Provider) shall also explain the bidders, all the rules related to the Reverse Auction/ Business Rules Document to be adopted along with bid manual. Bidders are required to give their compliance on it before start of bid process.

16. Successful bidder shall be required to submit the final prices, quoted during the Online Reverse Auction in **Annexure -C** after the completion of auction to (Service Provider) **besides** BHEL, duly signed and stamped as token of acceptance without any new condition other than those already agreed to before start of auction.

17. Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines in vogue.

18. Bidder's bid will be taken as an offer to execute the work/ supplies the item as per enquiry no **(RFQ NO.)**. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines in vogue.

19. Bidders shall be assigned a **Unique User Name & Password** by BHEL or (Service Provider). **Bidders** are advised to change the Password and edit the information in the Registration Page after the receipt of initial Password from BHEL/ (Service Provider) to ensure confidentiality. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidder's company.

20. Bidders shall be able to view the following on their screen along with the necessary fields during Online Reverse Auction:

a. Leading (Running Lowest) Bid in the Auction (only total price of package)

b. Bid Placed by the bidder

c. Start Price

d. Decrement value

21. After receipt of the system report from the Service Provider after completion of the Online Reverse Auction, BHEL will decide upon the winner. BHEL's decision on award of contract shall be final and binding on all the Bidders.

22. BHEL reserves the right to cancel the Reverse Auction process/ tender at any time, before ordering, without assigning any reason.

23. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.

24. Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.

25. Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance Form as per Annexure-B.

26. BHEL can decide to extend, reschedule or cancel any Auction with prior intimation to all bidders.

27. If there is any clash between this business document and the FAQ available, if any, in the web site of (Service Provider) the terms& conditions given in this business document will supersede the information contained in the FAQs. Any changes made by BHEL/service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time.

Annexure – B
Process Compliance Form

(The bidders are required to print this on their company's letterhead and sign, stamp before faxing)

To

(Service Provider)

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for **(Package Name)** against BHEL enquiry/ RFQ no. **_____**

This letter is to confirm that:

1. The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
2. We have studied the Reverse Auction Terms & Conditions and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
3. We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
4. We also confirm that, in case we become L1 bidder, we will email/ fax the price confirmation & break up of our quoted price (including that of line items) as per Annexure - C within two working days (of BHEL) after completion of RA event, besides sending the same by registered post/courier both to M/s. BHEL and (Service Provider).

We, hereby confirm that we will honour the Bids placed by us during the auction process.

With regards

Signature with company seal

Name –

Company / Organization

Designation within Company / Organization

Address of Company / Organization

- Sign this document and Fax it to (Service Provider) to the contact person prior to start of the Event.
- Attach a signed copy of the RFQ document along with the Agreement Form/ Process Compliance form and send to (Service Provider)

Annexure - C
RA price confirmation and breakup

To

M/s. Service Provider

CC: M/s. BHEL EDN
Mysore Road,
Bangalore-560026

Sub: Final price quoted during Reverse Auction and price breakup

Dear Sir,

We confirm that we have quoted Rs. _____ **for items covered under tender enquiry No.**

Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, applicable taxes & duties, freight and insurance charges upto District,State and other as per NIT} as our final landed prices as quoted during the Reverse Auction conducted today DD.MM.YYYY which will be valid for a period of ____ days.

The price break-up including that of line items is as given below.

Total:

Thanking you and looking forward to the valuable order from BHEL.

Yours sincerely,

For _____

Name:

Company:

Date:

Seal:



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भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

SCPV: BOS: 002- Rev 00

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT

These 'General Commercial Conditions for Contract for Purchase' hereinafter referred to as GCC apply to all enquiries, tenders, requests for quotations, orders, contracts and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited and any of its units, regions or divisions (hereinafter referred to as "BHEL" or the Purchaser) or its projects / customers.

Any deviations from or additions to these GCC require BHEL's express written consent. The general terms of business or sale of the vendor shall not apply to BHEL. Acceptance, receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the vendor have been accepted.

Orders, agreements and amendments thereto shall be binding if made or confirmed by BHEL in writing. Only the Purchasing department of BHEL is authorized to issue the Purchase Order or any amendment thereof.

Definitions: Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- a) 'The Purchaser' means Bharat Heavy Electricals Limited, Electronics division, Mysore road, Bangalore 560 026, a Unit of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act having its registered office at BHEL House, Siri Fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- b) 'The vendor' means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the vendor's successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor or Supplier.
- c) 'Contract' shall mean and include the Purchase Order incorporating various agreements, viz. tender/ RFQ, offer, letter of intent / acceptance / award, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection / Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided by BHEL or his authorized nominee and the samples or patterns if any to be provided under the provisions of the contract.
- d) 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.
- e) "Bidder" shall mean duly established reputed organisation , manufacturer etc. having requisite financial and technical capability and experience of participating in the bid invited by the purchaser for the tender.
- f) Bid- The term "bid" or "bidding" can also relate to the documented Offer submitted in response to a request for quotation (RFQ) /Tender.

Interpretation:

In the contract, except where the context requires otherwise:

- a) words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and

- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

1. **Price Basis:** All prices shall be firm until the purchase order is executed / completed in all respects. No price variations / escalation shall be permitted unless otherwise such variations / escalations are provided for and agreed by BHEL in writing in the purchase order.
2. **Validity:** The offer will be valid for a period of 90 days from the date of technical bid opening date. Validity beyond 90 days, if required, will be specified in the SCC (special conditions of contract).
3. **Ordering and confirmation of Order:** Vendor shall send the order acceptance on their company letter head within two weeks from the date of Purchase Order or such other period as specified / agreed by BHEL. BHEL reserves the right to revoke the order placed if the order confirmation differs from the original order placed. The acceptance of goods/services/supplies by BHEL as well as payments made in this regard shall not imply acceptance of any deviations.
The purchase order will be deemed to have been accepted if no communication to the contrary is received within two weeks (or the time limit as specified / agreed by BHEL) from the date of the purchase order.
4. **Documentation:** After receipt of Purchase Order, vendor should submit required documents like drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report , O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.
At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents /specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.

5. TERMS OF DELIVERY:

FOR IMPORTED PURCHASE:

Price offered shall be for goods packed and delivered FOB Seaport,/FCA International Airport including packing, forwarding, Handling, Ancillary charges like processing of Sight Draft, negotiation charges of bank, Export declaration, Certificate of origin etc.

Packing shall be Air/Sea worthy, best suitable for trans-shipment and to take care of transit damages. If containerized, no. of containers & size of container shall be mentioned. Packing weight (gross & net) Packing dimensions shall be given prior to shipment to ascertain whether the consignment can be carried on standard cargo in contract or as ODC.

Wooden packing material for all the foreign consignments should be treated as per ISPM-15 & Fumigation / Phytosanitary certificate to be submitted to the freight forwarders/ BHEL along with the invoice, B/L, packing list etc.

Vendors shall indicate the name of International Airport/Seaport. Approved Airports are as per Annexure-C. The consignment shall be handed over to BHEL approved freight forwarder as mentioned in PO.

FOR INDIGENOUS PURCHASE:

Equipment shall be delivered on "FOR SITE" basis, inclusive of freight, packing, insurance & forwarding charges.

Packing shall be Road / Rail / Air / Sea worthy, best suitable for transshipment and to take care of transit damages. Smaller consignments can be dispatched through Courier services/ RPP with the prior approval of the purchasing Executive.

Deviation for the delivery term is liable for rejection.

6. Penalty:

For delay in delivery: In the event of delay in agreed contractual delivery as per Purchase Order, penalty @ 0.5 % (half percent) per week or part thereof but limited to a max of 10% (ten percent) value of undelivered portion (basic material cost) will be applicable. Delivery will commence from the date of document approval by customer / BHEL or date of issue of manufacturing clearance, whichever is later. The date for which Inspection call is issued by vendor along with test certificates / test reports / Certificate of Conformance / calibration reports, as proof of completion of manufacturing will be treated as date of deemed delivery for penalty calculation. In the absence of furnishing such document indicated above as proof of completion of manufacturing along with inspection call, actual date of inspection will be considered as date of deemed delivery and BHEL will not be responsible for delay in actual date of inspection.

Penalty for delayed documentation/delayed delivery, if applicable, shall be deducted at the time of first payment. If penalty is applicable for duration of less than a week, penalty @ 0.5% (half percent) of the basic material value will be deducted.

7. **Contract variations (Increase or decrease in the scope of supply):** BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be applied to such additional work. Vendor shall not perform additional work before BHEL has issued written instructions / amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
8. **Reverse Auction:** BHEL reserves the right to follow REVERSE AUCTION PROCEDURE (ONLINE BIDDING ON NETWORK) before finalising the Purchase order on technically competent bidders, as per the guidelines given in Annexure XII. In case BHEL does not resort to Reverse Auction, the price bids and price impacts (if any) already submitted and available with BHEL shall be opened as per BHEL's standard practice.
9. **Pre Shipment Inspection:** Prior written notice of at least 10 days shall be given along with internal test certificates / COC and applicable test certificates. Materials will be inspected by BHEL-EDN-QS/CQS or BHEL nominated Third Party Inspection Agency (TPIA) or BHEL authorized Inspection Agency or Customer / Consultant or jointly by BHEL & Customer / consultant. All tests have to be conducted as applicable in line with approved Quality plan or QA Checklist or Purchase specification and original reports shall be furnished to BHEL-EDN, Bangalore for verification / acceptance for issue of dispatch clearance.
All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.
10. **Transit Insurance:** Transit Insurance is in Vendor's scope for all Inclusive value or as specified in RFQ.
For imported items with FOB / ex-Works terms contracts, BHEL will provide Insurance.

11. **High Sea Sales (HSS):** Customs clearance of the consignment landed on Indian Sea / Air ports will be done by BHEL based on the original HSS documents provided by vendors. Any delay in submission of complete / correct HSS documents to BHEL may incur demurrage charges. All demurrage charges on account of incomplete / incorrect HSS documents submission by vendor will be to vendor's account and all such charges will be recovered from any of the available vendor bills with BHEL.
12. **Packaging and dispatch:** The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea / Air / Rail / Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures / hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations. The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw / solid wood packing material should be treated as per ISPM - 15 (fumigation) and accompanied by Phytosanitary / Fumigation certificate. If safety information sheets (MSDS - Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment. Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (L x B x H) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated. Separate packing & identification of items should be as follows.
1. Main Scope - All items must be tagged with part no. & item description.
 2. Commissioning spares - All items must be tagged with part no. & item description.
 3. Mandatory spares - All items must be tagged with part no. & item description.
13. **Assignment of Rights & Obligations; Subcontracting:** Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
14. **Progress report:** Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.
15. **Non-disclosure and Information Obligations: Vendor** shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.
16. **Cancellation / Termination of contract:** BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination. BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so, on account of any decline, diminution, curtailment or stoppage of the business.
17. **Risk Purchase Clause:** In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services NOT supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.

In case of items demanding services at site like erection and commissioning, vendor should send his servicemen /representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase / service including additional handling charges due to the change.

18. **Shortages:** In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages shall be made good within a reasonable time that BHEL may allow from such intimation and free of cost.
Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, Supplier shall make good of all such damages within a reasonable time from such intimation by BHEL.
19. **Remedial work:** Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.
20. **Indemnity Clause:** Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment.
21. **Product Information, Drawings and Documents:** Drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract.
Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.
All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the Contract shall continue to be the property of the disclosing party.
22. **Intellectual Property Rights, Licenses:** If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods / related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.
23. **Force Majeure:** Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence,

provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance.

A party affected by an event of force majeure which may include fire, tempest, floods, earthquake, riot, war, damage by aircraft etc., shall give the other party written notice, with full details as soon as possible and in any event not later than seven (7) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

Notwithstanding above provisions, in an event of Force Majeure, BHEL reserves for itself the right to cancel the order/ contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules.

24. **Guarantee / Warranty:** Wherever required, and so provided in the specifications / Purchaser Order, the Seller shall guarantee that the stores supplied shall comply with the specifications laid down, for materials, workmanship and performance. The guarantee / warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery. Unless otherwise specifically provided in the Purchase Order, Vendor's liability shall be co terminus with the expiration of the applicable guarantee / warranty period.
25. **Limitation of Liability:** Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or wilful misconduct.
The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.
26. **Liability during guarantee / warranty:** Vendor shall arrange replacement / repair of all the defective materials / services under its obligation under the guarantee / warranty period. The rejected goods shall be taken away by vendor and replaced / repaired. In the event of the vendor's failure to comply, BHEL may take appropriate action including disposal of rejections and replenishment by any other sources at the cost and risk of the vendor.
In case, defects attributable to vendor are detected during first time commissioning or use, vendor shall be responsible for replacement / repair of the goods as required by BHEL at vendor's cost. In all such cases expiry of guarantee / warranty will not be applicable.
27. **Liability after guarantee / warranty period:** At the end of the guarantee / warranty, the Vendor's liability ceases except for latent defects (latent defects are defects / performance issues notices after the guarantee / warranty has expired). The Contractor's liability for latent defects warranty for the plant and equipment including spares shall be limited to a period of six months from the end of the guarantee / as specified in RFQ.
28. **Compliance with Laws:** Vendor shall, in performing the contract, comply with all applicable laws. The vendor shall make all remittances, give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the laws in relation to the execution and completion of the contract and for remedying of any defects; and the Contractor shall indemnify and hold BHEL harmless against and from the consequences of any failure to do so.
29. **Settlement of Disputes:** Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies/work/services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply/work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).
30. **Arbitration Clause:** In case amicable settlement is not reached in the event of any dispute or difference arising out of the execution of the Contract or the respective rights and liabilities of the

parties or in relation to interpretation of any provision in any manner touching upon the Contract, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred by either party to the sole arbitration of an Arbitrator appointed by the Executive Director/ General Manager of the purchasing unit/ region/ division of BHEL. Vendor shall have no objection even if the Arbitrator so appointed is an employee of BHEL or has ever dealt/ had to deal with any matter relating to this Contract.

Subject as aforesaid the provisions of the Arbitration and Conciliation Act, 1996 of India or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. It is a term of contract that the party initiating arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute. The venue for the arbitration shall be Bangalore, India. The award of the arbitrator shall be a speaking award and shall be final, conclusive and binding on all parties to this contract.

The cost of arbitration shall be borne equally by the parties. Notwithstanding the existence of any dispute or difference or any reference for the arbitration, the vendor shall proceed with and continue without hindrance the performance of the work under the contract with due diligence and expedition in a professional manner.

31. **Applicable Laws and Jurisdiction of Courts:** Prevailing Indian laws both substantive and procedural, including modifications thereto, shall govern the Contract. Subject to the conditions as aforesaid, the competent courts in BANGALORE alone shall have jurisdiction to consider over any matters touching upon this contract.

32. **General Terms:** That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

That the headings used in this agreement are for convenience of reference only.

That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.



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 भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

PB 2606 , Mysore Road Bangalore , 560026 INDIA

SCPV: BOS: 001- Rev 00

INSTRUCTIONS TO BIDDERS (Common for all RFQs)

Bidder is requested to read the instructions carefully and submit their quotation covering all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: SCPV: BOS: 001 – Rev 00), General Conditions of Contract (document reference: SCPV: BOS: 002 - Rev 00) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Bidders (also includes the term suppliers / contractors wherever used in this document) are instructed to quote their most competitive price and best delivery, etc. in the offer. Prices should be indicated in both figures & words. **(Please also refer clause 11 under section B)**
4. Regret letter (either through post or by mail) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender. If a bidder fails to respond against 3 consecutive tenders for the same item, he will be liable for removal as a registered vendor of BHEL.
5. Procurement directly from the manufacturers shall be preferred. However, if the OEM / Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer / supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer / supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from the manufacturer / supplier and his agent, bid received from the agent shall be ignored.
6. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
7. If an Indian representative / associate / liaison office quotes on behalf of a foreign based bidder, such representative shall furnish compulsorily the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages / damages / replacement / repair of imported scope till system is commissioned and handed over to customer will be the sole responsibility of the Indian representative / associates / agent / liaison office.
8. In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport / Seaport. Bidders must provide all original documents required for completing the customs clearance along with the shipment. Warehousing charges due to incomplete or missing documentation will be recovered from the supplier’s bill. All offers for imported scope of supply must be made from any of the gateway ports (within the country) indicated. **(Refer Annexure I)**
9. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: **www.bhel.com**

10. Business dealings with bidders will be suspended if they are found to have indulged in any malpractices / misconduct which are contrary to business ethics like bribery, corruption, fraud, pilferage, cartel formation, submission of fake/false/forged documents, poor quality, certificates, information to BHEL or if they tamper with tendering procedure affecting the ordering process or fail to execute a contract, or rejection of 3 consecutive supplies or if their firms / works are under strike / lockout for a long period.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:
 - **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
 - **TWO PART BID:** Unpriced offer i.e. "Techno-commercial Bid" with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the "Price Bid" without the prices** should be enclosed in one cover and the cover must be super scribed "**Techno-commercial offer**) and Priced offer i.e. "Price Bid" containing price summary in a separate sealed envelope and must be super scribed "**Price Bid**". Both these envelopes shall be enclosed in a single sealed envelope super scribed with enquiry number due date of tender and any other details as called for in the tender document.
 - **THREE PART BID:** Pre-qualification Bid (Part-I), Techno Commercial Bid with filled in BHEL Standard Commercial terms and conditions (Part-II), and Price Bid (Part-III). All three envelopes shall be enclosed in a single sealed envelope super scribed with enquiry number due date of tender and any other details as called for in the tender document.

If any of the offers (Part I, Part II or Part III) are not submitted before the due date and time of submission at the venue/place specified or if any part of the offer is incomplete the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to super scribe each envelope with RFQ number, RFQ Date, RFQ Due date and time, Item Description and Project clearly & boldly. Also mention on the envelope whether it is "Techno Commercial Bid" or "Price Bid" or "Pre-Qualification Bid". Please ensure complete address, department name and purchase executive name is mentioned on the envelope (before dropping in the tender box or handing over) so that the tender is available in time for bid opening.
3. BHEL standard Commercial Terms and Conditions shall be duly filled, signed & stamped and must accompany Technical-Commercial offer without fail and should be submitted in original only. Xerox copy will not be accepted.
4. Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if all terms and conditions of this enquiry are accepted by the supplier without any deviation.
5. Deviation to this specification / item description, if any, shall be brought out clearly indicating "DEVIATION TO BHEL SPECIFICATION" without fail, as a part of Techno-Commercial Bid. If no deviations are brought out in the offer it will be treated as if the entire specification of this enquiry is accepted without deviation.
6. Suppliers shall submit one set of original catalogue, datasheets, bill of materials, dimensional drawings, mounting details and / or any other relevant documents called in purchase specification as part of Technical Bid.
7. "Price Bid" shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, packing & forwarding charges (if applicable), freight charges (if applicable) etc. Once submitted no modification / addition / deletion will be allowed in the "Price Bid." Bidders are advised to thoroughly check the unit price, total price to avoid any discrepancy.
8. In addition, bidder shall also quote for erection & commissioning charges (E&C charges), documentation charges, service charges, testing Charges (type & routine), training charges, service tax, etc. wherever applicable. The price summary must indicate all the elements clearly.
9. Vendors should indicate "lump sum" charges (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for Supervision of Erection, Commissioning and handing over to customer. The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist and service tax (if any).
10. Wherever bidders require PAC (Project Authority Certificate) for import of raw materials, components required for Mega Power Projects, Export Projects, MNRE Concession or other similar projects wherein supplies are

eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.

11. All quotations shall be free from corrections /overwriting. Corrections if any should be authenticated with signature and seal. Any typographical error, totaling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure VI** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid". BHEL decision will be final.

C. GUIDELINES FOR OFFER SUBMISSION:

1. Offers / Quotations must be dropped in tender box before 13.00 Hrs. on or before due date mentioned in RFQ. The offers are to be dropped in the proper slot of the Tender Box kept in our reception area with caption "CE, SC&PV, DEFENCE." Tenders are opened on 3 days in a week (Monday/Wednesday/Friday). Tender must be deposited in the slot corresponding to the day (Monday - Box no.4/Wednesday - Box no. 6 /Friday - Box no.8) while depositing the offer. **(This clause will not be applicable for e-tenders)**
2. E-Mail / Internet / EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC of the tender. (Refer to SCC document of tender) within time of submission of tender.
3. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two officers whose names are mentioned in the RFQ. (Refer to SCC document of tender)
4. Tenders will be opened on due date, time and venue as indicated in the RFQ in the presence of bidders at the venue indicated in the RFQ. In case of e-procurement, bidders can see tender results till seven days after due date and time.
5. Vendor will be solely responsible:
 - a. For submission of offers before due date and time. Offers submitted after due date and time will be treated as "Late offers" and will be rejected.
 - b. For submission of offers in the correct compartment of the tender box based on the day of due date (Monday/Wednesday/Friday). Please check before dropping your offer in the correct tender box.
 - c. For depositing offers in proper sealed condition in the tender box. If the bidder drops the tender in the wrong tender box or if the tender document is handed over to the wrong person BHEL will not be responsible for any such delays.
 - d. For offers received through email/courier etc., suppliers are fully responsible for lack of secrecy on information and ensuring timely receipt of such offers in the tender box before due date & time.
 - e. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, etc. will be the sole responsibility of the vendor. Wherever assistance is needed for submission of e-tenders, help line numbers and executives of service provider of BHEL may be contacted.
Service provider: M-junction
Website address: <https://bheleps.buyjunction.in/>
Helpline no.: 033-66106426/6217/6013/6046/6176 (9:30 am to 5:30 pm)
9163348283/9163348284/9163348285/9163348286/8584008116 (5:30 pm to 8:30 pm)

Purchase Executive / BHEL will not be responsible for any of the activities relating to submission of offer.

D. PROCESSING OFFERS RECEIVED:

1. Any discount / revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid). The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes / revisions are requested by BHEL.
3. In case there is no change in the technical scope and / or specifications and / or commercial terms & conditions by BHEL, the supplier will not be allowed to change any of their bids after Technical bids are opened (after the due date and time of tender opening of Part-1 Bid).

4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL and it accounts for price implications from vendors, all techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening. Impact price means only for those items which have been impacted by addition / deletion / changes in the technical specifications or commercial conditions. The impact may be +/- incremental value of the currency in which originally quoted. The impact price bid to be submitted on the cut-off date, time & venue as specified by BHEL. The impact price bid shall be opened along with original price bid.

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5. BHEL EDN reserves the right to adopt Reverse Auction or standard Price Bid Opening procedure for price evaluation, at its discretion. This will be decided after completion of technical evaluation of tender. **(Refer Annexure XII for Guidelines for Reverse Auction).**
6. Un-opened bids (including price bids) will be returned to the respective bidders after release of PO and receipt of order acknowledgement from the successful bidder.
7. After receipt of Purchase Order, supplier should submit required documents like drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report , O & M Manuals and / or any other relevant documents as per Specification / Purchase Order, as and when required by BHEL / Customer.
8. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order.
9. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL"). As per RFQ terms. "Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and duties, freight charges, test charges, insurance, service tax for services, any other cost indicated by vendor for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions). Benefits arising out of Nil Import Duty on Mega Projects, Physical Imports or such 100% exemptions & MNRE Exemptions (statutory benefits), customer reimbursements of statutory duties (like Excise Duty, CST, VAT) will also be taken into account at the time of tender evaluation. (Wherever applicable and as indicated in SCC document of tender)
10. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

Single part bids:	Date of tender opening
Two/three part bids:	Date of Part-I bid opening
Reverse Auction:	Date of Part-I bid opening

In case of Performance Bank Guarantee (PBG) also, exchange rate will be considered as mentioned above for converting foreign currency to Indian currency and vice versa.

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.
11. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers and on the basis or evaluation of Total Cost to BHEL.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format **(Refer Annexure XI)** for receiving all payments through NEFT. (Applicable for Indian vendors only)
2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea / Air ports will be done by BHEL based on the original HSS documents provided by vendors. All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to suppliers account only. Such recovery will be made out of any of the available bills.
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act. (Applicable for Indian vendors only).

Foreign vendors shall submit relevant details of their bankers like Swift Code, Banker's Name & Address etc.

4. Vendors must submit bills & invoices along with required supporting documents in time. Incomplete documentation / delayed submission of invoice / documents will result in corresponding delay in payment.

F. STANDARD PAYMENT TERMS OF BHEL-EDN

Purchase Orders for indigenous procurement

(a) SUPPLY WITH E&C:

- 1) 90% of basic Supply value + 100% of taxes, duties and freight charges will be paid with 45 days credit from the receipt of material.
- 2) 10% of basic Supply value (retention money) will be paid on submission of documents as a proof of receipt against supplementary invoice with proof of completion of E&C along with E & C charges (if any)+ against submission of PBG valid for Warranty Period+6 months Claim Period from BHEL Consortium Bank.

(b) E&C/Supervision: 100% on completion of E&C/Supervision and certification line item wise on pro-rata basis.

(c) O&M: 100% O&M charges are payable as per RFQ terms against report certified by BHEL.

(c) SUPPLY ONLY:

- 1) 100% of Basic value with taxes, duties and freight will be paid with 45 days credit from the receipt of material or 15 days credit from the date of submission of complete set of documentation whichever is later) + submission of PBG valid for Warranty Period+6 months Claim Period from BHEL Consortium Bank ,if applicable.

Note: If PBG cannot not be submitted, vendors can also accept for the final 10% payment, payable after the warranty period + 6 months of claim period against supplementary invoice subject to the completion of

- 2) commissioning (if applicable) as PBG is linked to Warranty period.

(d) ADVANCE PAYMENT/LC: Quotations with "Advance payment/Inland LC" shall be rejected.

(e) SALE IN TRANSIT/ LOCAL VAT: Sale in transit under section 6(2) of CST is allowed if movement of goods is interstate. In case intra state movement of goods, benefit of sale in transit is not available.

Purchase orders for import procurement:

(e) SUPPLY WITH E&C:

- 1) 90% of the basic value (excluding E&C charges) will be paid with 45 days credit, against Sight draft, from the date of AWB/BOL on submission of complete set of documents as in PO.
- 2) 10% of basic Supply value (retention money) will be paid on submission of documents as a proof of receipt against supplementary invoice with proof of completion of E&C along with E & C charges (if any)+ against submission of PBG valid for Warranty Period+6 months Claim Period from BHEL Consortium Bank.
- 3) **E&C/Supervision:** 100% on completion of E&C/Supervision and certification line item wise on pro-rata basis.

(f) SUPPLY WITH SUPERVISION OF E&C:

- 1) 90% of the value of the order will be paid with 45 days credit against Sight draft, from the date of AWB/BOL on submission of complete set of documents.
- 2) 10% of basic value (retention money) will be paid in 15 days from the date of completion of erection and commissioning against supplementary invoice with proof of completion of E&C along with supervision charges (if any).
- 3) **E&C/Supervision:** 100% on completion of E&C/Supervision and certification line item wise on pro-rata basis.

(g) SUPPLY ONLY:

- 1) 100% of PO value will be paid against Sight draft with 45 days Credit from the date of dispatch or 15 days credit from the date of submission of complete set of documents whichever is later)+ submission of PBG valid for Warranty Period+6 months Claim Period from BHEL Consortium Bank ,if applicable.

Note: If PBG cannot not be submitted, vendors can also accept for the final 10% payment, payable after the warranty period + 6 months of claim period against supplementary invoice subject to the completion of commissioning (if applicable) as PBG is linked to Warranty period.

G. LOADING FACTORS FOR PAYMENT TERMS & DELAYED DELIVERY:

Loading factors as detailed below will be added to the quoted price (basic) to evaluate the lowest quote for non-compliance of BHEL standard commercial term.

Sl No	Deviation on	Nature of Deviation / Offered Terms	Loading %
1.	Payment Terms	For Purchase within India :-	15
		1) Payment against delivery/Proforma payment against receipt of material	
		2) Payment against documents through bank – Delivery of material at site	15
		3) Credit period less than 45 days, but not less than 15 days.	10
		For Foreign Purchase :-	
		1) Payment through At Sight Letter of Credit	10
		2)Payment through Letter of Credit with usance credit of 45 days	5
	3) Sight Draft with credit period less than 45 days	5	
2.	Penalty for Delayed Delivery	1) Non – Acceptance	10
		2) Partial Acceptance (X%)	(10 – X)

* All bank charges shall be to seller's account. If bank charges of BHEL banker are to BHEL's account then **additional loading of 2% on the quoted basic value** is applicable.

NOTE: Offer/ s with payment terms other than the standard payment terms indicated at Clause No.F or Deviated Payment Terms with loading indicated at Clause No.G above are liable for rejection.

C. Non-Compliance of Warranty terms. Offers not complying with Warranty terms as per RFQ Terms is liable for rejection.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight and E&C charges (wherever applicable).

Wherever the Purchase Order is split into import portion and indigenous portion of supply the retention money will be 15% or 10% (as applicable) of both purchase order values put together.

H. Bank guarantee (BG) / Performance bank guarantee (PBG):

1. Bank guarantee (BG) / Performance bank guarantee (PBG) will be applicable as called in the tender documents. Such PBG shall be valid for a period of Warranty Period + claim period of 6 months for a value equal to 10 % of the basic value of the purchase order. No deviation for the duration of PBG / BG will be permitted.
 - a. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure V**).

- b. PBGs from nationalized banks are also acceptable.
 - c. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order. PBG should be in the format indicated. **(Refer Annexures III & IV respectively)**. No deviation to these formats will be allowed.
 - d. Confirmation from any of the BHEL consortium of banks or any of the Indian Public Sector Banks is essential for the acceptance of PBGs issued by foreign banks (located outside India).
 - e. Expired BGs / PBGs will be returned only after expiry of the claim period or on completion of the contractual obligation.
 - f. **Non-acceptance for submission of PBG will attract loading as indicated below**
 - i. Loading will be equal to the percentage of value for which BG / PBG is not provided. (Ex: if PBG / BG is given for 3 % of the basic value against 10% specified, loading applicable will be 7% (10 - 3 = 7 %). This value will be added to the quoted price while evaluating the lowest offer.
- I. Documents required at the time of dispatch for processing of Bills:
- i. **For Supply:** Invoice in Triplicate, LR Copy, Packing List, PSI Call Letter Copy & Warranty Certificate
 - ii. **For E&C:** Supplementary Invoice in Triplicate with copy of E&C Certificate (Proof of Completion of E&C)
 - iii. **For PBG:** Supplementary Invoice in Triplicate with copy of PBG. However, PBG should come to us directly from the Bank.

J. PROVISIONS APPLICABLE FOR MSE VENDORS (MICRO AND SMALL ENTERPRISES)

Vendors who qualify as MSE vendors are requested to submit applicable certificates (as specified by the Ministry of Micro, Small and Medium Enterprises) at the time of vendor registration. Vendors have to submit any of the following documents along with the tender documents in the Part I / Technical bid cover to avail the applicable benefits.

- a. Valid NSIC certificate or
- b. Entrepreneur's Memorandum part II (EM II) certificate (deemed valid for 2 years).
- c. EM II certificate with CA certificate **(in the prescribed format given in Annexure IX)** applicable for the year certifying that the investment in plant and machinery of the vendor is within permissible limits as per the MSME Act 2006 for relevant status where the deemed validity is over.
- d. Documents submitted for establishing the credentials of MSE vendors must be valid as on the date of part I / technical bid opening for the vendors to be eligible for the benefits applicable for MSE vendors. Documents submitted after the Part I / Technical bid opening date will not be considered for this tender.

PURCHASE PREFERENCE FOR MSE VENDORS:

- e. MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 20% of the requirement against this tender provided.
 - 1. The MSE vendor matches the L1 price
 - 2. L1 price is from a non MSE vendor
 - 3. L1 price will be offered to the nearest vendor nearest to L1 in terms of price ranking (L2 - nearest to L1). In case of non-acceptance by the MSE vendor (L2) next ranking MSE vendor will be offered who is within the L1 + 15% band (if L3 is also within 15% band).
 - 4. 20% of the 20% (i.e. 4% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) and (2) are fulfilled.
 - 5. In case no vendor under SC / ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, in such cases the 4% quantity will be distributed among the other eligible MSE vendors who have participated in the tender.
 - 6. Serial no. 1 to 5 will not be applicable wherever it is not possible to split the tendered quantity / items on account of customer contract requirement, or the items tendered are systems. Such information that tendered quantity will not be split will be indicated in the SCC.

K. INTEGRITY COMMITMENT IN THE TENDER PROCESS, AND EXECUTION OF CONTRACTS:

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 / suppliers in a transparent and fair manner, and with equity.

2. Commitment by Bidder(s)/ Contractor(s):

- a. The Bidder(s)/ Contractor(s) commit(s) to take all measures to prevent corruption and will not directly or indirectly try to influence any decision or benefit which he is not legally entitled to.
- b. The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding or any actions to restrict competition.
- c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant Acts. The Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain or pass on to others, any information or document provided by BHEL as part of business relationship.
- d. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to the relevant guidelines issued from time to time by Government of India/ BHEL.

If the Bidder(s) / Contractor(s), before award or during execution of the Contract commit(s) a transgression of the above or in any other manner such as to put his reliability or credibility in question, BHEL is entitled to disqualify the Bidder(s) / Contractor (s) from the tender process or terminate the contract and/ or take suitable action as deemed fit.

PURCHASE EXECUTIVE