ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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Bharat Heavy Electricals Limited

(A Government of India Undertaking)

ELECTRONICS DIVISION

P.O. Box No. 2606, Mysuru Road, Bengaluru - 560 026

An ISO 9001, ISO 14001, OHSAS 18001 & ISO/IEC 27001:2005 Company

E-Tender

The Quotations are invited under two part bid system for Supply and I&C support 33kV outdoor metal clad HT Switchgear (VCB) panels for 50 MWp Solar Photovoltaic grid-connected power plant at Kaudgaon, Maharashtra.

RFQ NO and date	TGPBOS0042 dated 27.09.2019 (e-tender)
RFQ due date & time	10.10.2019 up to 13.00 hrs (IST)
Date, Time & Venue of Part-I Bid Opening	10.10.2019 after 13.30 hrs (IST)
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Commercial Communication & Contact Person in BHEL (MM dept)	Mr. T.G.Pragadeesh (09742576787) Manager Mr. Ramachandra (09980958476), SDGM SC&PV MM Department, BHEL Electronics Division, PB NO 2606, Mysuru road, Bengaluru-560 026. INDIA Email: pragadeeshtg@bhel.in ramachandra@bhel.in Telephone number: +91 80 26998377, +91 80 26998476
Address for Technical Communication & Contact Person in BHEL with CC to MM dept	Mrs. Prachi Rao (9980160918) Addl. General Manager Mr. Varun Jain (9535386575), Dy. Manager SC&PV ENGINEERING Department, BHEL Electronics Division, PB NO 2606, Mysuru road, Bengaluru-560 026. INDIA Email: prachi.rao@bhel.in varun.jain@bhel.in Telephone number: +91 80 26998276, +91 80 26998071

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.

PREQUALIFICATION CRITERIA

1) The manufacturer of circuit breakers shall have experience of having supplied similar circuit breakers in power plants having a cumulative capacity of at least 1000 MW. As an evidence vendor shall submit PO copies along with the completion/commissioning certificate from end user (Developer/EPC Company).

2) The vendor should have experience of supply and commissioning of at least 10 no of 33 kV outdoor type HT Panel (VCB) to power plant/ substation within last 3 years from the date of BHEL tender publication. As an evidence vendor shall submit PO copies along with the completion/commissioning certificate from end user (Developer/EPC Company).

REQUEST FOR QUOTATION

MMI:PU:RF:003

BHARAT HEAVY ELECTRICALS LIMITED
Electronics Division
PB No. 2606, Mysore Road Bangalore - 560026
INDIA

RFQ NUMBER:
TGPBOS0042

RFQ DATE :
27.09.2019

Due Date/Day: 10.10.2019 THU
Time : 13:00 HRS
Tender Box : Reception Area
Opening Venue:
NEW ENGG. BLDG

(address for communication) :

(for all correspondence)
Purchase Executive : TG Pragadeesh
Phone : 080 26998377
Fax :
E-mail: pragadeeshtg@bhel.in

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PS0679081712 33KV Outdoor Switchgear panel- IR * HSN/SAC : 9954 Test Certificate supply of 33 kV, 630A outdoor type HT Switchgear (VCB) Standalone Panels as per BHEL spec PS-439-1290	10	ST	10	31.12.2019
2	PS0679081720 33KV Outdoor Switchgear panels- CR * HSN/SAC : 9954 Test Certificate supply of 33 kV,630A Indoor type HT Switchgear (VCB) Panels # Main Panel Consisting of 5 Incomers , 1 main outgoer Panel, 1 Aux Transformer panel and 1 Bus PT Panel (located near Central Control Room) as per BHEL spec PS-439-1290	2	ST	2	31.12.2019
3	PS0679081739 Supply of Spares for HT Panel * HSN/SAC : 9954 Test Certificate Supply of Spares for 33 kV, 630A outdoor type HT Switchgear (VCB) as per BHEL spec PS-439-12 90	1	ST	1	31.12.2019
4	PS0679081747 I&C support for HT Panels * HSN/SAC : 7308 I&C support for 33KV HT Panels as per BHEL spec PS 439-1290	1	ST	1	31.12.2019

Total Number of Items - 4

1.
2.

TWO PART BID - SUBMIT TECHNICAL AND PRICE BID IN SEPARATE SEALED COVERS

NOTES:
1. This RFQ is governed by:
a) INSTRUCTIONS TO BIDDERS/SELLERS and GENERAL CONDITIONS OF CONTRACT FOR PURCHASE available at **http://edn.bhel.com (RFQ-PO Terms & Conditions)**
b) Any other specific Terms and Conditions mentioned.
2. Bidders / Representatives who would like to be present during opening of offers are required to furnish authorization letter for the same.
* The HSN/SAC no mentioned against the line items in the RFQ are indicative only.

For and On behalf of BHEL.

TG Pragadeesh
Semiconductors & Pho

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Technical specification

for

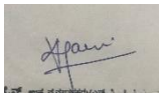
33kV Outdoor Metal Clad HT Switchgear (VCB) panels

for

50 MWp Solar Photovoltaic Grid-connected Power plant

at

Kaudgaon, Maharashtra

Approved by:			
Revision details: R 00	Prepared by:  Varun Jain	Approved by: Prachi Rao V	Date: 24-Sept-2019

1.0 Introduction

This specification is for 3-phase, 3-wire, 33 kV Metal Clad outdoor type HT panels with vacuum circuit breakers (VCBs), Bus PT Panels for **50MWp solar photovoltaic power plant at Kaudgaon, Maharashtra.** These VCB panels provide metering and protection for the 33 kV power line and the 5000 kVA (33kV on HV side), 3-phase, 3-winding, oil-immersion type, transformers (10 nos). Spares (Mandatory & Recommended) and accessories required for trouble free operation of the panels are also part of this specification.

1.1 Reference standards

1	IS: 996	Single Phase small AC and universal electric motors
2	IS: 722	AC Electricity Meters
3	IS: 1248	Direct Acting indicating analogue electrical measuring instruments and accessories
4	IS: 722	AC electricity meters.
5	IS: 996	Single phase small AC and universal electrical motors.
6	IS: 1248	Direct Acting indicating analogue electrical measuring instruments and Accessories.
7	IS: 13947	Degree of protection provided by enclosures for low voltage switchgear and control gear.
8	IS: 2544	Porcelain post insulators for systems with nominal voltages greater than 1000 Volts.
9	IS: 2705	Current transformers.
10	IS: 3156	Voltage Transformers
11	IS: 6005	Code of practice for phosphating of iron and steel.
12	IS: 5082	Specification for wrought aluminium and aluminium alloy bars, rods, tubes and selections for electrical purposes.
13	IEC: 61850	Communication Standard for Numerical relays
14	IEC: 61131-3	Automation Standard for Numerical relays
15	IS: 9046	AC contactors for voltages above 1000 volts and upto and including 11000 Volts.
16	IS: 13703	Low voltage fuses
17	IS: 9385	HV fuses
18	IS: 9431	Specification for indoor post insulators of organic material for system with nominal voltages greater than 1000 volts upto and including 300 kV
19	IS: 9921	A.C. disconnectors (isolators) and Earthing switches for voltages above 1000 V
20	IS: 11353	Guide for uniform system of marking and identification of conductors and apparatus terminals.
21	IS: 13118	Specification for high voltage AC circuit breakers.
22	IEC: 60099-4	Metal oxide surge arrestor without gap for AC system
23	IS/IEC: 62271-100	High voltage alternating current circuit breakers.
24	IS/IEC: 62271-200	High voltage metal enclosed switchgear and control gear.
25	IEC: 60947-7-1	Terminal blocks for copper conductors
26	IS :513 (2008)	Cold Rolled Low Carbon Steel Sheets and Strips

27	IEC:337 & 337-1	Control switches (LV switching devices for control and auxiliary circuits)
28	IS: 375	Marking and arrangement for switchgear bus bars, main connection and auxiliary wiring

1.2 Enclosed documents:

(a) Single line diagram (SLD) for the overall power plant vide BHEL drawing Rev 02 (Annexure-1):

1.3 Configuration & Location of the HT Panels:

(a) 33 KV VCB Stand alone Panel) – 10 nos
Location: 10 nos. near outdoor Inverter Stations in decentralized Inverter Block (1 nos. in each of 10 Inverter Block)

(b) 33KV Main VCB Panels (Suit of 8 Panels) – 2 nos
Location: 33KV switchyard

1.4 Two part bid:

The vendors are required to submit the offer in two parts viz. technical and price bids. Instructions to the vendors on bid submission are provided in a separate clause of this specification. Further, vendor shall go through the tender document that provides complete instructions and guidelines.

1.5 Clause-wise acceptance of this technical specification:

Vendors shall indicate their acceptance against each clause of this specification, in the column provided on the right side. In case of non-acceptance or deviation, vendors shall indicate and offer their comments.

2.0 Scope of supply

#	DESCRIPTION	Quantity
2.1	**Main equipment**	
2.11	**33 kV, 630A outdoor type HT Switchgear (VCB) Standalone Panels –**	**10 Panels** **To be quoted on per Panel basis**
2.12	**33 kV,630A outdoor type HT Switchgear (VCB) Panels – Main Panel** Consisting of 5 Incomers , 1 main outgoer Panel, 1 Aux Transformer panel and 1 Bus PT Panel (located near Central Control Room)	**2 Set** **(Each set consisting of 8 nos of Panels)** **to be quoted on per set basis**

2.2	**Spares & Accessories**	**1 set**

#	Item	Qty	
1	**Mandatory Spares**		To be quoted on per set basis with item-wise break-up prices.
a)	Surge Arrestor / MOV	5% of total population of each type	
b)	MCBs	5% of total population of each type	
c)	Vacuum Interrupter	1 Nos	
d)	CT – 600/1A	2 Nos	
e)	CT – 120/1A	2 Nos	
f)	Bus PT	2 Nos	
g)	Line PT	2 Nos	
h)	Spring charge motor	5 Nos	
i)	Tripping coil	5 Nos	
j)	Closing coil	5 Nos	
k)	Digital voltmeter	1 No	
l)	Indicating Lamps and Push-Buttons	30% of total population	
m)	HT fuse - Primary (33kV)	10 nos	
n)	Control Fuses (HRC, etc)	5 nos. of each type and rating	
o)	Switches – ON/OFF, Limit, BCS etc	1 no. of each type and rating	
2	**Accessories**		
a)	Earthing trucks Cable side earthing truck – 1 no Busbar side earthing truck - 1 no	1 Set	
b)	VCB draw-out handle	12 nos	
c)	Spring charging handle	12 nos	
d)	Ramp	12 nos	
e)	Door Keys	12 nos	

Notes:

(a) The above spare quantities are for contingency purposes over and above the warranty requirements.
(b) "Population" stands for total quantity of the item used in the complete supply.
(c) Where % qty is a decimal, same shall be rounded off to the next higher whole no.
(d) Item-wise break-up prices shall be provided.
(e) Successful vendor shall indicate the total quantity used in the complete supply for verification of % qty.

2.3	**Installation and commissioning of HT Switchgear**	1 AU

	BHEL scope of activities at site for installation and commissioning: (1) Movement and positioning of HT panels at the earmarked position in the inverter control rooms. (2) Making power cable interconnections between HT Panels and SCADA/ACDB/DCDB/Transformers. **Vendor scope** of activities at site for installation and commissioning: Vendor shall provide support to BHEL at the time of Installation of the HT panels at the project site. Accordingly, vendor shall depute I&C / service engineer to the site. a) Vendor shall carry out all electrical and mechanical interconnections within and between the HT panels. b) Vendor shall provide guidance / support for electrical interconnection of the HT panels with marshalling boxes of the ten transformers: For this, cables, cable glands, cable lugs, ferrules, cable ties will be provided by BHEL. Cable laying between HT panels and marshalling boxes will be within BHEL scope. Marshalling box drawing will be provided by BHEL. Whereas, cable crimping, routing within the panels, dressing and connections shall be provided by vendor. **Note:** Vendor shall indicate to BHEL the type and size of cables and lugs that will be required for this purpose within one week after placing purchase order. Cable length will be decided by BHEL based on actual locations of panels and transformers at the site and the distance between them. c) Inter-panel simulation checks (HT panel to marshalling box of transformers) to confirm correct operation of the panel relays and interlocks. Vendor shall rectify, in case of any problems (for example, related to wiring, circuits, meters, relays, spring charge motor, etc.), observed during such functional checks. d) Megger / insulation / earthing checks and other electrical inspection checks on the HT panels after the installation. e) In addition, presence of service person at the site is required during commissioning of power plant to ensure that any technical problems encountered with HT panels is attended to and resolved immediately. A single lump-sum price for commissioning of all HT Panels in the total scope of supply shall be offered. The lump-sum price shall include all the costs that will be incurred by the vendor towards commissioning including travel, boarding, lodging and any other contingency expenses.	
2.4	**Warranty** Vendor shall provide warranty for **60 months** from the date of commissioning or **63 months** from the date of supply, whichever is earlier. Vendor shall enclose, along with technical bid, the complete scope, terms and conditions of the warranty. During the warranty	

	period, whenever a technical problem is encountered with the HT Panels, BHEL will report the same to the vendor. Vendor shall ensure that the problem is attended to by their service engineer within two days from the date of reporting.	

3.0 INSTRUCTIONS TO VENDORS FOR BID SUBMISSION

3.1	- Offer shall be submitted in two-parts (Two part-bid). - Both parts to be in separate sealed envelopes as per instructions in tender. - The individual envelops shall, further, be enclosed in a common bigger envelope with markings (address, etc) as per instructions provided in tender.
3.2	First-part shall be techno-commercial bid. Following details shall be furnished: (a) Technical offer (b) Filled-up enclosures as per BHEL formats (meant for first-part) provided in tender. (c) Vendor has to enclose the deviation sheet clause wise separately in case any deviations are sought by the vendor. Absence of any deviation sheet shall be taken as compliance of BHEL specification in total without any deviation (d) Typical Overall General Arrangement for the panel. (e) List of spares offered, with item-wise quantity and without prices. (f) Type test certificates for 33kV VCB panels. See respective clauses.
3.3	Second-part shall be price bid with filled up enclosures as per BHEL formats provided in tender.
3.4	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.

4.0 Outdoor HT Switchgear (VCB) panels – General specifications

From this clause onwards, vendors shall indicate their compliance on the column provided on right side. In case of non-compliance or deviation, vendors shall indicate and offer their comments.

4.1 Panel enclosure

#	**BHEL specification**	**Vendor compliance** **(Yes / No)** **In case of non-compliance or deviation, comment shall be provided by vendor.**
a)	Installation: Outdoor	
b)	Protection Class: IP54 or better Tight fitting gaskets are to be provided at all openings in relay compartment. Numerical relays shall be flush mounted on the switchgear panels at a suitable height.	
c)	Paint Shade: RAL 7035 Grey Polyster powder coated paint suitable for harsh outdoor environment shall be used for panel. Powder should meet requirements of IS 13871 (Powder coating specification, seven tank process).The paint thickness shall not be less than 50 microns ** Paint shade is subjected to customer approval. Final paint shade and type of paint to be used shall be informed during detailed engineering.	
d)	Enclosure shall be made of rolled MS sheet / Aluzinc sections. Doors and covers shall be constructed from cold rolled steel sheets of thickness of 2 mm (minimum). Gland plates shall be 2.5 mm thick if made out of hot rolled or cold rolled steel sheets and for non-magnetic material it shall be 3.0 mm.	
e)	Base frame / channel (MS) with suitable anchor bolts and other hardware for welding of the grouting of the base frame shall be provided for all the panels.	
f)	View glass on the front door to see VCB ON/OFF/Spring charged status.	
g)	Danger boards shall be fixed on the front door, for all the panels.	

h)	Name Plate and Labels: All panels shall be identified on front as well as backside by large engraved name plates giving the distinct feeder description along with panel numbers. Back side name plates shall be fixed in panel frame and not on the rear removable cover. Name plate shall be of non-rusting metal or 3-ply lamicoid with white engraved letterings, on black background. Inscriptions and lettering shall be subjected to Employer's approval.	
i)	Lifting hooks: Adequate number of lifting hooks shall be provided at the top of the panel to facilitate lifting and movement of the panels.	
j)	Doors shall be provided with suitable locks and keys, for all the panels.	
k)	The switchgear boards shall have a single front, single tier, fully compartmentalized, metal enclosed construction complying with clause No. 3.102 of IEC 62271-200, comprising of a row of free standing floor mounted panels. Each circuit shall have a separate vertical panel with distinct compartments for circuit breaker truck, cable termination, main busbars and auxiliary control devices. The adjacent panels shall be completely separated by steel / Aluzinc sheets except in busbar compartments where insulated barriers shall be provided to segregate adjacent panels. The Service Class Continuity of Switchgears shall be LSC 2B-PM (as per IS/ IEC 622771-200). However, manufacturer's standard switchgear designs without interpanel barriers in busbar compartment may also be considered	
l)	The circuit breakers and bus PT shall be mounted on withdrawable trucks which shall roll out horizontally from service position to isolated position. For complete withdrawal from the panel, the truck shall rollout on the floor or shall roll out on telescopic rails. In case the later arrangement is offered, suitable trolley shall be provided by the Bidder for withdrawal and insertion of the truck from and into the panel. The number of trolleys to be provided shall be as specified. Testing of the breaker shall be possible in Isolated position by keeping the control plug connected.	
m)	The switchgear assembly shall be dust, moisture, rodent and vermin proof, with the truck in any position SERVICE, ISOLATED or removed, and all doors and covers closed. All doors, removable covers and glass windows shall have gaskets all round with synthetic rubber or neoprene gaskets.	
n)	The Switchgear shall have an Internal Arc Classification of IAC FLR 10kA minimum for 0.1s. The switchgear construction shall be such that the operating personnel are not endangered by breaker operation and internal explosions, and the front of the panels shall be specially designed to withstand these. Pressure relief device shall be provided in each high voltage compartment of a panel, so that in case of a fault in a compartment, the gases produced are safely vented out, thereby minimizing the possibility of its spreading to other compartments and panels. The pressure relief device shall not however reduce the degree of protection of panels under normal working	

	conditions. To demonstrate that the pressure relief device operates satisfactorily, the vendor shall carryout the test in line with IEC 62271-200 as a type test (also indicated under relevant testing clause). Wherever louvers are provided, the construction of louvers should be such that the IAC requirements are satisfied. Further, viewing glass windows shall have the same strength as the enclosure against Internal Arc.	
o)	Necessary guide channels shall be provided in the breaker compartments for proper alignment of plug and socket contacts when truck is being moved to SERVICE position. A crank or lever arrangement shall preferably be provided for smooth and positive movement of truck between Service and Isolated positions.	
p)	Safety shutters complying with IEC 62271-200 shall be provided to cover up the fixed high voltage contacts on busbar and cable sides when the truck is moved to ISOLATED position. The shutters shall move automatically, through a linkage with the movement of the truck. Preferably it shall however, be possible to open the shutters of busbar side and cable side individually against spring pressure for testing purpose after defeating the interlock with truck movement deliberately. In case, insulating shutters are provided, these shall meet the requirements of IEC 62271-200 and necessary tests as per IEC 62271-200 Clause 5.103.3.3 shall be carried out. A clearly visible warning label "Isolate elsewhere before earthing" shall be provided on the shutters of incoming and tie connections which could be energised from other end.	
q)	Switchgear construction shall have a bushing or other sealing arrangement between the circuit breaker compartment and the busbar / cable compartments, so that there is no air communication around the isolating contacts in the shutter area with the truck in service position.	
r)	The breaker and the auxiliary compartments provided on the front side shall have strong hinged doors. Busbar and cabling compartments provided on the rear side shall have separate bolted covers with self retaining bolts for easy maintenance and safety. Breaker compartment doors shall be provided with single-shot latch type handle and shall have locking facility. Suitable interlock shall be provided, which will ensure that breaker is OFF before opening the back doors. Suitable interlock shall be provided to prevent opening of any compartment doors which has any of the HT equipment, in case the incoming supply is ON.	
s)	In the Service position, the truck shall be so secured that it is not displaced by short circuit forces. Busbars, jumpers and other components of the switchgear shall also be properly supported to withstand all possible short circuit forces corresponding to the short circuit rating specified.	
t)	Limiting Dimensions: The height of switches, pushbuttons and other hand operated devices shall not exceed 1800mm and shall not be less than 700mm.	

4.2 Termination provisions for panels

a)	i) For Standalone VCB Panels placed near Inverter Stations, incoming / outgoing termination shall be Rear and bottom entry. Both incoming and outgoing termination shall be through 1Rx1Cx300 sq-mm per phase, 33kV grade, aluminum conductor, armoured, XLPE insulation cable. ii) For VCB Incomer Panel placed near Central Control Room incoming termination shall be through 1Rx1Cx300 sq-mm per phase, 33kV grade, aluminum conductor, armoured, XLPE insulation cable, and outgoing termination shall be through Al. busbar iii) For VCB outgoer Panel placed near Central Control Room incoming termination shall be through Al. Bus Bar and outgoing termination shall be through 2Rx1Cx300 sq-mm per phase, 33kV grade, aluminum conductor, armoured, XLPE insulation cable.	
b)	<u>HT Cable terminations:</u> HT cable terminations shall be suitably provided for 1Rx1Cx300 sq-mm, 33kV grade, aluminum conductor, armoured, XLPE insulation cable. Cables and termination kits, cable glands, cable lugs and connecting hardware shall be in BHEL scope. Final confirmation on the cable type and size selected shall be informed during drawing approval stage. A minimum clearance of 750mm shall be kept between cable lug bottom ends and gland plates for cable entry and termination.	
c)	For cable entry, gland plates shall be as per clause 4.1(d). Gland plates shall be provided with holes to match the entry of power and control cables.	
d)	BHEL will intimate the final sizes of power cables to the vendor at the time of panel construction. As regards control cables, vendor shall indicate the type and cable size for interconnection with SCADA panel, marshalling box of transformer, Battery (110V DC supply) and ACDB panel (240V AC supply). BHEL will accordingly procure the cables.	

4.3 Bus bar specification:

a)	(i) Bus bar material: High conductivity Aluminium conductor (ii) Bus bar rating: 630A, 25 kA / 3 second (iii) Bus bar size: For main busbar and earth busbar – Of suitable size to meet functional requirement. Vendor to indicate size in the GTP during submission of technical offer. Busbar sizing calculations shall be provided by the successful vendor during detailed engineering. (iv) Bus bar insulation: PVC sleeved and colour coded.	
b)	Busbar cross-section shall be uniform throughout the length of switchgear. Busbars and other high voltage connection shall be sufficiently corona free at maximum working voltage. Contact surfaces at all joints shall be properly cleaned and non-oxide grease applied to ensure an efficient and trouble free connection. All bolted joints shall have necessary plain and spring washers. All connection hardware shall have high corrosion resistance. Bimetallic connectors or any other technically proven method shall be used for aluminum to copper connections.	
c)	Busbar insulators shall be of arc and track resistant, high strength, non-hygroscopic, non-combustible type and shall be suitable to withstand stresses due to over-voltages, and short circuit current. Busbar shall be supported on the insulators such that the conductor expansion and contraction are allowed without straining the insulators. In case of organic insulator partial discharge shall be limited to 100pico coulomb at rated voltage x 1.1 /√ 3. Use of insulators and barriers of in-flammable material such as Hylam shall not be accepted.	
d)	Successful Bidder shall furnish calculation establishing adequacy of busbar sizes for the specified continuous and short time current ratings.	
e)	The temperature of the busbar and all other equipment, when carrying the rated current continuously shall be limited as per the stipulations of relevant Indian Standards, duly considering the specified ambient temperature (50 deg.C). The temperature rise of the horizontal and vertical busbars when carrying the rated current shall in no case exceed 55 deg. C for silver plated joints and 40 deg. C for all other type of joints. The temperature rise at the switchgear terminals intended for external cable termination shall not exceed 40 deg. C. Further the switchgear parts handled by the operator shall not exceed a rise of 5 deg.C. The temperature rise of the accessible parts / external enclosure expected to be touched in normal operation shall not exceed 20 deg.C	

4.4 Earthing and Earthing Devices

a)	A copper / galvanized steel earthing bus shall be provided at the bottom and shall extend throughout the length of each switch board. It shall be bolted/ welded to the framework of each panel and each breaker earthing contact bar.	
b)	The earth bus shall have sufficient cross section to carry the momentary short-circuit and short time fault currents to earth as indicated under switchgear parameters without exceeding the allowable temperature rise.	
c)	Suitable arrangement shall be provided at each end of the earth bus for bolting to electrodes of earthing chamber. All joint splices to the earth bus shall be made through at least two bolts and taps by proper lug and bolt connection.	
d)	All non-current carrying metal work of the switchboard shall be effectively bonded to the earth bus. Electrical continuity of the whole switchgear enclosure frame work and the truck shall be maintained even after painting.	
e)	The truck and breaker frame shall get earthed while the truck is being inserted in the panel and positive earthing of the truck and breaker frame shall be maintained in all positions i.e. SERVICE and ISOLATED as well as throughout the intermediate travel. The truck shall also get and remain earthed when the control plug is connected irrespective of its position.	
f)	All metallic cases of relays, instruments and other panel mounted equipment shall be connected to earth by independent stranded copper wires of size not less than 2.5 sq. mm. Insulation colour code of earthing wires shall be green. Earthing wires shall be connected to terminals with suitable clamp connectors and soldering shall not be acceptable. Looping of earth connections which would result in loss of earth connection to other devices, when a device is removed is not acceptable. However, looping of earth connections between equipment to provide alternative paths of earth bus is acceptable.	
g)	VT and CT secondary neutral point earthing shall be at one place only on the terminal block. Such earthing shall be made through links so that earthing of one secondary circuit may be removed without disturbing the earthing of other circuits.	
h)	Separate earthing trucks shall be provided by the vendor for maintenance work. These trucks shall be suitable for earthing the switchgear busbars as well as outgoing / incoming cables or busducts. The trucks shall have a voltage transformer and an interlock to prevent earthing of any live connection. The earthing trucks shall in addition have a visual and audible annunciation to warn the operator against earthing of live connections.	

i)	Interlocks shall be provided to prevent : 1) Closing of the earthing switch if the associated circuit breaker truck is in Service position. 2) Insertion of the breaker truck to Service position if earthing switch is in closed position. 3) Closing of the earth switch on a live connection. Three (3) nos. voltage capacitive dividers shall be provided on each phase of the section intended for earthing and three (3) nos. "RED" neon lamps connected to these on the panel front for visual indication. 4) Energising an earthed Section. Complete details of arrangement offered, describing the safety features and interlocks shall be provided by successful bidder.	
j)	The earthing device (truck / switch) shall have the short circuit withstand capability equal to that of associated switchgear panel. 4 NO + 4 NC of auxiliary contacts of the earthing device shall be provided for interlocking purpose.	
k)	All hinged doors shall be earthed through flexible earthing braid.	

4.5 Wiring and Ferrules

a)	All wiring shall be with 1100 V single core stranded copper wires with fire resistant material (HR-PVC-105 ^{o}C or equivalent) insulation.	
b)	CT circuits : 2.5 sq-mm control cable Other circuits: 1.5 sq-mm control cable These control cables shall be of 1100V grade PVC insulated, stranded, copper conductor.	
c)	Each wire shall be identified at both ends with permanent markers bearing wire numbers as per wiring diagram.	
d)	Wire termination shall be done with crimping type connectors with insulating sleeves.	
e)	Wires shall not be spliced between terminals.	
f)	All spare contacts shall be wired up to terminal blocks.	
g)	Control wiring – LT: All control wiring shall be terminated using eye type tinned copper lugs onto stud type terminals. More than 2 wires shall not be terminated onto a single terminal.	
h)	Control wiring – HT: Cables, when laid in HT bus bar chamber, shall be taken through PVC conduits. No joints or Ts shall be made in wires between terminals. Equipotential terminals shall have same ferrule nos.	
i)	All ferrules shall be made of non-deteriorating materials. They shall be white in color except in case of warning ferrules which shall be red in color. Ring type ferrules shall have the character engraved on it. Ferrules shall be firmly secured.	

4.6 Control and circuit protection

a)	All incoming control power circuits shall be fed through suitably rated incomer MCB.	
b)	Necessary circuits such as closing coil with anti-pumping circuit, tripping coil circuit, control circuits (motor, heater, etc.) and lamp indications circuit shall be provided. Each circuit shall be protected by independent fuses.	
c)	All fuses shall be HRC with insulating base and holder.	
d)	Fuses shall be easily accessible when standing on the floor.	
e)	Trip circuit supervision scheme shall be provided for each circuit breaker. The scheme shall be such that it will be possible to test the healthiness of the trip circuit irrespective of whether the breaker is in the closed or open condition.	

4.7 Interlock provisions required in operating the VCB, Bus PT panels

a)	**Interlock logic for the individual incomer panels near central control room:** 1) With L/R switch in local position, incomer VCB can be closed through BCS in test position. 2) With L/R switch in local position, incomer VCB cannot be closed through BCS in service position. 3) Incomer VCB can be closed only when it is in service position with L/R switch in remote position and with the outgoer in service position & also in ON condition. 4) Incomer VCB cannot be closed when it is service position with L/R switch in remote position and with the outgoer in service position & also in OFF condition.	
b)	**Interlock logic for the outgoer panels:** 1) With L/R switch in local position, outgoer VCB can be closed through BCS in test position. 2) With L/R switch in local position, outgoer VCB cannot be closed through BCS in service position. 3) Outgoer VCB can be closed only when it is in service position with L/R switch in remote position and with all the five incomer VCBs in OFF condition.	
c)	**Interlock logic for the BusPT panel:** All the incomer VCBs shall be tripped upon fault sensing and activation by undervoltage / overvoltage relay (27/59) in BusPT panel.	
d)	While incomer / outgoer VCB is ON, it shall not be possible to insert the racking handle.	
e)	Incomer / outgoer VCB movement from test to service (and vice versa) shall be possible only when the VCB is in OFF condition.	
f)	It shall not be possible to close the incomer / outgoer VCB when it is in between test and service positions.	

g)	The circuit breaker will normally be controlled from remote control panels through closing and shunt trip coils. The Local control console of the relay flush mounted on the switchgear would normally be used only for testing of circuit breaker in isolated position, and for tripping it in an emergency. The closing and opening of the breaker shall also be possible from the Laptop through front serial port of the relay to facilitate commissioning activities. The basic control scheme shall be developed in the numerical relay using programmable (soft) logics. Facilities shall be provided for mechanical tripping of the breaker and for manual charging of the stored energy mechanism for a complete duty cycle, in an emergency. Each panel shall have two separate limit switches, one for the Service position and the other for Isolated position. Each of these limit switches shall have at least four (4) contacts which shall close in the respective positions. Auxiliary Contacts of breaker may be mounted in the fixed portion or in the withdrawable truck as per the standard practice of the manufacturer, and shall be directly operated by the breaker operating mechanism. Auxiliary contacts mounted in the fixed portion shall not be operable by the operating mechanism, once the truck is withdrawn from the service position, but remain in the position corresponding to breaker open position. Auxiliary contacts mounted on the truck portion, and dedicated for customer's use shall be wired out in series with a contact denoting breaker service position. With truck withdrawn, the auxiliary contacts shall be operable by hand for testing. There shall be at least 6 NO and 6 NC breaker Auxiliary contacts made available for the customer's use. The contacts of all limit switches and all breaker auxiliary contacts located on truck portion and fixed portion shall be silver plated, rated to make, carry and break 1.0A 240V DC (Inductive) / 10A 240V AC. Contacts of control plug and socket shall be capable of carrying the above current continuously. Movement of truck between SERVICE and ISOLATED positions shall be mechanically prevented when the breaker is closed. An attempt to withdraw a closed breaker shall not trip it. Closing of the breaker shall be possible only when truck is either in ISOLATED or in SERVICE position and shall not be possible when truck is in between. Further, closing shall be possible only when the auxiliary circuits to breaker truck have been connected up, and closing spring is fully charged. It shall be possible to easily insert breaker of one typical rating into any one of the panels meant for same rating but at the same time shall be prevented from inserting it into panels meant for a different type or rating. Indications shall be provided in the relay console flush mounted on the panel front as brought out in the specification elsewhere. It shall be possible to easily make out whether the truck in SERVICE OR ISOLATED POSITION even when the compartment door is closed.	

4.8 Supply voltage details:

a)	BHEL draws auxiliary power supply from the grid through a 33kV/415V transformer for consumption of utility power. This is also used to charge 110V DC lead acid battery using a battery charger. Accordingly, following supply will be available at the plant: (i) AC Auxiliary Supply: 240V AC 1 no. of 240VAC,1 Ph, 50 Hz, 63A shall be provided for space heater supply. Vendor shall provide necessary switch and fuse to receive, isolate and distribute to each panel. (ii) DC Auxiliary Supply: 110V DC Note: However, selection of supply (110VDC or 240V AC) for motors, coils, meters, relays, lamps, heaters, etc. shall be as mentioned under technical sections of incomers, outgoers, Bus PT panels. Scope of cables, lugs, glands and hardware shall be in BHEL scope.	
b)	Each sub circuit shall have separate fuses. Fuse size shall be determined so as to achieve selective clearance between main circuit and sub circuit in case of fault. Potential circuits for protection and metering shall also be protected by separate fuse. All fuses shall be of HRC link type conforming to IS: 13703 / 9385 mounted on suitable fuse bases. Fuses shall have operation indicators for indicating blown fuse condition. Fuse carrier base shall have imprints of the fuse rating and voltage. All accessible live connection to fuse bases shall be adequately shrouded. All DC circuits shall be fused on both poles. Single phase AC circuits shall have fuses on line and link on neutral.	
c)	110V AC supply, wherever required, shall be drawn from secondary of Bus PT.	

4.9 Space Heater

a)	Each switchgear panel shall be equipped with thermostatically controlled space heater(s), suitably located in breaker and cable compartments to prevent condensation within the enclosure. The space heater shall be connected to 240V single phase AC auxiliary supply available in the switchgear, through switches and fuses provided separately for each panel.	
b)	A 240V single phase 50 Hz AC plug point shall be provided in the interior of each cubicle with ON-OFF switch for connection of hand lamp.	

4.10 Terminal Blocks

a)	Terminal blocks shall be 650V grade, 10Amps rated, made up of unbreakable polyamide 6.6 grade. The terminals shall be screw type or screw-less (spring loaded) / cage clamp type with lugs. Marking on terminal strips shall correspond to the terminal numbering in wiring diagrams. All metal parts shall be of non-ferrous material. In case of screw type terminals the screw shall be captive, preferably with screw locking design.	
b)	Terminal blocks for CT and VT secondary leads shall be of stud type, made up of unbreakable polyamide 6.6 grade. They shall be provided with links to facilitate testing, isolation star / delta formation and earthing. Terminal blocks for CT secondary shall have the short circuiting facility. The terminals for remote ammeter connection etc. shall also be disconnecting type only. All metal parts shall be of non-ferrous material. Screws shall be captive.	
c)	At least 10% spare terminals for external connections shall be provided on each panel and these spare terminals shall be uniformly distributed on all terminal blocks. Space for adding another 10% spare terminals shall also be available in each panel.	
d)	There shall be minimum clearances of 250 mm between the terminal blocks and the cable gland plate and 150 mm between two rows of terminal blocks.	
e)	All panel wring for external connections shall terminate on separate terminal blocks which shall be suitable for connecting two (2) stranded copper conductors of 2.5 sq. mm on each side, or alternatively, the terminal blocks shall have the possibility of double shorting space to facilitate looping.	

4.11 Circuit Breakers

a)	The circuit breakers shall be of Vacuum type. They shall comprise of three separate, identical single pole interrupting units, operated through a common shaft by a sturdy operating mechanism	
b)	Circuit breaker shall be restrike free, stored energy operated and trip free type. Motor wound closing spring charging shall only be acceptable. An anti-pumping relay shall be provided for each breaker, even if it has built-in mechanical anti-pumping features. An arrangement of two breakers in parallel to meet a specified current rating shall not be acceptable. .	
c)	During closing, main poles shall not rebound objectionably and mechanism shall not require adjustments. Necessary dampers shall be provided to withstand the impact at the end of opening stroke. Slow closing facility shall preferably be provided for checking and adjustment of arc chutes and poles when the breaker is completely withdrawn and	

	isolated.	
d)	Plug and socket isolating Contacts for main power circuit shall be silver plated, of self-aligning type, of robust design and capable of withstanding the specified short circuit currents. They shall preferably be shrouded with an insulating material. Plug and socket contacts for auxiliary circuits shall also be silver plated, sturdy and of self aligning type having a high degree of reliability. Thickness of silver plating shall not be less than 10 microns.	
e)	All working part of the mechanism shall be of corrosion resisting material. Bearings which require greasing shall be equipped with pressure type grease fittings. Bearing pins, bolts, nuts and other parts shall be adequately secured and locked to prevent loosening or change in adjustment due to repeated operation of the breaker and the mechanism.	
f)	The operating mechanism shall be such that failure of any auxiliary spring shall not prevent tripping and shall not lead to closing or tripping of circuit breaker. Failure of any auxiliary spring shall also not cause damage to the circuit breaker or endanger the operator.	
g)	Mechanical indicators shall be provided on the breaker trucks to indicate OPEN / CLOSED conditions of the circuit breaker, and CHARGED / DISCHARGED conditions of the closing spring. An operation counter shall also be provided. These shall be visible without opening the breaker compartment door.	
h)	The rated control supply voltage shall be as mentioned under relevant clause of this specifications. The closing coil and spring charging motor shall operate satisfactorily at all values of control supply voltage between 80-110% of DC Supply voltage. The shunt trip coil shall operate satisfactorily under all operating conditions of the circuit breaker upto its rated short circuit breaking current at all values of control supply voltage between 50-110% of DC supply voltage. The trip coil shall be so designed that it does not get energised when its healthiness is monitored by two indicating lamps (Red) and one trip coil supervision relay.	
i)	The breaker shall normally be operated by remote electrical control with electrical tripping by shunt trip coil. Provision shall be made for local electrical operation and mechanical operation.	
j)	Local / Remote selector switch of “stay-put” type. The selection of ‘local’ operation shall inhibit the operation of breaker from any remote source.	
k)	Emergency trip device, manually operated, shall be provided to facilitate manual operation in the event of failure of electrical supplies. The device shall be accessible without opening any access doors and distinctly labeled. It shall be shrouded and protected against inadvertent operation.	
l)	Provision for manual operation of these circuit breakers during failure of auxiliary power in addition to electrical operation.	

5.0 VCB Panels (SPV side): 10 panels (Panel No. 1 to 10 as per SLD)
(10 panels near Inverter Station as per Clause 1.3.(a))

Each panel shall consist of following minimum provisions. Additional or alternate provisions, if any, as applicable to the specific design and operational requirements of panel, shall be indicated in the offer.

Note: In case of disparity in parameter values between SLD and this section, **SLD values shall be considered as final.**

5.1	Vacuum circuit breaker (Draw-out / isolation type), fitted with manual / motor operated spring charging mechanism with 110V DC motor and motor control switch, shunt trip coil (110V DC) and closing coil (110V DC) and auxiliary contact (6NO+6NC), mechanical ON/OFF indicator, mechanical operation counter, anti-pumping feature, automatic safety shutters and push button. Other details in line with relevant clause for 'Circuit Breakers'	33kV, 630A, 25 kA / 1 sec	1 No.	
5.2	Current Transformer, single phase, resin cast, 3 core: Ratio: 120 / 1-1-1 A Core-1: Cl-0.2S; 5 VA for metering Core-2: Cl-5P20; 5 VA for protection Core-3: Cl-PS for protection	33kV, 25 kA /1 sec	3 Nos (one per phase)	
5.3	Line PT – Required – 2 core Single phase, resin cast, fixed type Core -1 Cl: 0.2, 10VA, Core -1 Cl: 3P, 10VA,	33kV/√3/(110/√3)	3 Nos (one per phase)	
5.4	**Relays**			
a)	Numerical non-directional IDMT combined 3 O/C + 1 E/F Relay with IEC 61850 port (for interfacing with SCADA);	**Relay 50 / 51** **(R Y B N)** 110V DC	1 No.	

b)	Transformer differential Relay with IEC 61850 port (for interfacing with SCADA);	**Relay 87 TRelay 87 T** 110V DC	1 No.	
b)	Master trip relay, Electromagnetic relay Note: This can also be a built-in feature of main protection relay.	**Relay 86;** 110V DC	1 No.	
c)	Trip circuit supervision relay, Electromagnetic relay Note: This can also be a built-in feature of main protection relay.	**Relay 95 ABC;** 110V DC	1 No.	
d)	Transformer Auxiliary Relays for alarms and trips: (Electro mechanical type) 1) Buchholz trip 2) Winding temperature trip 3) Oil temperature trip 4) Pressure Relief Device trip 5) Buchholz alarm 6) Winding temperature alarm 7) Oil temperature alarm 8) Low oil level alarm	110V DC	Qty based on number of relays per set. For e.g., 3 sets of 3-in-1 can be used for these 8 relays	
e)	DC supervision relay (2 NC) Electro mechanical relay	**Relay 80DC** 110V DC	1 No.	
f)	Anti-pumping relay	**Relay 94**	1 No	
5.5	**Meters**			
a)	Digital Multi-function meter (MFM) 96 sq.mm; Cl: 0.2, CTR: 30/1 A; PTR: 33kV/√3 / 110V/√3, 110V/√3; with RS 485 communication port suitable for MODBUS protocol, for interfacing with SCADA.	110V AC Conzerv make Model : EM 6400	1 No.	
5.6	Space heater		As required	
5.7	Thermostat		As required	
5.8	**Lamps**			
a)	Panel Illumination lamp		1 No.	
b)	Test position indication lamp		1 No.	
c)	Service position indication lamp		1 No.	

d)	Indicating lamps (Cluster LED) Green: VCB OFF, 110V DC Red: VCB ON, 110V DC Amber: Auto trip, 11V DC Blue: Spring charge, 110V DC White: Trip circuit OK, 110V DC Yellow: DC failure, 110V DC		1 No each;	
5.9	**Switches**			
a)	Breaker control switch Close – Neutral – Trip		1 No.	
b)	Door limit switch		1 No.	
c)	Motor control switch		1 No.	
d)	Heater control switch		1 No.	
e)	Plug and socket with switch		As required;	
f)	Test limit switch		1 No.	
g)	Service limit switch		1 No.	
h)	Local / remote selector switch (Non-lockable)		1 No.	
5.10	Test Terminal Block (TTB)		As required;	
5.11	Mounting bases and carriers		As required;	
5.12	Contactor for service and test position	110V DC	As required;	
5.13	Neutral link (Copper strip)		As required;	
5.14	**Fuses and MCBs**			
a)	HRC Fuses for various circuits such as tripping circuit, closing circuit, indication circuit, motor control circuit, DC control circuit.		As required;	
b)	MCB, DC control circuit		As required;	
c)	MCB, AC control circuit		As required;	
d)	MOV/Surge Arrestor		As required	
5.15	**Annunciation windows**			
	1) Buchholz trip 2) Winding temperature trip 3) Oil temperature trip 4) Pressure Relief Device trip 5) Buchholz alarm 6) Winding temperature alarm 7) Oil temperature alarm 8) Low oil level alarm 9) Overcurrent + Earth fault (50/51) 10) Transformer Differential 11) Master trip	11 windows + 1 spares	12 Nos (total)	
5.16	Any other provisions /	Vendor to include such	As required	

	components etc that shall be required to meet the operational requirements of the panel.	provisions in bill of materials.		

6.0 Incomer panels (near Central Control Room): 10 Panels (Panel No. 11 to 20 as per SLD) Panels as per Clause no. 1.3 (b)

Note: In case of disparity in parameter values between SLD and this section, SLD values shall be considered as final.

6.1	These two panels are similar to the **' VCB Panels-SPV side'** (including metering), except for the following differences :	
a)	Transformer Protection Relays – Not required	
b)	Line PT – Not Required	
c)	Annunciation windows 1) Overcurrent + Earth fault (50/51) 2) Master trip	6 windows including spares
d)	Any other provisions / components etc that shall be required to meet the operational requirements of the panel.	Vendor to include such provisions in bill of materials.

7.0 Out-goer panel (near Central Control Room): 2 Panel (Panel No. 21 and 22 as per SLD) Outgoing to Grid

Note: In case of disparity in parameter values between SLD and this section, SLD values shall be considered as final.

7.1	This panel is similar to the **' VCB Panels-SPV side'** (including metering), except for the following differences :	
a)	Transformer Protection Relays – Not required	
b)	C.T 3 Core C.T Ratio – 600/1-1-1-1-1-1 A instead of 120/1-1-1A Core-1: Cl-5P20; 5 VA for protection Core-2: Cl-0.2S; 5 VA for metering Core-3: Cl-0.2S; 5 VA for metering	
c)	Line PT required: Potential Transformer, single-phase, draw-out, resin cast type Core-1: Cl-0.2; 10 VA Core-2: Cl-3P; 10 VA 33kV/√3 / 110V/√3, 110V/√3	3 Nos (one per phase)
c)	Annunciation windows 1) Overcurrent + Earth fault (50/51) 2) Master trip	6 windows including spares
d)	Any other provisions / components etc that shall be required to meet the operational requirements of the panel.	Vendor to include such provisions in bill of materials.

8.0 Out-goer panel (near Central Control Room): 2 Panel (Panel No. 25 and 26 as per SLD) Outgoing to 33/0.433kV Aux. Transformer

Note: In case of disparity in parameter values between SLD and this section, SLD values shall be considered as final.

8.1	This panel is similar to the '**VCB Panels-SPV side'** (including metering), except for the following differences :	
a)	Transformer Protection Relays – required	
b)	C.T Ratio – 30/1-1-1A instead of 120/1-1-1A	
c)	Any other provisions / components etc that shall be required to meet the operational requirements of the panel.	Vendor to include such provisions in bill of materials.

9.0 Bus PT panel (in Central Control Room): 2 Nos. (Panel No. 23 and 24 as per SLD) Panels as per Clause no. 1.3 (e)

Panel with Bus PT (draw-out, resin cast) shall be provided with following minimum provisions. Additional / alternate provisions, if any, as applicable to the specific design and operational requirements of the panel / circuits, shall be provided by the vendor.

Note: In case of disparity in parameter values between SLD and this section, SLD values shall be considered as final.

9.1	Potential Transformer, single-phase, draw-out, resin cast type Core-1: Cl-0.2; 50 VA Core-2: Cl-3P; 50 VA	33kV/√3 / 110V/√3, 110V/√3	3 Nos (one per phase)	
9.2	Digital Voltmeter 96 sq.mm, 0 – 40 kV; PTR: 33kV/√3 / 110V/√3, Cl 1.0 Aux supply 110V AC	Conzerv make DM 3210 or equivalent	1 No.	
9.3	Voltage transducer		1 No.	
9.4	Numerical combined Under voltage & Over voltage relay; 3 phase, 3 wire with inbuilt timer, with IEC 61850 port for SCADA interface.	Relay 27 / 59; 220V DC;	1 No.	
9.5	Space heater		Qty as required	
9.6	Thermostat		Qty as required	
9.7	**Lamps**			
a)	Panel Illumination lamp Incandescent / CFL type		1 No.	
b)	RYB: Phase indication Cluster		3 Nos.	

	LED			
9.8	**Switches**			
a)	Door limit switch		1 No.	
b)	Heater control switch		1 No.	
c)	Plug and socket with switch		As required;	
9.9	Test Terminal Blocks		As required;	
9.10	Mounting bases and carriers		As required;	
9.11	Neutral link (Copper strip)		As required;	
9.12	**Fuses and MCBs**			
a)	HTFS, PT Fuse - Primary	33kV, 2A, HRC type	3 Nos.	
b)	Fuse at secondary side of Potential Transformer	110V AC, 2A, HRC type	6 Nos.	
c)	HRC Fuse for DC control circuit		As required;	
d)	MCB, AC control circuit		As required;	
e)	MCB, PT circuit		As required;	

10.0 Output signals and termination provisions for SCADA

a)	All the SCADA outputs shall be brought out and wired to suitable terminal blocks with identification labels / inscriptions. For the HT Panels located in the Central Control Room, all the SCADA terminations shall be available in the Bus PT Panel. For the HT Panels located in the Inverter Rooms these outputs shall be located in the individual HT Panels with identification labels/inscription.	
b)	**Display on SCADA** All relays shall have output contacts for suitably interfacing with the Solar SCADA system for dynamic SLD display, status monitoring, measurements, event / alarm displays, reports, etc. Following are outputs required for SCADA interconnection: VCB ON/OFF/SPRING CHARGED feedback from incomer and outgoer panels. Transformer protection alarm and trip signals: Buchholz, PRV, Low oil level (alarm only), Oil temperature, Winding temperature Master Trip Trip circuit supervision healthy DC circuit failure Overcurrent/Earth FaultTrip Overvoltage/Undervoltage All the balance protection functions available from numerical relays through IEC 61850 port.	
c)	**Remote Control through SCADA** The circuit breaker will normally be controlled from SCADA through closing and shunt trip coils. The Local control console of the relay flush	

	mounted on the switchgear would normally be used only for testing of circuit breaker in isolated position, and for tripping it in an emergency. Suitable termination of VCB contacts required for remote operation shall be available in the panels as detailed in (a) above.	

11.0 Technical specifications – Major panel components

11.1 Vacuum circuit breaker (VCB)

11.1.1 Technical data

a)	Number of poles	3	
b)	Nominal system voltage	33 kV	
c)	Highest system voltage	36 kV	
d)	Rated frequency	50 Hz	
e)	Rated normal current at 50 ^{o}C	630 A	
f)	Rated short circuit breaking current	25 kA (rms) for 1 second	
g)	Rated short circuit making current	63 kA peak	
h)	Rated short time current withstand capability	25 kA for 1 seconds and 3 seconds (for busbars)	
i)	Power frequency withstand voltage (1 min)	70 kV rms	
j)	Lightning impulse withstand voltage	170 kV peak	
k)	First pole to clear factor	1.5	
l)	Rated operating sequence	0 - 0.3 sec – CO – 3 min - CO	
m)	Maximum break time	3 cycles	
n)	Rated out-of-phase breaking current	25% of symmetrical short circuit breaking current	
o)	Maximum pole scatter	10 milliseconds	
p)	Operating cycles at no load for auto reclosing duties	Minimum 10,000 as per IEC:17A/474/CD	
q)	Rated auxiliary supply for spring charge motor, lamp & heater circuit	110V DC	
r)	Rated supply voltage for trip/close coil	110V DC	
s)	Minimum creepage distance	350 mm	
t)	Minimum protected creep distance	280 mm	
u)	Auxiliary voltage 1) Closing coil 2) Shunt tripping coil	 110V DC (80% to 110%) 110V DC (50% to 110%)	
v)	Interchangeability of VCBs	Yes	
w)	Reclosing	Single, three phase high speed auto reclosing	
x)	Total closing time	≤ 100 ms	
y)	Auxiliary contacts	Min 6 NO + 6 NC	
z)	3-pin power socket with switch	Yes in each panel	
aa)	Anti-pumping feature to be provided	Yes	

11.1.2 Current transformer

a)	Type	Resin cast, Number of cores as per SLD	
b)	CTR, VA, accuracy	As per SLD	
c)	Highest sys voltage, freq	36 KV, 50 Hz	
d)	System neutral earthing	Effectively earthed	
e)	Short time rating	25 KA for 1 sec	
f)	Dynamic stability current	63 kA peak	
g)	Partial discharge level	10 pico coulombs max.	
h)	Insulation level	Impulse withstand voltage of 170KV peak; Power freq withstand voltage of 70 kV rms.	
i)	Temperature rise	As per IEC 60044	
j)	Type of insulation	Class A	
k)	Applicable standard	IS 2705	
l)	Terminal box	IP-55	
m)	Ratio, acc class, VA	See incomer, outgoer panel sections.	

11.1.3 Potential transformer

a)	Type	Epoxy cast single phase. Number of cores as per SLD	
b)	PT ratio, accuracy, VA	As specified under previous clauses.	
c)	Connection	3-phase, Star / Star	
d)	System neutral earthing	Effectively earthed	
e)	Voltage factor	1.2 continuous for all PTs, 1.9 for 30 sec for star connected PTs	
f)	System fault level	25 kA	
g)	Neutrals	To be brought out for earthing: LV, HV sides	
h)	Insulation level	Impulse withstand voltage of 170 kV peak; Power freq withstand voltage of 70 kV rms.	
i)	Temperature rise	As per IEC 60044	
j)	Protection	HV side: 33kV HT fuse (primary) LV side: Link type HRC fuse	
k)	Mounting of PT	Horizontal draw-out truck with service / test position	
l)	Number of terminals in control spare	All terminals of control circuits wired; Cabinet up to marshaling box plus 10 terminals.	
m)	Partial discharge level	10 pico coulombs max.	
n)	Applicable standard	IS: 3156	

11.1.4 Relays – Overall requirements

a)	Protective relays, except for the lock-out electro mechanical relays, shall be of numeric communicable type (MODBUS outputs) with self-monitoring features, IEC 61850 communication ports, for interfacing with SCADA. Under voltage / Over voltage relay, IDMT OC-cum-Earth fault relays shall be numeric relays. Numerical relays shall have feature for Time Synchronization through the SCADA system.	
b)	For numerical relays, technical catalogues, type no., test certificate shall be provided.	
c)	MODBUS (RS 485) port /IEC 61850 port from various relays and load manager shall be brought to separate TB with identification for employing in SCADA.	
d)	All relays and timers shall be flush mounted with connections from inside. They shall have transparent & dust tight cover, removable from front, draw out construction (conforming to IS: 3231) for easy replacement from the front. The auxiliary relays and timers may be in non-draw out cases.	
e)	Relays shall be suitable for operation from CT/PT as required.	
f)	Numeric relays shall have self - reset contacts and shall be suitable for efficient and reliable operation of the protective schemes.	
g)	A combination of electromechanical & numerical communicable type relays for main protections is not acceptable.	
h)	Relays and timers shall be designed for satisfactory performance under specified tropical and humid conditions. These shall operate under extreme conditions of control voltage variation.	
i)	Relays shall not have any inbuilt batteries and shall operate on available DC supply. Relays shall be provided with hand-reset operation indicators (flags) or LEDs with pushbuttons for resetting for analyzing the cause of breaker operation.	
j)	Relays shall have built-in test facilities (or) alternatively, the relays can be provided with necessary test blocks and test switches. One testing plug shall be provided for switch board.	
k)	Alarm / trip contacts from the transformer protection relays shall be brought on to suitable terminal blocks. The trip contacts shall be interlocked to the master trip circuit. Also, these contacts shall be identified at the TB with corresponding inscriptions to facilitate further wiring to annunciator panel.	
l)	**NUMERICAL RELAYS AND NETWORKING** (1)All circuit breaker feeders shall be provided with communicable numerical relays (IED, i.e. Intelligent Electronic Device) complying with IEC-61850, having protection, control, measurement and monitoring features. These relays shall be networked and suitably interfaced with the Solar SCADA system for dynamic SLD display, status monitoring, measurements, event / alarm displays, reports, etc. The relays shall be flush mounted on panel front with connections from the inside. These numerical relays shall be of types as proven for the application and shall be subject to BHEL/BHEL Customer approval. Numerical relays shall	

	have appropriate setting ranges, accuracy, resetting ratio and other characteristics to provide required sensitivity. All equipment shall have necessary protections as detailed in the standard scheme drawings / module type descriptions. (2) One No. of master IED per switchgear / board shall be provided which shall have interlocks / logics common to the board like alarm / trip on failure (IRF) of any feeder IED, Circuit Breaker Failure (CBFP) alarm / trip, auto-changeover, etc. (3) The numerical relay shall be capable of measuring and storing values of a wide range of quantities, events, faults and disturbance recordings. The alarm / status of each of protection function and trip operation shall be communicated to Solar SCADA. The numerical relays shall have built in feature / hardware interface to provide such inputs to Solar SCADA / DDCMIS for analog / digital values. (4) All relays shall be rated for control supply voltage as mentioned elsewhere under parameters and shall be capable of satisfactory continuous operation between 80-120% of the rated voltage. Making, carrying and breaking current ratings of their contacts shall be adequate for the circuits in which they are used. Contacts for breaker close and trip commands shall be so rated as to be used directly used in the closing and tripping circuits of breaker without the need of any interposing / master trip relays. Threshold voltage for binary inputs shall be suitably selected to ensure avoidance of mal operation due to stray voltages and typically shall be more than 70% of the rated control supply voltage. (5) One minute power frequency withstand test voltage for all numerical relays shall at least be 2kV (rms). (6) Failure of a control supply and de-energization of a relay shall not initiate any circuit breaker operation. (7) Disturbance Record waveforms, event records & alarms shall be stored in Non-volatile memory and failure of control supply shall not result in deletion of any of these data (8) All numerical relays shall have freely programmable optically isolated binary inputs (BI) and potential free binary output (BO) contacts as per the requirement of control schematics. Master IED shall have 32BI + 32BO. The quantities of such input / outputs shall be finalized during detailed engineering. (9) All the numerical relays shall have communications on two ports, local front port communication to laptop and rear port on IEC 61850 to communicate with the interface equipment for connectivity with the Solar SCADA. (10) All the numerical relays shall have adequate processor memory for implementing the programmable scheme logic required for the realization of the protection / control schemes, in addition to the built in protection algorithms. (11) All Numerical relays shall have features for electrical measurements including voltage, current, power (active & reactive), frequency, power- factor and energy parameters (12) Relays shall have event recording feature, recording of abnormalities and operating parameters with time stamping. (13) Master trip (86) and non-86 trips shall be software configurable to output contacts and no separate master trip relay shall be used (14) All numerical relay shall have key pad / keys to allow relay settings	

	from relay front. All hand reset relays shall have reset button on the relay front. Relay to be self or hand reset shall be software selectable. Manual resetting shall be possible from remote. (15) Relays shall have suitable output contact for breaker failure protection. (16) Relays shall have self-diagnostic feature with self-check for power failure, programmable routines, memory and main CPU failures and a separate output contact for indication of any failure. (17) Relays shall have at least two sets or groups of two different sets of adaptable settings. Relays shall have multiple IEC / ANSI programmable characteristics. (18) Design of the relay must be immune to any kind of electromagnetic interference. Vendor shall submit all related type test reports for the offered model along with the offer. (19) All cards / hardware of numerical relays shall be suitable for operation in Harsh Environmental conditions with respect to high temperature, humidity & dust. (20) Relay shall be immune to capacitance effect due to long length of connected control cables. Any external hardware, if required for avoiding mal operation of the relay due to cable capacitance shall be included as a standard feature. (21) All I/Os shall have galvanic isolation. Analog inputs shall be protected against switching surges, harmonics etc. (22) Numerical relays shall have two level password protections, one for read only and other for authorization for modifying the setting etc. (23) Numerical relays shall have feature for Time synchronization through the SCADA System / networking. The resolution of time synchronization shall be +/- 1.0 millisecond or better throughout the entire system. (24) Relays & Ethernet switches shall be suitable to accept both AC & DC supplies with range 120V or 240V with tolerance of 70 % to 120 % of rated voltage & shall be finalized during detailed engineering. (25) Disturbance Record waveforms, event records & alarms shall be stored in Non-volatile memory and failure of control supply shall not result in deletion of any of these data.	

12.0 Tests and test certificates

a)	**ROUTINE TESTS** All acceptance and routine tests as per the specification and relevant standards IEC 62271-200 & IEC 62271-100 shall be carried out. Charges for these shall be deemed to be included in the equipment price. An indicative lists of tests / checks is indicated at Annexure-2 (QA Tests on 33kV Switchgear Panels). However, the successful vendor shall furnish a detailed Manufacturing Quality Plan (MQP) indicating the practice and procedure along with relevant supporting documents. The same shall be subject to BHEL/BHEL Customer approval.	
b)	**COMMISSIONING CHECKS / TESTS** After installation of panels, power and Control wiring and connections, Contractor shall perform commissioning checks as listed below to verify proper operation of switchgear / panels and correctness of all equipment in all respects. In addition to the checks below, the vendor shall carry out all other checks and tests as per standard commissioning procedure. **General** (a) Check name plate details according to specification. (b) Check for physical damage (c) Check tightness of all bolts, clamps and connecting terminals (d) Check earth connections. (e) Check cleanliness of insulators and bushings (f) Check heaters are provided (g) H.V. test on complete switchboard with CT & breaker in position. (h) Check all moving parts are properly lubricated. (i) Check for alignment of busbars with the insulators to ensure alignment and fitness of insulators. (j) Check for interchange ability of breakers. (k) Check continuity and IR value of space heater. (l) Check earth continuity for the complete switchgear board. **Circuit Breakers** (a) Check alignment of trucks for free movement. (b) Check correct operation of shutters. (c) Check slow closing operation (if provided) (d) Check control wiring for correctness of connections, continuity and IR values. (e) Manual operation of breakers completely assembled. (f) Power closing / opening operation, manually and electrically at extreme condition of control supply voltage. (g) Closing and tripping time.	

	(h) Trip free and anti-pumping operation. (i) IR values, resistance and minimum pick up voltage of coils. (j) Simultaneous closing of all the three phases. (k) Check electrical and mechanical interlocks provided. (l) Checks on spring charging motor, correct operation of limit switches and time of charging (m) All functional checks. **Current Transformers** (a) Megger between windings and winding terminals to body. (b) Polarity tests. (c) Ratio identification checking of all ratios on all cores by primary injection of current. (d) Magnetisation characteristics & secondary winding resistance. (e) Spare CT cores, if any to be shorted and earthed. **Potential Transformers** (a) Insulation resistance test. (b) Ratio test on all cores. (c) Polarity test. (d) Line connections as per connection diagram. **Cubicle Wiring** (a) Check all switch developments. (b) It should be made sure that the wiring is as per relevant drawings. All interconnections between panels shall similarly be checked. (c) All the wires shall be meggered to earth. (d) Functional checking of all control circuit e.g. closing, tripping interlock, supervision and alarm circuit including proper functioning of component / equipment. (e) Check terminations and connections. (f) Wire ducting.	
c)	**TYPE TESTS** All equipment to be supplied shall be of type tested design. Vendor shall submit the following type test reports during bid submission. These test reports shall have been carried out on equipment of similar rating within last ten years. However if the vendor is not able to submit report of the type test(s) conducted on similar equipment, or in the case of type test report(s) are not found to be meeting the specification requirements during document approval stage, the vendor shall conduct all such tests free of at no additional cost to BHEL, either at third party lab or in presence of BHEL/BHEL customer and submit the reports for approval.	

(i)	**Type test reports of the following tests carried out on circuit breaker / circuit breaker panels, of same voltage class and current rating shall be submitted**. 1) Short circuit duty test on circuit breaker, mounted inside the panel offered along with CTs, bushing and separators. 2) Short time withstand test on circuit breaker, mounted inside panel offered together with CTs, bushings and separators. 3) Power frequency withstand test on breaker mounted in side panel. 4) Lightning impulse withstand test on breaker mounted in side panel. 5) Temperature rise test on breaker and panel together. For this test, the test set up shall include three panels with breakers, the test breaker and panel being placed in the center. The adjacent panels shall also be loaded to their rated current capacity. Alternatively, the test panel may be suitably insulated at the sides, which will be adjoining to other panels in actual site configuration 6) Internal Arc Test as per IEC 62271-200 7) Measurement of resistance of main circuit. 8) Mechanical operation test. 9) Short circuit withstand test of earthing device (truck / switch)	
(ii)	**Type test reports for the following tests on the model of the Numerical relays being offered by vendor:** 1**) Functional requirements** (a) Features and logic (b) Checking of compatibility with co-operating devices (c) Communication **2) Mechanical construction requirement** (a) General inspection (b) Inspection of marking and data (c) Clearances and creepage distances (d) Degree of protection test of enclosure **3) Insulation requirement** (a) Dielectric test (b) Impulse voltage test (c) Insulation resistance measurement **4) Accuracy requirements** (a) Measurement accuracy of characteristic quantity and specified time (b) Limits of frequency range and frequency dependence (c)Limits of ambient temperature and ambient temperature dependence	 IEC 61850 IEC 61850 IEC 61850 Manufacturer's doc IEC 60255-6 IEC 60255-5 IEC 60529 IEC 60255-5 IEC 60255-5 IEC 60255-5 IEC 60255-6 IEC 60255-6 IEC 60255-6

	(d) Limits of operative range of auxiliary energizing inputs and auxiliary voltage dependence	IEC 60255-6
	5) Rated burden requirement	
	(a) Measuring circuits	IEC 60255-6
	(b) Auxiliary circuits	IEC 60255-6
	(c) Signalling inputs	IEC 60255-6
	6) Thermal requirements	
	(a) Temperature rise	IEC 60255-6
	(b) Limiting continuous thermal withstand values	IEC 60255-6
	(c) Limiting short time thermal withstand values	IEC 60255-6
	7) Limiting dynamic value requirements	IEC 60255-6
	8) Power Supply requirements	
	(a) Limiting duration of interruptions to dc auxiliary voltage	IEC 60255-11
	(b) Limiting value of ripple in dc auxiliary voltage	IEC 60255-11
	(c) Limiting value of voltage dips to ac auxiliary voltage	IEC 60255-4-11
	(d) Limiting duration of interruptions to ac auxiliary voltage	IEC 60255-4-11
	(e) Limiting variations of ac auxiliary voltage	IEC 60255-4-11
	9) Electromagnetic compatibility requirements	
	(a) High frequency disturbance test	IEC 60255-22-1
	(b) Electrostatic discharge test	IEC 60255-22-2, 61000-4-2
	(c) Radiated, radio-frequency, electromagnetic field immunity test	IEC 60255-22-3, 61000-4-3
	(d) Fast transient disturbance test	IEC 60255-22-4, 61000-4-4
	(e) Surge immunity test	IEC 60255-22-5, 61000-4-5
	(f) Immunity to conducted disturbances, induced by radio-frequency fields	IEC 60255-22-6, 61000-4-6
	(g) Power frequency immunity test	IEC 60255-22-7
	(h) Conducted and radiated radio-frequency emission tests	IEC 60255-22-25, EN55011-CISPR11
	(i) Power frequency magnetic field immunity test	IEC 61000-4-8
	10) Environmental requirements	
	(a) Dry cold test	IEC 60068-2-1
	(b) Dry heat test	IEC 60068-2-2
	(c) Storage temperature test	IEC 60068-2-8
	(d) Damp heat test, cyclic (12+12 hour cycle)	IEC 60068-2-30
	11) Contact performance requirement	
	(a) Make and carry for DC	IEC 60255-23
	(b) Breaking capacity for DC	IEC 60255-23
	(c) Make and break AC	IEC 60255-23
	12) Mechanical performance requirements	
	(a) Durability of relay operation	IEC 60255-6
	(b) Durability of plug in relays	IEC 60255-6

	(c) Durability of relay setting controls (d) Vibration response and endurance test (e) Shock response and withstand test (f) Bump test	IEC 60255-6 IEC 60255-21-1 IEC 60255-21-2 IEC 60255-21-2
(iii)	**Type test report for Degree of Protection Test: IP 54 or higher**	

13.0 Documents to be submitted after receipt of purchase order

13.1	Following documents shall be submitted for BHEL approval within seven days from date of purchase order. 1. HT Panel GTP/Datasheet 2. Overall General Arrangement of panels in inverter rooms. 3. Overall General Arrangement of panels in central control room. 4. Detailed Bill of materials for each type of incomer / outgoer / Bus PT panels. Minimum particulars such as item description, item quantity, make, type, rating etc shall be provided. 5. List of spares offered with item-wise quantity (with % details with respect to main supply items). 6. Type test certificates for 33kV VCB panels and numerical relays. See respective clauses. 7. All the above documents shall be submitted to BHEL for final approval – GA and Layout Drgs, Foundation Drgs, Datasheet, Detailed BOM, Manufacturing Quality Plan (MQP) including Final Test Procedure. All these documents shall be submitted in soft copy with BHEL drawing nos. which shall be informed during detailed engineering. Vendor shall proceed with Manufacturing only after final approval of all the listed documents.	

14.0 Documents to be submitted along with consignment

14.1	Following documents shall be submitted at the time of dispatch: Test reports on individual HT Panels and Bus PT Panels Technical manual with system specifications, installation guidelines, commissioning guidelines, schematic drawings, calibration settings, cable schedule, general arrangement drawings, panel details. Operations and maintenance manual Product catalogues / datasheets of all BOM items	

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm

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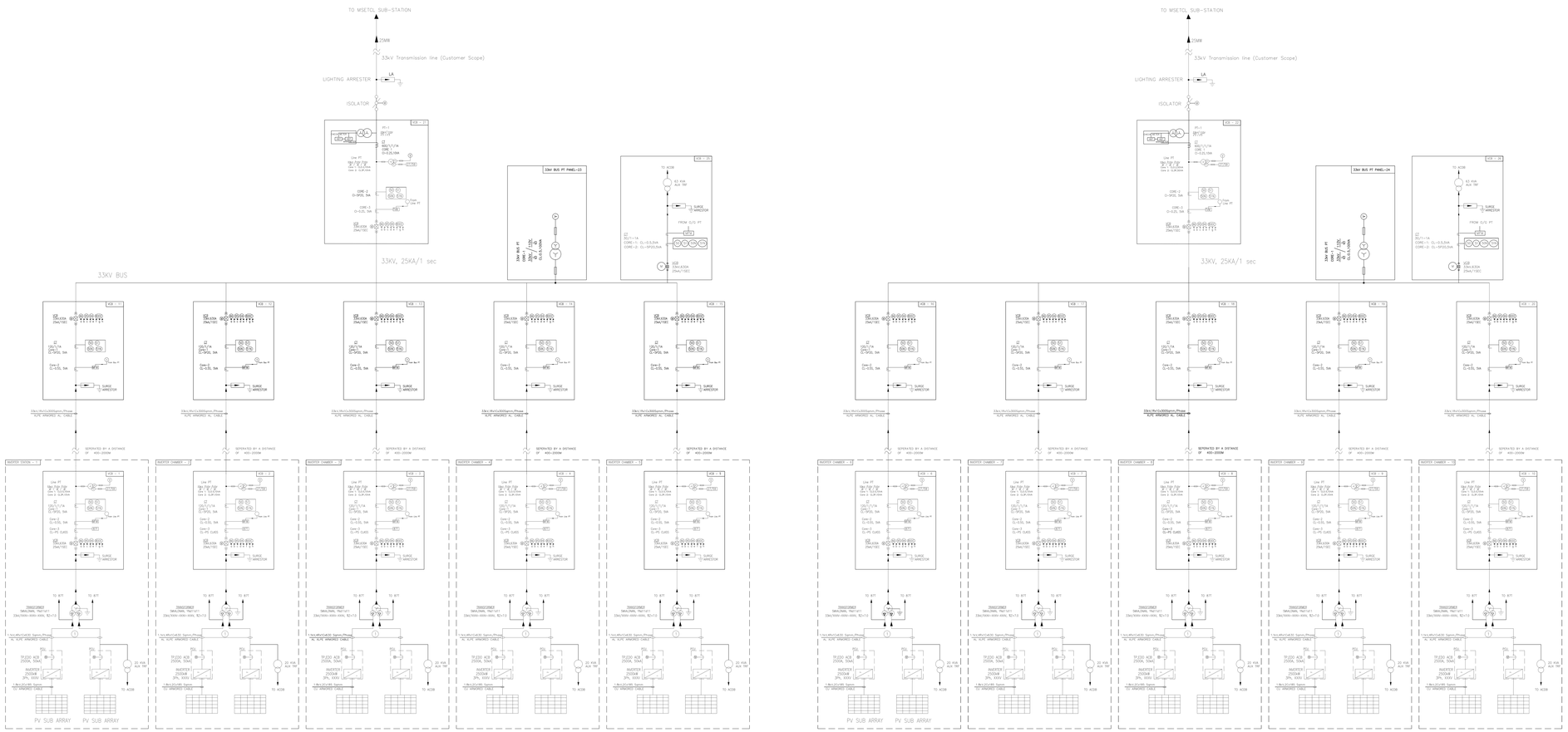

LEGEND DETAILS

SL. NO.	SYMBOL	DESCRIPTION
1		INVERTER TRANSFORMER
2		VCB 33kV,630A OUTDOOR TYPE
4	86	MASTER TRIP RELAY
5	95 195 295	TRIP CIRCUIT SUPERVISION RELAY
6	94	ANTI PUMPING RELAY
7	63	BUCHHOLZ RELAY
8	26	MAGNETIC OIL LEVEL GAUGE
9	49	WINDING TEMP INDICATOR AND OIL TEMP INDICATOR
10	74	PRESSURE RELIEF DEVICE
11	50	INST OVER CURRENT RELAY
12	51	IDMT OVER CURRENT RELAY
13	50N	NEUTRAL INSTANTANEOUS OVER CURRENT RELAY
14	51N	IDMT EARTH FAULT RELAY
15	MFM	MULTI FUNCTION METER
16		CURRENT TRANSFORMER
17	27	UNDER VOLTAGE RELAY
18	59	OVER VOLTAGE RELAY
19		POTENTIAL TRANSFORMER
20		FUSE
21	ABT	ABT TARIFF ENERGY METER
22	80DC	DC FAILURE INDICATION
23		INVERTER, 2500kVA
24		ELECTRICALLY DRAW OUT ACB
25		LIGHTENING ARRESTER
26	87T	TRANSFORMER DIFFERENTIAL RELAY
27	95	TRIP CIRCUIT SUPERVISION RELAY
28		ISOLATOR

NAME OF CUSTOMER MAHAGENCO

NAME OF PROJECT 50 MW SOLAR PV POWER PLANT

BHARAT HEAVY ELECTRICALS LIMITED.
ELECTRONICS DIVISION, BANGALORE

	NAME	SIGN.	DATE	No.OF VAR
DRN	SAN		180919	
CKD	VJ		180919	
APPD	PR		180919	

DEPT.	FOR UNSPECIFIED TOLERANCES REFER ED 0230499	SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No.OF ITEM
SCPV		NTS	1 : 1			
CODE 439						

TITLE: AC SINGLE LINE DIAGRAM

DRAWING NO. BHEL-MSPGCL-50MW-001 REV. 00

SHEET NO. 01 NO. OF SHEETS 01

REV.	DATE	ALTERED / CHECKED / APPROVED
00		FIRST ISSUE

REF. DRG.NO.

SIGN & DATE

INVENTORY NO.

A2 SIZE

ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division
PB 2606 , Mysore Road Bangalore , 560026 INDIA

SCPV: BOS: ITB - Rev 04

INSTRUCTIONS TO BIDDERS (ITB)

Bidders are requested to read the instructions carefully and submit their quotations 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: ITB – Rev 01), General Conditions of Contract (document reference: SCPV: BOS: GCC - Rev 01) and Special Conditions of Contract (document reference: SCPV: BOS: SCC: I - Rev 01/ SCPV: BOS: SCC: F - Rev 01), 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. <u>GUIDELINES FOR PREPARATION OF OFFER:</u>

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. Photocopy will not be accepted. All documents submitted along with the offer shall be signed and stamped in each page by authorized representative of the bidder.
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 (I&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 /Excise 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, totalling 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. <u>GUIDELINES FOR OFFER SUBMISSION:</u>

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 IDs 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 to purchase officers.
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: e-Procurement Technologies Limited (abc Procure)
   Website address: https://bhel.abcprocure.com
   Helpline no.: +91-79-68136819/809/862/867/823/872/842 (9:30 am to 5:30 pm)
   10:00 AM - 07:00 PM (Monday - Friday)
   10:00 AM-04:00 PM (Saturday)
   Purchase Executive / BHEL will not be responsible for any of the activities relating to submission of offer.

D. <u>PROCESSING OFFERS RECEIVED:</u>

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.
5. 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.
6. 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.
7. 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.
8. 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, inspection charges, 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)
9. 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.
10. 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. <u>INFORMATION ON PAYMENT TERMS:</u>

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format **(Refer Annexure IV)** for receiving all payments through NEFT. (Applicable for Indian vendors only)
2. 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.
3. 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 I&C/SUPERVISION:

Supply:

1) 80% of basic Supply value + 100% of taxes, duties and freight charges will be paid with 45 days credit from the receipt of material at site or 15 days credit from the date of submission of complete set of documentation whichever is later.
2) 10% of basic supply value will be paid on completion of I&C against submission of supplementary invoice along with proof of completion of I&C along with I&C charges (if any).
3) Balance 10% (retention money) against submission of supplementary invoice along with PBG valid for Warranty Period+3 months Claim Period from BHEL Consortium Bank.

I&C/Supervision*:* 100% on completion of I&C/Supervision and certification line item wise on pro-rata basis.

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

(b) SUPPLY ONLY:

1) 100% of Basic value with taxes, duties and freight will be paid with 45 days credit from the receipt of material at site or 15 days credit from the date of submission of complete set of documentation whichever is later)+ submission of PBG valid for Warranty Period+ 3 months Claim Period from BHEL Consortium Bank ,if applicable.

Purchase orders for import procurement:

(c) SUPPLY WITH I&C/SUPERVISION:

Supply:

1) 80% of the basic value (excluding I&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 will be paid on completion of I&C against submission of supplementary invoice along with proof of completion of I&C along with I&C charges (if any).
3) Balance 10% (retention money) against submission of supplementary invoice along with PBG valid for Warranty Period+3 months Claim Period from BHEL Consortium Bank.

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

(d) 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+3 months Claim Period from BHEL Consortium Bank ,if applicable.

Note for (a), (b), (c) and (d): In exceptional cases, if vendor fails to submit PBG after supplies, vendors can also accept for the final 10% payment, payable after the warranty period + 3 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 :-**	
		1) Credit period less than 45 days	15
		*** 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.**

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.

NOTES:

1. ADVANCE PAYMENT/LC: Quotations with "Advance payment/Inland LC" shall be rejected.

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

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

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

5. 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.

6. In case of intrastate movement i.e. supply within same state and VAT is applicable, the vendor shall furnish the respective BHEL's nodal agency TIN no. and address in their invoice. (Refer **Annexure IX**)

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 3 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 Annexure III)**. 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. In case vendor does not accept for submission of PBG, the vendor is liable for rejection on commercial grounds.

I. DOCUMENTS (TRIPLICATE COPIES) REQUIRED AT THE TIME OF DISPATCH FOR PROCESSING OF BILL:

1. FOR INDIGENOUS SCOPE OF SUPPLY:

For Supply: Invoice in Triplicate, Lorry receipt (LR) copy, Packing List, PSI Call Letter Copy, Proof of delivery such as MRC (Material Receipt Certificate)/ original acknowledged LR, Insurance intimation Letter and Warranty Certificate. Note that document pertaining to Proof of delivery shall clearly mention number of boxes/panels etc which shall be in line with the Packing list.

For I&C: Supplementary Invoice in Triplicate with copy of I&C Certificate (Proof of Completion of I&C).

For PBG: Supplementary Invoice in Triplicate with copy of PBG. However, PBG should reach concerned Purchase Officer directly from the Bank.

2. FOR IMPORTED SCOPE OF SUPPLY:

For Supply: Invoice in Triplicate, Air Way Bill/Bill of Lading, Packing List, PSI Call Letter Copy, and Warranty Certificate.

For I&C: Supplementary Invoice in Triplicate with copy of I&C Certificate (Proof of Completion of I&C).

For PBG: Supplementary Invoice in Triplicate with copy of PBG. Both PBG & supplementary invoice should reach concerned Purchase Officer directly from the Bank.

J. PROVISONS 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 VIII)** 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 25% of the requirement against this tender provided. Minimum of 3% reservation for women owned MSEs within the above mentioned 25% reservation.

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. 25% of the 25% (i.e. 6.25% 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 6.25% 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.

L. FRAUD PREVENTION POLICY:

The bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.
Fraud Prevention policy and List of Nodal Officers shall be hosted on BHEL website, vendor portals of Units/regions intranet.

PURCHASE EXECUTIVE

ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division
PB 2606 , Mysore Road Bangalore , 560026 INDIA

SCPV: BOS: GCC - Rev 03

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT (GCC)

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. **Taxes & Duties:** Taxes as mentioned in the Contract Price or Price Schedule shall be paid to the Contractor subject to the Contractor complying with all the statutory requirements and furnishing the relevant documents including error free invoices containing detailed break-up of the taxes. Any duties, levies or taxes not mentioned in Contract Price or Price Schedule but applicable as per any statute(s) shall be deemed to be included in the Contract price and shall be to the account of the Contractor.
   The Contractor shall bear and pay all the costs, liabilities, levies, interest, penalties in respect of non-compliances of any legal requirements as per various statutory provisions. The contractor shall keep the owner indemnified at all times from any tax liability, interest, penalties or assessments that may be imposed by the statutory authorities for non-compliances or non-observation of any statutory requirements by the Contractor.

4. **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.

5. **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.

6. **TERMS OF DELIVERY:**
   FOR IMPORTED PURCHASE:
   Price offered shall be for goods packed and delivered CIF Seaport/ International Airport (FCA) 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. 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 transhipment 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.

7. 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 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.

8. **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.

9. **Reverse Auction:** BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non- consideration of their bids, in case BHEL decides to go for RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.

If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

10. **Pre Shipment Inspection:** Prior written notice of at least one week 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.

11. **Transit Insurance:** Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.

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 Phytosanitory / 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 shall apply afresh to replaced, repaired or re-executed parts of a delivery. If the vendor fails to take proper corrective action to repair/replace defects satisfactorily within a reasonable period, Purchaser shall be free to take corrective action as may be deemed necessary at vendor's risk and cost after giving notice to the vendor, including arranging supply of goods from elsewhere at the sole risk and cost of the vendor. 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.

33. Vendors shall provide their state wise list of GSTIN number as per Govt of India Statute.

34. If the vendor is below the threshold limit, viz Rs.20. lacs as per existing provisions, then a declaration to be provided to that effect along with copy of accounts, failing which the supplier will be treated as an Unregistered dealer (URD) for which tax is payable on reverse charge (RCM) by BHEL.
35. If the vendor is above the threshold limit & is yet not registered, GST is payable by BHEL on reverse charge basis.
36. All supply items are linked to HSN code (Harmonised System Nomenclature). This goods list is mapped with HSN code which is released by Govt of India & available in public domain. All registered suppliers submitting the quote shall mandatorily mention HSN code relevant for the goods quoted.
37. Under GST, Govt of India has linked every service to a service accounting code called SAC. The list of services and the corresponding service accounting code (SAC) is released by Govt of India & available in public domain. All registered suppliers submitting the quote shall mandatorily mention SAC code relevant for the service quoted.
38. The rate of tax applicable for 35 services is also released by Government and rate for any service not falling in the list of 35 services is 18% .
39. Invoice should contain all particulars as per invoice Rules and should include the GST registration number (GSTIN) , service accounting code (SAC) apart from all other details mentioned.
40. Invoice should contain all particulars as per invoice Rules and should include the GST registration number (GSTIN) , HSN code apart from all other details mentioned.
41. In case GST is payable on reverse charge (RCM) invoice should mention that tax is payable on reverse charge
42. For a registered supplier, the supplier uploaded sales data for the month will be available to recipient on 11th of the subsequent month & details can be verified by BHEL. Credit availment can be confirmed based on this verified data
43. If the Supplier is not registered, then tax is payable on Reverse charge & will be to the account of the supplier
44. All services in the course of business or furtherance of business are eligible to credit subject to other compliances listed herein.
45. If service is eligible for credit, then the credit can be availed only if the invoice is as per the prescribed format, the supplier has uploaded the invoice in the GSTN portal, paid the taxes & uploaded the return, and matches with our inward data, failing which any availment of credit attracts interest.
46. Even in case of services where credit is not eligible,

    (i) either the supplier should have registered (if above threshold limit) & comply with all above statutory provisions relating to invoice, tax remittance, return filing etc. This can be verified by BHEL from the GSTN portal OR
    (ii) if not registered BHEL shall be liable to pay applicable taxes on reverse charge

47. For any deficiency in services, where a recovery is made / adjusted in supplier bills, the supplier has to raise a credit note on BHEL & upload in GSTN portal. All above rules applicable for invoice also apply for credit note.
48. All notifications and rules as per central board of excise and customs will be applicable.

ANNEXURE - I

LIST OF INTERNATIONAL GATEWAY AIRPORTS

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD. CHETLAM
D04	UK	GBP	BRISTOL. WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
DO6	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND
D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

ANNEXURE - II

REQUEST FOR C FORM

NAME OF VENDOR :

VENDOR CODE ALLOTED 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

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.

ANNEXURE D

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____[1] through its Unit até é é é é é ..(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at_____[2] hereinafter referred to as the ' Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref Noé é é é é é é dated é é é é é é é é é é é é é .[3] valued at Rsé é é é [4] (Rupees ----------)/FCé é é é é é (in wordsé é é ..) for é é é é é é é é é é [5] (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to é é % (é . Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, é é é é é é é , (hereinafter referred to as the Bank), having registered/Head office at é é é é é . and inter alia a branch at é é é é being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs ---------- [6] (Rupees ----------) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We the é é é é é é é é bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

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

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

This Guarantee shall remain in force upto and includingé é é é é é é é é é .. [7] and shall be extended from time to time for such period as may be desired by Employer.

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

Unless a demand or claim under this guarantee is made on us in writing on or before the é é é é é é é é é é é .[8]we shall be discharged from all liabilities under this guarantee thereafter.

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

Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceedé é é é é é é é é [6]
b) This Guarantee shall be valid up to é é é é é é [7]
c) Unless the Bank is served a written claim or demand on or before _____[8] all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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

For and on behalf of
(Name of the Bank)

Datedé é é é é é .

Place of Issueé é é é é é .

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

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

[3] DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

[4] CONTRACT VALUE

[5] PROJECT/SUPPLY DETAILS
[6] BG AMOUNT IN FIGURES AND WORDS

[7] VALIDITY DATE

[8] DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the Vendor.

2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.

3. In line with the GCC, SCC or contractual terms, Unit may carry out minor modifications in the Standard BG Formats. If required, such modifications may be carried out after taking up appropriately with the Unit/Regionôs Law Deptt.

4. **In Case of Bank Guarantees submitted by Foreign Vendors-**

   a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

   b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**

      b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bankôs (BHELôs Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

      b.2 **In case, Foreign Vendors intend to provide BG from** Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.

      b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). The BG Format provided to them should clearly specify the same.

ANNEXURE - IV

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:
Company Name :
Permanent Account Number(PAN):
Address

City: _____ PINCODE _____ STATE _____

Contact Person(s)
Telephone No:
Fax No:
e-mail id:

1 Bank Name:
2 Bank Address:
3 Bank Telephone No:
4 Bank Account No:
5 Account Type: Savings/Cash Credit
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank
7 Bank swift Code(applicable for EFT only)
8 Bank IFSC code(applicable for RTGS)
9 Bank IFSC code(applicable for NEFT)

A 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.

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

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

D I have read the contents of the covering letter and agree to discharge the resposibility 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 Querry, please call : 080-26998xxx / 2674xxxx or fax no. 080-2674xxxx

ANNEXURE-V

BHEL MEMBER BANKS (LIST OF CONSORTIUM BANKS)

BANK GUARANTEE (BG) SHALL BE ISSUED FROM THE FOLLOWING BANKS ONLY:

	Nationalised Banks		**Nationalised Banks**
1	Allahabad Bank	19	Vijaya Bank
2	Andhra Bank		**Public Sector Banks**
3	Bank of Baroda	20	IDBI
4	Canara Bank		**Foreign Banks**
5	Corporation Bank	21	CITI Bank N.A
6	Central Bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Ltd. (HSBC)
8	Indian Overseas Bank	24	Standard Chartered Bank
9	Oriental Bank of Commerce		
10	Punjab National Bank	26	J P Morgan
11	Punjab & Sindh Bank		**Private Banks**
12	State Bank of India	27	Axis Bank
13	State Bank of Hyderabad	28	The Federal Bank Limited
14	Syndicate Bank	29	HDFC Bank
15	State Bank of Travancore	30	Kotak Mahindra Bank Ltd
16	UCO Bank	31	ICICI Bank
17	Union Bank of India	32	IndusInd Bank
18	United Bank of India	33	Yes Bank

Note:

- All BGs must be issued from BHEL consortium banks listed above.
- BHEL may accept BG from other Nationalised 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 or any of the Indian Public Sector Banks.
- This list is subject to changes. Hence vendors are requested to check this list every time before issuing BGs.

ANNEXURE - VI

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 discrepancybetween the unit price and the total price (which is obtained by multiplying the unit price by thequantity), the unit price shall prevail and the total price corrected accordingly, unless in theopinion 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.

ANNEXURE - VII

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.

ANNEXURE - VIII

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

ANNEXURE - IX

In case of intrastate movement i.e. supply within same state and VAT is applicable, the vendor shall furnish the respective BHEL™s nodal agency TIN no. and address in their invoice.

List of Statewise Nodal Officers with Contact Details

Region	State	Nodal Unit responsible for all other units except those in column 4	Contact Details-Landline No.	E-mail	TIN No.	CST No.
1	2	3		7	8	9
Norther States	Jammu & Kashmir	PSNR	0120-2510488/2416452	rahulb@bhelpsnr.co.in / a.chadha@bhelpsnr.co.in	01291101313	
	Himachal Pradesh	PSNR			02011000622	
	Punjab	PSNR			03451148722	
	Haryana	PSNR			06962606884	
	Rajasthan	PSNR			08232903345	
	Uttar Pradesh	PSNR	0120-2416536	rahulb@bhelpsnr.co.in / smittal@bhelpsnr.co.in	09365800914	
	Uttarakhand	Hardwar	01334-285449	alok@bhelhwr.co.in	05001757277 Dated 30th Sep 2005	5000030 Dated 13/03/1965
	Delhi	TBG	0120-6748429	skjindal@bhel.in	07472001760	07472001760
Western States	Madhya Pradesh	Bhopal	0755-2503231	meeta@bhelbpl.co.in	23573600001 (HEL/05/01/0001/S dated 15/11/1979 under MPCT)	HEL/05/01/0004/C dated 15/11/1979
	Chattisgarh	PSWR	0712-3048609	mgupta@bhelpswr.co.in	22173202974	
	Gujarat	PSWR	0265-2370321	bhavin@bhelpswr.co.in	24190101571	
	Maharashtra	ROD Mumbai	022-22126061/22187850	mahajani@bhel.in	27060300130V	27060300130C
	Daman & Diu	EDN	080-26998724 / 26998830	theerthagiri@bheledn.co.in	25000009902	
Southern States	Orissa	PSSR	044-28286773	sparida@bhelpssr.co.in , lakshmi@bhelpssr.co.in	21031301916	
	Tamil Nadu	Trichy	0431-2577757/ 2577229	msrao@bheltry.co.in /bharaths@bheltry.co.in	33243560005	239383 dt.11.6.91
	Kerala	PSSR	044-28286773	lakshmi@bhelpssr.co.in	32072043622	
	Karnataka	EDN	080-26998724 / 26998830	theerthagiri@bheledn.co.in	29180069268	00850081
	Telangana	HPEP RC, Puram	040-23185406/ 040-23182238	chand@bhelhyd.co.in sbsv@bhelhyd.co.in	36360151179	
	Andhra Pradesh	HPVP, Vizag	0891-6681298	sarmaass@bhpvl.com	37418632431	
	Puducherry	PSSR				
Eastern States	West Bengal	PSER	033-23216130-3238	amitavac@bhelpser.co.in	19200936019	19200936213
	Bihar	PSER	0612-2231275	rakesh@bhelpser.co.in	10010994046	10010994046
	Jharkhand	PSER	06549-266351(Sh. Parmanand Swaroop)/06534-292179 (Sh. K.K. Ajeet)	pswaroop@bhelpser.co.in (Bokaro) kk.ajit@bhelpser.co.in (Koderma/Abhijeet/North Karanpura) manishk.jain@bhelpser.co.in (Chandrapura)/kpsubbu@bhelpser.co.in kpsubbu@bhelpser.co.in	20352205642 (Bokaro) 20082005255 (Maithon) 20512405410 (Koderma) 20122200394 (Chandrapura) 20620905730(Adhunik) 20650507026(Abhijeet) 20452110016 (North Karanpura)	TG-729(C)
	Mizoram	PSER	033-23216130-3249	anindya@bhelpser.co.in	15501465017	
	Arunachal Pradesh	PSER	033-23216130-3249	anindya@bhelpser.co.in	12020122182	Not Applied
	Assam	PSER	033-23216130-3249	anindya@bhelpser.co.in	18790101415	18179903204
	Tripura	PSER	03821-265209	mkmahato@bhelpser.co.in	16060947071	16060947273
	Sikkim	PSER				
	Meghalaya	PSER				
	Manipur	PSER				
	Nagaland	PSER				

Public Procurement (Preference to Make in India)

"For this procurement, Public Procurement (Preference to Make in India),Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT.

In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and /or local content in respect of this procurement, same shall be applicable."

Arbitration Clause in case of Contract with contractors/vendors /consultants other than Public Sector Enterprise (PSE) or a Government Department:

ARBITRATION & CONCILIATION

The parties shall attempt to settle any disputes or difference arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, or in connection with this contract through friendly discussions. In case no amicable settlement can be reached between the parties through such discussions, in respect of any dispute; then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL – EDN. Such Sole Arbitrator appointed, shall conduct the arbitration in English language.

The Arbitrator shall pass a reasoned award and the award of the Arbitration shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bangalore.

The cost of arbitration shall be borne as decided by the Arbitrator upon him entering the reference.

Subject to the Arbitration Clause as above, the Courts at Bangalore alone shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the parties shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and efficiency in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

Arbitration Clause in case of Contract with contractors/vendors /consultants when they are a Public Sector Enterprise (PSE) or a Government Department:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either party for Arbitration to the Sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any Party aggrieved by such Award may make further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.''

Self-Certification

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, P-45021/2/2017-PP (BE-II) dated 28.05.2018 and P-45021/2/2017-PP (BE-II) dated 29.05.2019, we hereby certify that

……

(Supplier name) are local supplier meeting requirement of minimum local content (50%) defined in as above orders for the material against Enquiry No

……

……

……

Details of location at which local value addition will be made is as follows:

……

……

……

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and Signature of Authorized signatory with date