

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division
PB No.2606, Mysore Road, Bangalore-560026, India

E-TENDER

Quotations are invited under two part bid system (open tender) for Supply and I&C of 20MVA Power Transformer for NTPC 20MW Solar PV Project at Gandhar, Gujarat through e-procurement route.

RFQ NO and date	RAJBOS0060 dated 11.09.2020 (E-tender)
RFQ due date & time	18.09.2020 up to 13.00 hrs (IST)
Date, Time & Venue of Part-I Bid Opening	18.09.2020 after 13.30 hrs (IST) (E-tender) – Website - https://bhel.abcpurchase.com
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Communication & Contact Person in BHEL	Mr. Rajesh S (09845634534)/ Mr. Vivek Yadav (09449039232), SC&PV MM Department, BHEL Electronics Division, PB NO 2606, Mysore road, Bangalore-560 026. INDIA Email: s.rajesh@bhel.in vivekyadav@bhel.in Telephone number: +91 80 26989637

Note: This is not a Global Tender. Latest GOI guidelines w.r.t Make in India, MSE vendors, Local Supplier Classes and any others like MNRE circulars relating to contracts valued less than Rs.200 Crore shall be applicable to this tender. Currency of tendering is INR

RAJBOS0060 – Pre Qualification Criteria

BHEL-EDN is executing Solar PV projects of 20 MW capacity for NTPC on EPC basis. 20 MVA, 33/220KV Power transformers is being floated as open tender

S.No	Item Description	Estimated Quantity
1	20MVA, 33/220KV, ONAF Power Transformer	1 No

Pre-Qualification Criteria (PQC) is:

- 1) The bidder should be an OEM and should have supplied and commissioned at least three number of Power transformer of minimum rating of 20 MVA, two winding, 220KV Class, 3 phase transformer in India during the past 3 years with reference to the date of opening of Part-1 bid. As an evidence, vendor shall submit PO copy along with the commissioning/performance certificate from respective client.
- 2) During technical evaluation, Credentials of vendors will be submitted to end customer (M/s NTPC) for approval. Only the price bids of those vendors, **who are technically qualified and Approved by end customer** (M/s NTPC) before price bid opening, will be considered for further procurement processing.

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: RAJBOS0060 RFQ DATE : 11.09.2020	Due Date/Day: 18.09.2020 FRI Time : 13:00 HRS Tender Box : Reception Area Opening Venue: NEW ENGG. BLDG
MMI:PU:RF:003			
(address for communication) :		(for all correspondence) Purchase Executive : RAJESH SHELMEDE Phone : 26989637 Fax : 00918028520135 E-mail: s.rajesh@bhel.in	

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PS0679086714 Supply of 20 MVA, 220/33KV ONAF Trf * HSN/SAC : 8504 Test Certificate Supply of 20 MVA, 220/33KV ONAF Transformer	1	NO	1	31.12.2020
2	PS0679086722 Supply of Spares for 20 MVA Transformer * HSN/SAC : 8504 Test Certificate	1	ST	1	31.12.2020
3	PS0679086730 I&C support of 20 MVA Transformer * HSN/SAC : 7308	1	AU	1	31.12.2020

Total Number of Items - 3

- 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. RAJESH SHELMEDE Semiconductors & Pho 1 OF 1
---	---

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 1 OF 31

COPY RIGHT AND CONFIDENTIAL

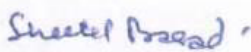
The information on this document is the property of Bharat Heavy Electricals Limited.

It must not be used directly or indirectly in anyway detrimental to the interest to the company

Technical specification for Outdoor, Oil Immersion Type, ONAF/ONAN, 3-phase, 220/33 kV, 20 MVA Power Transformer

Approved by : Prachi Rao V



Revision details :R 00	Prepared  Sheetal Prasad	Issued SCPV-Engg	Date 04-08-2020
------------------------	---	-------------------------	------------------------

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 2 OF 31

1.0 INTRODUCTION

Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up a Solar Photovoltaic Grid-connected power plant for which shall employ a transformer of outdoor, 3-phase, 220/33 kV, 20 MVA rating, to step up the 33kV power plant output to 220kV level so as to export the generated power to 220kV grid. This document details the technical specifications, supply conditions, erection and commissioning and post-commissioning requirements of the transformer.

2.0 SCOPE FOR VENDOR

2.1	Supply of Outdoor, Oil Immersion type, ONAF/ONAN, 3-phase, 20 MVA, 220/33kV, YNYn0 Vector Group Power Transformer ONAF (100%)/ONAN (60%) : 20MVA ONAF/12MVA ONAN	1 No																											
2.2	Commissioning and O&M Spares shall be offered as per list below: <table border="1"> <thead> <tr> <th>#</th><th>Spares</th><th>Qty</th></tr> </thead> <tbody> <tr> <td>1</td><td>HV Bushings with metal parts and gaskets</td><td>2 Nos</td></tr> <tr> <td>2</td><td>LV Bushings with metal parts and gaskets</td><td>2 Nos</td></tr> <tr> <td>3</td><td>Pressure Relief Device with alarm / trip contacts</td><td>1 No</td></tr> <tr> <td>4</td><td>Winding temperature indicator with alarm & trip contacts</td><td>1 No</td></tr> <tr> <td>5</td><td>Oil temperature indicator with alarm & trip contacts</td><td>1 No</td></tr> <tr> <td>6</td><td>Buchholz Relay (complete unit)</td><td>1 No</td></tr> <tr> <td>7</td><td>MOG of transformer</td><td>1 No</td></tr> <tr> <td>8</td><td>Pressure Relief Device with alarm / trip contacts</td><td>1 No</td></tr> </tbody> </table> Notes: a) Vendor shall provide a complete list of spare items showing item-wise unit price, quantity and total price. b) BHEL reserves the right in selection and inclusion of the spares in the final scope of supply.	#	Spares	Qty	1	HV Bushings with metal parts and gaskets	2 Nos	2	LV Bushings with metal parts and gaskets	2 Nos	3	Pressure Relief Device with alarm / trip contacts	1 No	4	Winding temperature indicator with alarm & trip contacts	1 No	5	Oil temperature indicator with alarm & trip contacts	1 No	6	Buchholz Relay (complete unit)	1 No	7	MOG of transformer	1 No	8	Pressure Relief Device with alarm / trip contacts	1 No	1 set Vendor shall provide unit price for the individual items.
#	Spares	Qty																											
1	HV Bushings with metal parts and gaskets	2 Nos																											
2	LV Bushings with metal parts and gaskets	2 Nos																											
3	Pressure Relief Device with alarm / trip contacts	1 No																											
4	Winding temperature indicator with alarm & trip contacts	1 No																											
5	Oil temperature indicator with alarm & trip contacts	1 No																											
6	Buchholz Relay (complete unit)	1 No																											
7	MOG of transformer	1 No																											
8	Pressure Relief Device with alarm / trip contacts	1 No																											



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 3 OF 31

2.3	Vendor shall provide / supervision support at the time of Installation of the transformer at the project site. Accordingly, vendor shall depute I&C / service engineer to the site. The scope of support shall include supervisory guidance and assistance in following installation activities: a) Assembly of transformer parts: Cable boxes, radiators, bus bars, etc. b) Filling / topping-up of transformer oil in transformers. c) Pre-commissioning checks such as HV / IR checks and all other electrical inspection checks as applicable. d) Installation of RTCC Panel and testing/pre-commissioning checks In addition, presence of service person at the site is required during commissioning of plant to ensure that any technical problems encountered with transformer is attended to and resolved immediately. 1AU: 1 Activity Unit. A single lump-sum price shall be indicated.	1 AU Vendor shall quote a lump-sum price.
2.4	Warranty Vendor shall provide warranty for 36 months from the date of commissioning or 42 months from the date of supply, whichever is earlier.	Vendor shall express compliance (Yes / No)

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 4 OF 31

3.0 Instructions for bid submission

3.1	Offer shall be submitted in two-parts (Two part-bid). Both parts shall be in separate sealed envelopes as per instructions in tender. The individual envelopes shall be enclosed in a common envelope with markings (address, etc) on the envelope as per instructions in tender.
3.2	First-part shall be techno-commercial bid with following details: 1. Clause-wise compliance along with filled in values/details wherever the same is asked for in BHEL technical specifications 2. List of spares offered (with quantity) and without prices. 3. Confirmation of NIL deviation to BHEL Purchase Spec. In case any deviation is taken, vendor shall indicate the clause no., BHEL requirement as per the subject clause and the deviation taken. 4. Filled up sub-vendor questionnaire format (Attachment-A) with supporting documents for vendor approval with NTPC
3.3	Second part shall be price bid with filled up enclosures as per BHEL format provided in the tender. Spares shall be quoted separately with unit price and quantity for each item.
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.

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 5 OF 31

4.0 Technical specification

#	Technical parameter	BHEL specification	<u>Vendor compliance</u> Yes / No In case of non-compliance or deviations, vendors shall provide their comments.
1	Transformer type	Outdoor, Oil Immersion type Continuous duty	
2	IP class	Transformer, including the cable box and marshalling box shall be of IP55.	
3	Type of cooling	ONAN (60%) / ONAF (100%)	



**PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER**

PS-439-1346

REV NO: 00

PAGE : 6 OF 31

4	Governing Standards	Power Transformer	IS: 2026, IS: 6600, IEC:60076, CBIP	
		Fittings & Accessories	IS: 3639	
		Insulating Oil	IEC: 60296 (New uninhibited oil), refer details elsewhere in the specifications.	
		Bushings	IS:2099, IEC:60137, IS:3347, IS:12676	
		Bushing CTs	IS:2705 , IEC 60185	
		Degree of protection	IS: 2147, IEC 60076	
		Tests and tolerance of guaranteed particulars	IS: 2147, IEC 60076	
		Buchholz relay	IS: 3637	
		Electrical insulation classified by thermal stability	IS: 1271, IEC 60085	
		Climate proofing	IS: 3202, IEC 354	
		Indian Electricity Act 2003, BEE Guidelines & CEA regulations/ notifications (as applicable)		
5	Rating	20 MVA (20MVA ONAF / 12MVA ONAN)		
6	No. of phases	3		
7	Frequency	50 Hz, +/- 3%		
8	HV winding	One 3-phase winding with Star connection with neutral solidly earthed. HV voltage: 220kV		
9	LV winding	One 3-phase winding with Star connection with neutral solidly earthed. LV voltage: 33kV		
10	Winding material	Electrolytic grade copper for both HV and LV windings		
11	Winding	Class A		



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 7 OF 31

	Insulation		
12	Neutral bushing on HV/LV side	Neutral bushings with terminals shall be brought out separately to facilitate earthing connections.	
13	Vector Group	YNYn0	
14	Short circuit withstand time (thermal)	2 sec.	
15	% Impedance at 75degC and 50Hz at Principal Tap	10% (min) Tolerance shall be as per IS 2026	
16	Cable box, bushings and terminals	Cable box on LV side with internal bushings and terminals for cable connections. External bushings and terminals on HV side for electrical connections using overhead ACSR conductors.	
17	Cable entry on LV side	Bottom entry of cable. 1 run of 1Cx240 sq-mm/ phase, 33kV grade, aluminum conductor, armoured, XLPE insulation, PVC sheath as per IS: 7098 will be used. Cables, termination kits, cable lugs and connecting hardware shall be in BHEL scope. Vendor shall provide hole on the bottom-side gland-plate of LV side cable box for cable entry. For this purpose, outer diameter of cable will be intimated to the vendor at the time of manufacturing.	
19	Tapping on HV winding	On Line Tap Changer (OLTC) with +/- 10% tap positions at 2.5% per step.	
20	Loading Capability	Continuous operation at rated MVA on any tap with voltage variation of +/-10%. Transformer shall be capable of being loaded in accordance with IS: 6600 / IEC 60076-7.	
21	Ambient	Max 50 deg C	



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 8 OF 31

	temperature		
22	Temperature rise	For top oil: Max. 50 deg C, by thermometer method. For winding: Max. 55 deg C, by resistance method. Both rises shall be over an ambient temperature of 50 deg C irrespective of tap position.	
23	Flux density	Not to exceed 1.9 Wb/sq.m at any tap position with +/-10% voltage variation from voltage corresponding to the tap. Transformer shall also withstand following over-fluxing conditions due to combined voltage and frequency fluctuations: a) 110% for continuous rating b) 125% for at least one minute c) 140% for at least five seconds	
24	Air Clearance	As per CBIP	
25	Load loss principal tap at 75°C, with IS tolerance	To be indicated by vendor	
26	No Load loss at rated voltage on principal tapping and at rated frequency, with IS tolerance	To be indicated by vendor	
27	No load current at rated voltage and rated frequency	To be indicated by vendor as percentage	
28	Efficiency at 75°C, UPF	Minimum 98.5% at full load (100%). Efficiencies at 75% and 50% loads to be indicated by vendor.	
29	Regulation at full load, 75 °C	< 2 % for UPF; For 0.8 PF lagging, to be indicated by vendor.	



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 9 OF 31

30	Harmonics	Shall be designed to suppress harmonics especially 3 rd & 5 th .	
31	Vibration & noise	Noise level shall be according to NEMA TR-1 standard	
32	Highest system voltage	LV side: 36 kV HV side: 245 kV	
33	Insulation levels	As per Clause 5.3 : Windings and Clause 5.5 : Bushings	
34	Creepage distance for bushings	35 mm per kV (minimum). Details at Clause 5.5 : Bushings	
35	Overall dimensions of transformer in mm (LxWxH)	To be indicated by vendor	
36	Oil capacity (in Litres)	To be indicated by vendor	
37	Weight of transformer in Kg	To be indicated by vendor	
38	Painting	Paint shade shall be informed by BHEL at the time of drawing approval.	
39	Constructional features	As per clause 5.0 of this specification	
40	Fittings and accessories	As per clause 5.10 of this specification	

5.0 Constructional features and details of transformer components

5.0	Transformer shall be constructed in accordance with IS 2026, IEC 60076 and other applicable standards as per Cl. 4 – Governing Standards All materials / components used shall be of best quality and class most suitable for working under the conditions specified.	
-----	--	--

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 10 OF 31

	These shall withstand the variations of temperature and atmospheric conditions, overload, over-excitation, short-circuits as per specified standards without distortion or deterioration, without development of stresses in any part and also without affecting the strength and suitability of the various parts for the work that they have to perform.	
--	--	--

5.1 Tank

5.1.1	The transformer tank and cover shall be fabricated from high grade low carbon plate steel of tested quality. The tank and cover shall be of welded construction and there should be provision for lifting by crane.	
5.1.2	Suitable inspection hole(s) with welded flange(s) and bolted cover(s) shall be provided on the tank cover. The inspection hole(s) shall be sufficient size to afford easy access to the lower ends of the bushings, terminals etc.	
5.1.3	The exterior of tank and other steel surfaces exposed to the weather shall be thoroughly cleaned and have a priming coat of zinc chromate applied. The second coat shall be of an oil and weather-resistant nature, preferably of distinct colour from the prime and finish coats. The final coat shall be of a glossy, oil and weather resistant non-fading paint of specified shade.	
5.1.4	The interior of the tank shall be cleaned by sand blasting and painted with two coats of heat resistant and oil insoluble paint.	
5.1.5	Steel bolts and nuts exposed to atmosphere shall be galvanized. All bolted connections to the tank shall be fitted with suitable oil-tight gaskets that shall give satisfactory service under the operating conditions for complete life of the transformer, if not opened for maintenance at site.	
5.1.6	The tank together with radiators, conservator, bushings and other fittings shall be designed to withstand the following conditions without permanent distortion: (i) Full vacuum (mm of Hg – value as per latest CBIP Manual), for filling with oil by vacuum. Internal gas pressure of 0.35 Kg/cm² (5 lbs/sq.in) with oil as at operating level. (ii) The transformer shall have conservator tank of adequate capacity	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 11 OF 31

	to accommodate oil preservation system and volumetric expansion of total transformer oil. The conservator shall be bolted into position so that it can be removed for cleaning purposes. (iii) The conservator shall be of single compartment type. The top of the conservator shall be connected to the atmosphere through a transparent type silica gel breather. (iv) The tank cover shall be suitably sloped so that it does not retain rain water. The material used for gaskets shall be cork, neoprene or approved equivalent.	
--	--	--

5.2 Core

5.2.1	The magnetic circuit shall be of core type. The core shall be constructed from non-ageing, cold rolled, super grain oriented silicon steel laminations known as Hi B grade steels or equivalent.	
5.2.2	The insulation of core to tank, tank to clamp and clamp to core shall be such that it withstands a voltage of 2kV (rms) for one minute in air. To facilitate testing of above during pre-commissioning stage, the core/clamp earthing has to be done outside the tank with suitable termination.	
5.2.3	Adequate lifting lugs will be provided to enable the core & windings to be lifted.	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 12 OF 31

5.3 Windings

5.3.1	Windings shall be of electrolytic grade copper free from scales and burrs.					
5.3.2	Windings shall be subjected to a shrinking and seasoning process so that no further shrinkage occurs during service.					
5.3.3	Tapping shall be so arranged as to preserve the magnetic balance of the transformer at all voltage ratios.					
5.3.4	The completed core and coil assembly shall be dried in vacuum and shall be immediately impregnated with oil after the drying process to ensure elimination of air and moisture within the insulation.					
5.3.5	Windings shall be made in dust proof and conditioned atmosphere. Vendor shall indicate those details of facilities (as available at the winding works) that will ensure meeting this requirement.					
5.3.6	WINDING DETAILS					
Sl.	Parameter	Unit	HV	HVN	LV	LVN
i)	Highest System Voltage	kV	245	--	36	--
ii)	Lightning Impulse Withstand Voltage	kVp	1050	95	170	--
iii)	Chopped Wave Lightning Impulse Withstand Voltage	kVp	1155	--	187	--
iv)	Switching Impulse Withstand Voltage	kVp	850	--	--	--
v)	One minute Power Frequency Withstand Voltage	kV	460/38*	38	70	38
vi)	Winding Connection	--	YNyn0			
vii)	Insulation	--	Graded	--	Uniform	--

*** In case non-uniformly insulated**

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 13 OF 31

5.4 Internal earthing

5.4.1	The frame work and clamping arrangements of core and coil shall be securely earthed inside the tank by copper strip connection to the tank.	
-------	---	--

5.5 Bushings

5.5.1	Bushings shall be designed and tested to comply with the applicable standards. Bushings rated for 400A and above shall have non-ferrous flanges and hardware. Bushings shall be supplied with terminal connector clamp suitable for connecting the cables.					
5.5.2	Bushings below 52kV shall be with porcelain insulator and shall be of oil communicating type. Bushings above 52kV and above shall be of OIP condenser (non-communicating oil type) with porcelain insulator and following fittings: i) Oil level gauge ii) Oil filling plug and drain valve if not hermetically sealed iii) Tap for capacitance and tan delta test No arcing horns to be provided on the bushings LV bushing palms shall be silver/tin plated.					
5.5.3	BUSHING DETAILS					
Sl.	Parameter	Unit	HV	HVN	LV	LVN
i)	Rated Voltage	kV	245	--	36	--
ii)	Rated Current	A	630 (min)	630 (min)	2500	2500
iii)	Lightning Impulse Withstand Voltage	kVp	1050*	170	170	170

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 14 OF 31

iv)	Switching Impulse Withstand Voltage	kVp	850	--	--	--
v)	One minute Power Frequency Withstand Voltage	kV	505	77	77	77
vi)	Minimum total creepage distances	mm	8575	1260	1260	1260
vii)	Mounting	--	Tank Cover	Tank Cover	Cable box	Tank Cover

* The bushings shall also be suitable for chopped wave lightning impulse on transformer as mentioned above.

5.6 Bushing CTs

5.6.1	1) Neutral CT on 33KV side- 400/1-1A, Core 1- PS Class, Core 2- 5P20 2) Neutral CT of 220KV side- 500/1-1A, Core 1- PS Class, Core 2- 5P20 3) CT for transformer differential protection on 33KV side- 400/1A, PS Class Details shall be provided during engineering stage	
5.6.2	Shall be of adequate rating for protection as per system requirement, WTI etc. All CTs (except WTI) shall be mounted in turret of bushings, mounting inside the tank is not permitted.	
5.6.3	All CT terminals shall be provided as fixed type terminals on the Marshalling Box to avoid any hazard due to loose connection leading to CT opening. In no circumstances, plug in type connectors shall be used for CT.	
5.6.4	It shall be possible to remove turret mounted CTs from the transformer tank without removing the tank cover. Necessary precautions shall be taken to minimize eddy currents and local heat generated in the turret. All secondary leads shall be brought to a weather proof terminal box near each bushing. These terminals shall be wired out to transformer marshalling box using separate cables for each one.	

5.7 Cable box and disconnecting chamber on LV side (33kV)



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 15 OF 31

5.7.1	Cable box shall be of phase segregated air insulated type and shall be of sufficient size and shall have gland plates having holes to suit BHEL specified cables. Phase segregation shall be achieved by using insulating barriers.	
5.7.2	Cable box / disconnecting chamber shall be provided with body earth terminals.	
5.7.3	Cable box / disconnecting chamber shall be provided with necessary LV bushings, bus bars, bus bar supports for making cable terminations. Support from base for the cable box shall be of galvanized iron.	
5.7.4	Cable box / disconnecting chamber shall be provided with suitable gaskets to ensure the specified protection class requirement (IP55) as per IS: 13974.	
5.7.5	Cable box / disconnecting chamber shall be provided with suitable provisions to prevent entry of rain water into the same.	
5.7.6	Suitable removable drilled gland plate of non-magnetic material shall be provided in the cable box. Minimum length provided for terminating 33kV cable shall be 1000mm (from the gland plate to the cable lug) for the cable boxes. The final cable size, no. and length of terminating XLPE cable shall be provided during detailed engg.	
5.7.7	Cable boxes shall be designed such that it shall be possible to move away the transformer without disturbing the cable terminations, leaving the cable box on external supports.	
5.7.8	Cable box shall have removable top cover and ample clearance shall be provided to enable either the transformer or each cable to be subjected separately to high voltage test.	
5.7.9	Disconnecting chamber: (1) Disconnecting chamber shall be air insulated and complete with seal-off bushings, removable flexible connectors / links and removable covers. (2) Phase-to-phase and Phase-to-ground clearances within the chamber shall be such as to enable either the transformer or cable to be subject separately to HV tests. Clearances shall be subject to BHEL approval.	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 16 OF 31

5.8 Marshalling box

5.8.1	Each transformer shall be provided with one marshalling box housing all the cooler controls, OTI and WTI etc.	
	The sheet steel used for all the cabinet boxes shall be at least 2.5mm thick. The gasket used shall be of neoprene rubber. A space heater and cubicle lighting with On-Off switch shall be provided in each cabinet. A circuit breaker/contactors with thermal overload device for controlling the AC auxiliary supply shall be provided.	
5.8.2	It shall be in the vendor scope to provide the interconnection cabling between the marshalling box and all the accessory devices of transformer by either PVC insulated un-armoured cables routed through GI conduit (or) PVC insulated, armoured cables.	
5.8.3	Necessary cable glands shall be provided at the marshalling box for the above mentioned cables as well as for terminating the incoming cables from remote panels. Terminal blocks to be provided shall be fully enclosed with removable covers and made of molded, non-inflammable plastic material with blocks and barriers molded internally. TBs shall be of 650V grade and have 10A continuous rating. TBs for CT secondary leads shall be provided with test links and isolating facilities. At leaser 20% spare terminals shall be provided on each panel and these spare terminals shall be uniformly distributed on all terminal blocks. TBs shall be suitable for connecting the following conductors on each side: i) CT circuits – Min. 2 nos of 2.5 sq.mm copper wires each side ii) Other circuits – Min. 1 no. of 2.5 sq.mm copper wire each side. One dummy TB in between each trip wire terminal shall be provided.	
5.8.4	Marshalling box shall be tank mounted, outdoor and weather/vermin/dust proof (protection class IP55), sheet-steel enclosure, with hinged door having padlocking facility and painted. All doors, covers and plates shall be fitted with neoprene gaskets. Bottom shall be at least 1600 mm above floor level and provided with gland plate and cable glands as required. Top surface shall be sloped to drain off water falling on the box.	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 17 OF 31

5.8.5	The temperature indicators shall be so mounted that the dials are not more than 1500mm from ground level. Glazed door of suitable size shall be provided for convenience of reading.	
5.8.6	All incoming cables shall enter the marshalling box from the bottom. A removable undrilled gland plate shall be provided at the bottom of the box for accommodating glands for incoming and outgoing cables, which shall not be less than 450mm from the finished floor level.	
5.8.7	All devices and TBs inside the marshalling box shall be clearly identified by symbols corresponding to those used on applicable schematic/wiring diagram.	
5.8.8	Wiring scheme shall be engraved in a metal plate and the same shall be fixed inside marshalling box	

5.9 Transformer oil

5.9.1	Transformers shall be supplied complete with transformer oil. The new insulating oil before pouring into the transformer shall conform to the requirement of IS: 335/ IEC: 296. No inhibitors shall be used in the oil. The oil samples taken from the transformer at site shall conform to requirements of IS: 1866.	
5.9.2	10% extra oil, in non-returnable sealed containers, shall be sent along with main consignment to avoid any shortage of oil at the time of topping up of oil at the site. This oil quantity shall be over and above the specified mandatory spares requirement.	

5.10 Fittings and accessories (as per IS 3639)

Following fittings per transformer shall be provided. Vendor shall indicate compliance (Yes / No) for each line item. In case of non-compliance or deviation, vendor shall indicate and provide comments.

#	Nomenclature of fitting / accessory	Qty	Vendor compliance
1	Oil conservator with equalizer pipe	1 set	



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 18 OF 31

2	LV side bushings, HV side bushings, Neutral bushings - with metal parts and gaskets to suit termination arrangement.	Qty as required	
3	LV cable box	1 set	
4	LV disconnecting chamber	1 set	
5	On Line Tap Changer (OLTC) with +/-15% tap positions at 1.25% per step.	1 set	
6	RTCC Panel for OLTC Details indicated at Cl. 5.11	1 No	
7	Oil Surge Relay (OSR) for OLTC	1 No	
8	Earthing terminals with hardware suitable for connecting 50x6 GI earth strips. Separate terminals shall be provided for cable boxes, tank etc.	1 set	
9	Radiators (detachable type) with drain valve at the bottom, relief valve at the top, air plug, shut-off valves at every point of connection to the tank and lifting lugs.	Qty as required	
10	Double float Buchholz relay with alarm and trip contact. The relay shall be provided with a test cock suitable for a flexible pipe connection for checking its operation. Buchholz relay shall be provided with one shut-off valve on conservator side of size 50 mm for transformer rating up to 10MVA and 80 mm for rating 10MVA and above.	1 set	
11	Provision for collecting gas and oil from Buchholz relay	1 set	
12	Silica gel dehydrating breather with oil cup	1 set	
13	Magnetic oil level gauge (MOG), dial type, with alarm contact, minimum and maximum filling level markings. Contact shall be suitable for 110V/220V DC. The oil level at 30 deg C shall be marked on the gauge.	1 set	
14	Prismatic / toughened glass oil level gauge for transformer and tap changer chamber with min and max markings.	1 set	
15	Spring operated Pressure relief valve with alarm/trip contacts. Location of this valve shall be such that the hot oil discharge shall not fall on the transformer or any of its parts. This shall include all necessary arrangements to facilitate proper discharge of PRV through pipes away from the transformer.	2 sets	
16	Explosion vent (double diaphragm) with sight glasses and	1 set	



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 19 OF 31

	equalizing pipe connection to conservator		
17	Thermometer pocket for OTI	1 No	
18	Temperature sensor for OTI	1 No	
19	Thermometer pocket for WTI	1 No	
20	CT for WTI	1 No	
21	Oil temperature indicator, 150 mm dial type, with alarm and trip contacts, maximum reading pointer & resetting device. Oil temperature range: 0-150 deg C (resolution 1 deg C) Oil temperature accuracy: +/- 2 deg C RTD PT-100 temperature sensor for OTI (IEC 751). Two analog outputs of 4-20mA for remote indication of OTI.	1 No	
22	Winding temperature indicator, 150-mm dial type, with alarm and trip contacts, maximum reading pointer & resetting device. Winding temperature range: 0-150 deg C (resolution 1 deg C) Winding temperature accuracy: +/- 2 deg C Two analog outputs of 4-20mA for remote indication of WTI.	1 No	
23	Marshalling box (IP55) shall be provided with removable gland plates and glands for cable entry from bottom side. Marshalling box shall be provided with OTI, WTI, transmitters (for 4-20mA output of OTI and WTI), space heater, thermostat, lamp, MCBs, power socket, switch for WTI, terminal connectors and all other attachments that are necessary to meet the functional aspects of marshalling box. Terminal connectors for the following signals / connections shall be made available. Number of terminal connectors for each case shall be as per connection requirements: 1) PT-100 sensor from thermometer pocket 2) 4-20mA output for OTI 3) 4-20mA output for WTI 4) WTI CT secondary 5) Alarm contact of WTI 6) Trip contact of WTI 7) Alarm contact of OTI 8) Trip contact of OTI 9) Buchholz relay alarm 10) Buchholz relay trip 11) Magnetic oil level gauge alarm 12) Pressure relief valve alarm 13) 90-260V DC power supply (external source)	1 set	



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 20 OF 31

	14) 240V AC supply (external source) 15) Spare connectors: 20% spare terminals Note: Alarm and trip contacts shall be rated for 220V DC.		
24	Inspection window with cover		
25	Cover lifting lugs / eyes	Quantity based on lifting strength requirement. Vendor shall mention qty.	
26	Core and winding lifting lugs / eyes		
27	Tank lifting lugs / eyes for the entire transformer		
28	Jacking pad with hauling eyes, to enable transformer with oil to be raised or lowered using hydraulic or screw jacks.		
29	LV cable box supports with mounting plates	2 sets	
30	Bi-directional flat rollers	4 sets	
31	Base channel with towing holes / lugs	2 sets	
32	Air release hole with plug	1 set	
33	Oil filling hole with cap	1 set	
34	Top filter valve with threaded male adapter (blanking plug)	Vendor shall mention the qty of each type of these valves. In case additional valve types are required to satisfy the functional requirements of transformer, the same shall be shown in valve set diagram / GA.	
35	Bottom filter valve with threaded male adapter (blanking plug)		
36	Drain valve for the tank, with blanking plug		
37	Drain valve for conservator, with blanking plug		
38	Shut-off valves for conservator		
39	Sampling valve, with blanking plug		
40	Shut-off valves for radiators, with open and close markings		
41	Sludge valve at bottom most point of tank to be provided for easy flush out / removal of sludge during maintenance		
	All valves up to and including 50mm shall be of gun metal or of cast steel. Larger valves may be of gun metal or cast iron.		
42	Valve schedule plate made of stainless steel or aluminium (anodized)	1 No	
43	Rating and diagram plates made of stainless steel or anodized	1 No	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 21 OF 31

	aluminium.		
44	Terminal marking plates	1 Set	
45	Protected type Mercury or alcohol in glass thermometer	1 No	
46	Air cell in conservator	1 No	
47	Gaskets – These shall be fitted with weather proof, hot oil resistant, O ring nitrile rubber. If gasket is compressible, metallic stops shall be provided to prevent over compression. The gaskets shall not deteriorate during the life of transformer if not opened for maintenance at site. All joints flanged or welded associated with oil shall be such that no oil leakage or sweating occurs during the life of the transformer. The quality of these joints is considered established, only if the joints do not exhibit any oil leakage or sweating for a continuous period of 3 months during the warranty period. In case any leakage/sweating is observed, vendor shall rectify the same and establish for a further period of 3 months of the same. If it is not established during the warranty period, the warranty period shall be extended until the performance is established.	1 Set	
48	Rain Hoods for Buchholz, MOG and PRV. Entry points of wires shall be suitably sealed.		
49	Transformer Fire Protection through High Velocity Water Spray System is being supplied by BHEL. Any fittings / accessories required to be mounted on transformer for the above system shall be in vendor scope	1 set	
Note	Any fittings which are not explicitly indicated in the list above but are mandatory as per IS 3639 shall be provided.		

5.11 OLTC with RTCC Panel

	1) The OLTC switch contacts shall be located in a separate oil-filled chamber complete with its own oil preservation system, Buchholz relay, shut-off valves, oil level gauge, gas vent etc. 2) OLTC mechanism and associated controls shall be housed in an outdoor weather -proof cabinet. Internal illumination lamp and thermostat	
--	---	--



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 22 OF 31

controlled space heater shall be provided in the cabinet.

3) The tap change equipment shall be so designed that if the mechanism is stuck in an intermediate position, the transformer shall be capable of delivering full load without any injury.

4) The OLTC gear shall be suitable for local and remote electrical control and local manual control. Further, there shall be provision of automatic operation through voltage sensing relay.

5) Manual mode: The hand cranking arrangement shall be such that it can be operated at standing height from ground level. Further the mechanism shall be provided with a tap position indicator and an operation counter.

6) Interlock shall be provided to ensure the following: -

- i) Positive completion of tap changing step once initiated. OLTC shall be equipped with a time delayed INCOMPLETE STEP alarm consisting of a normally open contact, which closes, if the tap changer fails to make a complete tap change. The alarm shall not operate for momentarily loss of auxiliary power. Each transformer's on load tap changer shall be equipped with a fixed resistor network capable of providing discrete voltage step for input to the supervisory system. A 4-20 mA signal for tap position indicator to be provided for Employers use.
- ii) Blocking of reverse tap change command during a forward tap change already in progress until the mechanism rests and vice-versa.
- iii) Cutting out of electrical circuit during manual operation.

7) The tap changing gear shall have local selector switches with RTCC-Local-Test-Central positions.

Provisions of various modes of operation of the tap changers of transformers, like individual operation, remote/local operation; operation from voltage regulating relays, etc. and for various interlocks shall be kept in the Remote Tap Changer Cubicle (RTCC) as well as OLTC cabinet. Necessary equipment switches, relays, etc., shall be provided in these panels. Further, there shall be provision for automatic operation of tap changers from voltage regulating relays.

Recovery voltage calculations shall also be furnished in case OLTC is provided with reversing switch.

The following minimum components shall be provided in the transformer control panel. Any other feature desired for proper and safe operation of equipment shall be provided.

- i) Voltage regulating relay (for auto operation).
- ii) Auto-manual selector switch
- iii) Selector switch for master follower solo operation.
- iv) Raise-Lower control switch



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 23 OF 31

	v) Necessary relays and accessories. vi) Tap position indicator vii) Indication lamps for "Tap change in Progress" and "Control supply healthy". viii) Red lamp to indicate master position ix) Annunciations for: - Tap position in progress - Mechanism stuck - Control supply failure - Tap changer A.C. supply failure - Oil surge relay operated x) All indicating lamp shall be LED type. 8) RTCC shall have provision for serial link communication with the plant SCADA for control and monitoring from control room. 9) Tap Changer drive marshalling box shall be provided. 10) Remote Tap Changing Control (RTCC) shall be installed indoor. 11) Control panels shall be of CRCA sheet steel construction with protection class of IP-52. 12) The frames and load bearing panels shall be fabricated of not less than 2 mm thick sheet steel. 13) The doors and covers shall not be less than 1.6mm thick. 14) All access doors shall be provided with channel rubber/ neoprene gaskets all round. 15) The operating height shall be limited from 750mm to 1800mm. The total height of the panel and its depth shall be matched with adjacent panel. 16) The operating handle shall have locking arrangement. The panels shall be complete with floor channel sills, vibration damping pads and stainless steel kick plates. 17) All instrument, relays, switches, etc. mounted on the front face of the panel shall be flush type. Switch contacts shall be silver faced and rated at least 10 Amp at operating voltage. Push buttons shall have required number of contacts. 18) Panel shall be provided with internal illumination lamp with door switch, space heater with thermostat, 5A 3 pin receptacles with plug. 19) The annunciation system shall be solid-state type with optical isolation for input signals. It shall be complete with its own power supply, audible alarms, acknowledge, reset, and test buttons and other necessary accessories. 20) The control panels shall be fully wired up at factory. All spare contacts of relays and switches shall be wires upto the terminal blocks. 21) The panel shall have provision of cable entry from bottom. Bottom	
--	--	--

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 24 OF 31

	gland plate shall be 3mm thick. 22) 50 x 6 mm copper ground bus shall be provided on the panel extending along the entire length of the assembly. The ground bus shall have two-bolt drilling with GI bolts and nuts at each end to receive Owner/Purchaser's ground connection of 75x10 mm G.I. flat.	
--	---	--

5.12 Auxiliary Power Supply for Coolers & OLTC

5.12.1	Two Auxiliary Power Supplies at 415 V three phase four wire shall be provided by employer at M. Box. All loads shall be fed by one of the two feeders through an electrically interlocked automatic transfer switch housed in the M. Box for transformers.	
5.12.2	Design features of the transfer switch shall include the following: a) Provision for the selection of one of the feeder as normal source & other as standby. b) Upon failure of the normal source, the loads shall automatically transfer, after an adjustable time delay, to standby source. c) Indication to be provided for failure of normal source & for transfer to standby source & also for failure to transfer. d) Automatic re-transfer to normal source without any intentional time delay following re-energization of the normal source. e) Both the transfer & the re-transfer shall be dead transfers & AC feeders shall not be paralleled at any time. f) Isolating switches shall be provided to isolate each radiator individually so as to facilitate maintenance work separately on each radiator without affecting other radiators. The supplier shall derive AC feeders for OLTC cabinet after suitable selection at M.Box for which description is given above. The supplier shall derive AC supply for control circuitry from the AC feeder as mentioned above by using appropriately rated dry type transformer. If the control circuit is operated by DC supply, then suitable main & standby converters shall be provided by the supplier to be operated from AC feeder.	

5.13 Cooling Equipment

5.13.1	The cooler shall be designed using 2x50% radiator banks	
5.13.2	Each radiator bank shall have its own cooling fans, shut off valves at the top and bottom & blanking plate on each radiator, lifting lugs, top and	



**PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER**

PS-439-1346

REV NO: 00

PAGE : 25 OF 31

	bottom oil filtering valves, air release plug at the top, a drain plug and sampling valve and thermometer pocket fitted with captive screw cap on the inlet and outlet.	
5.13.3	The cooling fan shall be so mounted that they do not impose any adverse loading on radiator tubes. The location & configuration of radiators shall be subject to Employer's approval & shall be such as not to direct warm air towards busduct or any other equipment. Cooling fans shall not be directly mounted on radiator bank which may cause undue vibration. These shall be located so as to prevent ingress of rain water. Each fan shall be suitably protected by galvanised wire guard. The no. & capacity of cooler fans associated with each radiator bank shall be such that outage of any fan does not reduce the continuous rating of the transformer. In case the standby fans are separately identified & are not in continuous operation, they shall be arranged to automatically come into operation on tripping of working fan.	
5.13.4	Cooling fan motor shall be suitable for operation on $415 \pm 10\%$ V, three phase, 50 Hz +3% - 5% power supply & shall conform to IS: 325. Each cooling fan motors shall be provided with starter with thermal overload & short circuit protection. The motor winding insulation shall be conventional class B type. Motor shall have enclosure with degree of protection equivalent to IP 55 as per IS: 4691. The temperature rise of the motor shall be limited to 70 deg. C above ambient of 50 deg. by winding resistance method & shall comply with IS: 325.	
5.13.5	The cooler & its accessories shall preferably be hot dip galvanised or corrosion resistant paint should be applied to it.	
5.13.6	Fault indicating device: For each transformer, an alarm contact shall be furnished to indicate the unintended stoppage of a fan. The contractor shall also indicate if any additional alarm/indication lamp is required to be provided in Central control room.	
5.13.7	Following lamp indications shall be provided in M. Box: (1.) Cooler supply failure (main) (2.) Cooler supply changeover (3.) Cooler supply failure (standby) (4.) Control supply failure (5.) Common thermal overload trip (6.) Cooling fan failure for each bank One potential free initiating contact for all the above conditions including alarm for "failure of supply changeover" shall be wired independently to the terminal blocks of M. Box exclusively for Employer's use.	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 26 OF 31

5.14 Cooling Equipment Control unit

5.14.1	a) Automatic operation control fans shall be provided (with temperature change) from contacts of winding temp. indicator. The vendor shall recommend the setting of WTI for automatic change over of cooler control from ONAN to ONAF. The setting shall be such that hunting i.e. frequent start-up operation for small temp. differential do not occur.	
5.14.2	Suitable manual control facility for cooler fans shall be provided.	
5.14.3	Selector switches and push buttons shall also be provided in the M.Box to disconnect the automatic control and start/stop the fans manually.	

5.15 Painting

PARTS NAME	TYPE OF PAINT	NO. OF COATS	TOTAL DFT
Inside of tank and accessories (except M Box)	Oil & heat resistant fully glossy white	One coat	At least 30 micron
External surface of transformer and accessories including M Box (except radiators)	Chemical resistant epoxy zinc phosphate primer, MIO (Micaceous iron oxide) as intermediate paint followed by polyurethane finish paint (RAL 5012 Blue)	One coat each	At least 100 micron
External Radiator surface	Anticorrosive primary paint followed by high quality full glossy outer finish paint (RAL 5012 Blue)	Two coats each	At least 100 micron
Internal Radiator surface	Hot oil proof, low viscosity varnish and subsequent flushing with transformer oil	---	---
Internal surface of M Box	Chemical resistant epoxy zinc phosphate primer followed by chemical and heat resistant epoxy enamel white paint	Two coats each	Not less than 100 micron

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 27 OF 31

6.0 Inspection and testing of transformers at vendor works

	Vendor shall provide inspection call to BHEL for the type and routine tests. All Routine, Type and Special Tests as mentioned below shall be carried out on transformer complying to IS:2026, IEC-60076 & CBIP Manual on Transformer - Publication No: 275 or latest. Prior to the call, vendor shall submit the detailed Manufacturing Quality Plan (MQP) for approval.	
--	--	--

6.1 Routine & Type tests on Transformer/RTCC Panel as per IEC: 60076

6.1.1	ROUTINE TESTS ON TRANSFORMER	
1	Measurement of Voltage Ratio & phase displacement (as per IEC 60076-1)	
2	Measurement of winding resistance on all the taps (HV & LV) (as per IEC 60076-1)	
3	Vector group and Polarity Check (as per IEC 60076-1)	
4	Magnetic Balance and Magnetizing Current Test	
5	Measurement of no load current with 415 V, 50 hz AC supply	
6	Measurement of no load losses and current at 90%, 100% & 110% of rated voltage (as per IEC 60076-1)	
7	Load Loss & Short Circuit Impedance Measurement on principal & Extreme Taps	
8	IR measurement (As per IEC 60076-1)	
9	2KV core isolation (between core-clamp, core-tank & clamp-tank)	
10	Measurement of capacitance & tan delta to determine capacitance between winding & earth.	
11	Dielectric tests shall be carried out as per IEC 60076-3	
12	Repeat no load current/loss measurement & IR after completion of all dielectric test.	
13	Oil leakage test on completely assembled transformer along with radiators (as per relevant clause of this sub section)	
14	Jacking test followed by D.P. test	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 28 OF 31

15	Marshalling Box/Cable box: It shall not be possible to insert a thin sheet of paper under gaskets and through enclosure joints.	
16	Check of the ratio and polarity of built-in current transformers	
17	Lightning impulse (Full & Chopped Wave) test on HV & LV winding (as per IEC 60076-3)	
18	Switching impulse test (as per IEC 60076-3)	
19	Frequency Response Analysis test	
20	LTAC test (as per IEC 60076-3)	
21	Applied voltage test (AV) as per IEC 60076-3	
22	Induced voltage test with PD measurement (as per IEC 60076-3)	
23	Auxiliary wiring insulation test(AuxW)	
6.1.2	Routine tests on RTCC Panel All routine and acceptance tests shall be performed at RTCC vendor's works prior to despatch. If integrated tests have to be performed as part of routine tests at transformer manufacturer's works, the same shall be offered as part of inspection of main transformer and test reports same shall be submitted for customer approval.	
6.1.3	TYPE TESTS ON TRANSFORMER	
1	Temperature Rise test at a tap corresponding to maximum losses.. DGA shall be conducted on oil sample taken before & immediately after temp. Rise test. Gas analysis shall be as per IS: 9434 (based on IEC: 60567), results will be interpreted as per IS: 10593 (based on IEC:60599). Infrared Thermography shall be conducted during temp rise test for future reference.	
2	Zero sequence impedance measurement test	
3	Measurement of harmonics of no load current	
4	Measurement of acoustic noise level as per NEMA TR-1	
5	Measurement of power taken by Fans	
6	Tank Vacuum & Pressure Test Report As per CBIP norms.	

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 29 OF 31

7	Type Test report of OLTC as per relevant IEC Oil Leakage test on assembled Transformer (ROUTINE TEST) All tank & oil filled compartment shall be tested for oil tightness by being completely filled with oil of viscosity not greater than that of specified oil at the ambient temperature & applying pressure equal to the normal pressure plus 35 KN/sq. m measured at the base of the tank. The pressure shall be maintained for a period of not less than 6 hours during which time no sweating shall occur. This test shall be repeated as pre commissioning test at site with test duration of 24 hours.	
NOTE	1) Detailed theoretical evaluation of the ability to withstand the dynamic effect of short circuit as per IEC 60076-5 is to be submitted during design review & detail engineering. All design documents related for complete theoretical evaluation must be submitted to Employer.	
	2) All above specified tests are mandatory and no separate charges for the same is applicable. Final List of tests to be performed shall be as per NTPC approved MQP during detailed engineering.	

6.2 Transformer Transportation

	Transformer tank shall be dispatched filled with oil or pure dry inert Nitrogen gas at positive pressure of 2 to 2.5 Psi at temperature of 36°C approximate depending upon the transport weight limitations. In case the tank is filled with oil, sufficient space is left above the oil to take care of the expansion of the oil. The space is filled with pure dry air or inert gas under atmospheric pressure. In case the tank is filled with inert gas the temperature and pressure at the time of gas filling shall be marked on a tag. A graph showing pressure vs. temperature shall be attached for reading pressures at different temperatures. Necessary valve, two stage pressure regulators, filled up Nitrogen cylinder etc. along with other accessories required shall be provided with the tank for intermittent replenishment during transportation. Impact Recorder Impact recorder/indicator shall be provided to monitor the impact experienced by the transformer during transport.	
--	--	--

7.0 Tests at Site

7.1	After erection at site all transformer(s) shall be subjected to the following tests: i. Insulation resistance test. ii. Ratio and polarity test.	
-----	--	--

	PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER TRANSFORMER	PS-439-1346
		REV NO: 00
		PAGE : 30 OF 31

	iii. Dielectric test on oil. iv. Physical check. v. SFRA test vi. Oil filtration These tests shall be conducted under the supervision of transformer manufacturer.	
--	--	--

8.0 Documents to be submitted after receipt of purchase order

8.1	Following documents shall be submitted for BHEL approval within seven days from date of purchase order. (1) Detailed transformer drawings for (a) Overall General Arrangement (plan, elevation, end view) with overall dimensions and bill of accessories. (b) Rating plate details (c) Valve schedule plate details with elevation and side view showing valve positions (d) HV cable box with disconnecting chamber, bushings, gland plate, cable termination details etc. (e) LV cable box with disconnecting chamber, bushings, gland plate, cable termination details etc. (f) Marshalling box GA (front view, side view, bill of items) and wiring diagram (g) Foundation plan (h) Bill of material of transformer (i) Untanking details (removal of core and assembly from tank) (j) Drawings for RTCC Panel along with wiring chart (2) Guaranteed technical specification of transformer (3) Quality assurance plan (routine tests, type tests, test certificates) covering incoming materials, stage-wise inspection during manufacturing, finished goods, packing and forwarding. Witness by customer and BHEL shall be included for stage inspection / final inspection as required. (4) Detailed Test Procedure for all routine, type and special tests. (5) Manufacturing clearance shall be subject to approval of the above documents by customer.	
-----	---	--

9.0 Documents to be submitted along with consignment



PURCHASE SPECIFICATION / GROUP : PHOTOVOLTAICS
OUTDOOR, ONAF/ONAN, 3-PHASE, 220/33KV, 20 MVA POWER
TRANSFORMER

PS-439-1346

REV NO: 00

PAGE : 31 OF 31

9.1	Following documents shall be submitted to BHEL at the time of delivery of the consignment: (1) As built drawings of transformer (2) Routine test reports on transformer (3) Type test reports on transformer (4) Test certificate for pressure & vacuum test on tank (5) Test certificate for transformer oil (6) Operations and maintenance manual of transformer (7) Technical datasheets of transformer accessories such as Buchholz relay, Magnetic oil level gauge, Pressure release valve, OTI, WTI, Temperature sensor (PT-100), Explosion vent with diaphragm, Breather with silica gel, HV / LV Bushings, CT for WTI, etc.	
9.2	If vendor is offering equipment conforming to the standards other than those stipulated above, it shall be established in the bid that the standards adopted are comparable with relevant Indian Standards or IEC Standards. Further, a comparative statement shall be furnished with bid.	

	CORPORATE QUALITY ASSURANCE SUB-VENDOR QUESTIONNAIRE
--	---

i.	Item/Scope of Sub-contracting			
ii.	Address of the registered office 	Details of Contact Person (Name, Designation, Mobile, Email) 		
iii.	Name and Address of the proposed Sub-vendor's works where item is being manufactured 	Details of Contact Person: (Name, Designation, Mobile, Email) 		
iv.	Annual Production Capacity for proposed item/scope of sub-contracting			
v.	Annual production for last 3 years for proposed item/scope of sub-contracting			
vi.	Details of proposed works			
1.	Year of establishment of present works			
2.	Year of commencement of manufacturing at above works			
3.	Details of change in Works address in past (if any)			
4.	Total Area			
	Covered Area			
5.	Factory Registration Certificate	Details attached at Annexure – F2.1		
6.	Design/ Research & development set-up (No. of manpower, their qualification, machines & tools employed etc.)	Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design Details attached at Annexure – F2.2 (if applicable)		
7.	Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc)	Details attached at Annexure – F2.3		
8.	After sales service set up in India, in case of foreign sub-vendor (Location, Contact Person, Contact details etc.)	Applicable / Not applicable Details attached at Annexure – F2.4		
9.	Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any	Details attached at Annexure – F2.5		
10.	Sources of Raw Material/Major Bought Out Item	Details attached at Annexure – F2.6		
11.	Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing	Details attached at Annexure – F2.7		

	CORPORATE QUALITY ASSURANCE SUB-VENDOR QUESTIONNAIRE
--	---

12.	Manufacturing facilities <i>(List of machines, special process facilities, material handling etc.)</i>	Details attached at Annexure – F2.8			
13.	Testing facilities <i>(List of testing equipment)</i>	Details attached at Annexure – F2.9			
14.	If manufacturing process involves fabrication then- List of qualified Welders List of qualified NDT personnel with area of specialization	Applicable / Not applicable Details attached at Annexure – F2.10 <i>(if applicable)</i>			
15.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses	Applicable / Not applicable Details attached at Annexure. –F2.11 <i>(if applicable)</i>			
16.	Supply reference list including recent supplies	Details attached at Annexure – F2.12 <i>(as per format given below)</i>			
Project/ package	Customer Name	Supplied Item (Type/Rating/Model /Capacity/Size etc)	PO ref no/date	Supplied Quantity	Date of Supply
17.	Product satisfactory performance feedback letter/certificates/End User Feedback			Attached at annexure - F2.13	
18.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product <i>(similar or higher rating)</i> Note:- Reports need not to be submitted			Applicable / Not applicable Details attached at Annexure – F2.14 <i>(if applicable)</i>	
19.	Statutory / mandatory certification for the proposed product			Applicable / Not applicable Details attached at Annexure – F2.15 <i>(if applicable)</i>	
20.	Copy of ISO 9001 certificate <i>(if available)</i>			Attached at Annexure – F2.16	
21.	Product technical catalogues for proposed item (if available)			Details attached at Annexure – F2.17	
Name: Desig: Sign: Date:					

Company's Seal/Stamp:-



ಭಾರತ್ ಹವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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

PB 2606 , Mysore Road Bangalore , 560026 INDIA

CE:PR:001- Rev 03

INSTRUCTIONS TO BIDDERS

Bidder is requested to read the instructions carefully and submit their quotation taking into consideration of all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: CE: PR: 001 – Rev 03), General Conditions of Contract (document reference: CE: PR: 002 - Rev 02) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Regret letter (either through post or by mail or by EPS) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender. Supplier shall be liable for removal as a registered vendor of BHEL when the supplier fails to quote against four consecutive tender enquiries for the same item or all enquiries in last two years for the same item, whichever is earlier.
4. Procurement directly from the manufacturers is 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. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.
In case bids are received from the manufacturer/ supplier and his agent, bid received from the agent shall be ignored.
5. 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.
6. If an Indian representative/associate/liaison office quotes on behalf of a foreign based bidder, such representative shall furnish 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 the equipment is commissioned and handed over to customer will be the sole responsibility of the Indian representative/associates/agent/liaison office.
 - d. Refer **Annexure I** on “Guidelines for Indian Agents”.
7. 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 to supplier's account. All offers for imported scope of supply by air, must be made from any of the gateway ports (within the country) indicated (**Refer Annexure II**).

8. 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: http://www.bhel.com/vender_registration/vender.php
9. 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, 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. Bidder may refer "Guidelines for Suspension of Business Dealings with Suppliers/ Contractors" available on www.bhel.com for more details.
10. 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 your notice.
11. Offers to be submitted in English language only.
12. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent Orders issued by the Nodal Ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of price bid/s against this NIT.

Any Indian Bidder intending to avail the benefits shall submit the requisite documents as per the aforesaid orders.

13. The Bidder shall mandatorily submit Declaration as mentioned below, under Rule 144(xi) of General Financial Rules, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India. The declaration to be submitted on Company Letter head duly signed and sealed by authorised signatory, for ascertaining the eligibility of offer in the tender.

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered."

(Where applicable, evidence of valid registration by the Competent Authority shall be attached).

The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

Refer Annexure-X for 'Restrictions under Rule 144(Xi) of General Financial Rules, 2017 amendment dt: 23.07.2020'.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:

- **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
- **TWO PART BID:** Unpriced offer i.e. “Techno-commercial Bid” with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the “Price Bid” without the prices** should be enclosed in one cover and the cover must be super scribed “**Techno-commercial offer**) and Priced offer i.e. “Price Bid” containing price summary in a separate sealed envelope and must be super scribed “**Price Bid**”. Both these envelopes shall be enclosed in a single sealed envelope superscribed 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 superscribed 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 (or) if any part of the offer is incomplete, the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to superscribe 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 (duly filled, signed & stamped) must accompany Technical-Commercial offer without fail and should be submitted in original only.

The above indicated submission of Offers in “sealed envelope/hard copy” as mentioned in points B.1-B.3 is applicable for tenders that are not floated through E-Procurement System (EPS).

4. Validity: Unless otherwise specified in SCC (special commercial conditions of contract), the offer will be valid for a period of 90 days from the date of part-I bid opening and in case of Negotiation/Counter-offer/Reverse Auction, price validity will apply afresh for a period of _60_ days from the date of according final price by bidder (or) upto original validity period, whichever is later.
5. 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 deviation.
6. 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.
7. 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.
8. “Price Bid” shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, 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.
9. In addition, bidder shall also quote for erection & commissioning charges/erection supervision & commissioning charges (E&C service charges), documentation charges, testing Charges (type & routine),

training charges etc. as applicable along with corresponding tax. The price summary must indicate all the elements clearly.

10. Wherever applicable, bidders should indicate "lumpsum" Erection and Commissioning (or) Erection Supervision and Commissioning charges, as applicable (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for carrying out E&C activity and further handing over to customer. The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist (if any).
11. Wherever bidders require PAC (Project Authority Certificate)/applicable certificates for import of raw materials, components required for DECC,EPCG Power Projects, Export Projects or other similar projects wherein supplies are eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
12. Prices should be indicated in both figures & words. Bid should be free from correction/overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure III** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid" and BHEL decision will be final.
13. Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder. However, this requirement is not mandatory for offers uploaded through E-Procurement System (EPS).

C. GUIDELINES FOR OFFER SUBMISSION:

The under-mentioned clauses 1, 2&3 will not be applicable for EPS tenders.

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.
2. E-Mail/ Internet/EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC document of the tender.
3. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference no. and give only such other details not covered in the MOU.
4. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two purchase officers whose names are mentioned in the SCC document of tender RFQ.
5. 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. For EPS tenders, e-mail notifications will be automatically generated and forwarded to registered e-mail ID/s of bidders during opening of tenders.
6. Bidder 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 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 (This clause will not be applicable for EPS tenders).

The above indicated submission of Offers as mentioned in points 6.a-6.d is applicable for tenders that are not floated through EPS.

- e. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, system/software requirements etc. will be the sole responsibility of the bidder. Wherever assistance is needed for submission of e-tenders, help-line numbers as available in the web-site of service provider of BHEL may be contacted.

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

D. PROCESSING OF OFFERS RECEIVED:

1. Any discount/ revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid). The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes/revisions are requested by BHEL. In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids/conducting the Reverse Auction, revision of price/impact bid will not be accepted.
3. In case there is no change in the technical scope and/ or specifications and/ or commercial terms & conditions, 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).
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 bidders, 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.
5. Un-opened bids (including price bids) will be returned to the respective bidders after release of Purchase order. Regarding Offers for EPS tenders that get rejected on PQC/ techno-commercial grounds, the bids for the subsequent parts will not be opened i.e., both technical bid and price bid (Parts-II & III) will not be opened in case of rejection on PQC ground and price bid (Part-II/Part-III, as applicable) will not be opened in case of rejection on techno-commercial ground.
6. After receipt of Purchase Order, supplier should submit required documents viz., specified 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 and agreed upon in the Purchase Order.
8. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL").
 "Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and/or duties(as applicable), freight charges, taxes on Services, customs clearance charges for imported items, any other cost indicated by bidder 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 DEEC, EPCG, DFIA Projects, Physical Exports or such 100% exemptions (statutory benefits), project imports, customer reimbursements of statutory duties (like Basic Customs Duty and cess on customs duty), Input tax credits as applicable will also be taken into account for arriving at the Total cost to BHEL (wherever applicable and as indicated in SCC document of tender).

For EPS tenders, it shall be noted that the prices (including discounts) vis-a-vis currency quoted in EPS portal only will be considered as Final for the purpose of evaluation of the lowest bidder. Bidder shall ensure to indicate the applicable taxes against each line item in online portal, failing to which the same will be considered as inclusive/NIL.

In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

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.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format (**Refer Annexure IV**) for receiving all payments through NEFT.(Applicable for Indian vendors only).
2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors. All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to supplier's account only. Such recovery will be made out of any of the available bills (**Refer Annexure V**).
3. Statutory deductions, if any, will be made and the deduction certificate shall be issued.
 - A. 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.

In addition to the above, Foreign vendors shall also submit relevant details of their bankers like Swift Code, Banker's Name & Address etc.

B. TDS deduction as per section 51 of CGST Act, 2017 shall be applicable as per Gazette Notification No. 50/2018-Central Tax, Dated: 13th September 2018 and subsequent notification/s, as and when released by Govt. authorities.

4. Incomplete documentation will not be accepted. Delayed submission of invoice / documents may result in corresponding delay in payment. In this connection, request to also refer clause: G about invoicing & payment formalities under GST regime. Applicable documents shall be submitted to the purchaser at the time of execution of supplies/services for availing GST input credits.

F. STANDARD PAYMENT TERMS OF BHEL-EDN:

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH SERVICE(S)</u>	<u>SUPPLY ONLY</u>
<u>INDIGENOUS PROCUREMENT</u>	a. 100% of basic value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later. <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	b. 100% of PO value with taxes and freight will be paid in 45 days from the date of dispatch or 15 days from the date of submission of complete set of documentation, whichever is later.
<u>IMPORT PROCUREMENT</u>	c. 100% of basic value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents. <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	d. 100% of PO value will be paid against usance draft of 45 days from the date of AWB/BOL on submission of complete set of documents.
<u>HIGH-SEA SALES PROCUREMENT</u>	e. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later <u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.	f. 100% of basic value will be paid in 45 days from the date of signing of High Sea Sale agreement or 15 days from the date of submission of complete set of documentation, whichever is later.

g. Erection and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 10% of the main supply value. In case the quoted total E&C value is less than 10% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

h. Erection Supervision and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 5% of the main supply value. In case the quoted total E&C value is less than 5% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

i. Comprehensive Annual Maintenance Contract:

Evaluation methodology: Unless and otherwise specified in SCC, CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later and the total CAMC value should not be less than 20% of the main supply value. In case the quoted total CAMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards CAMC charges.

Payment terms: 100% CAMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on yearly basis.

j. Terms of Payment for Training: 100% payment will be made in 45 days from the date of completion of Training or 15 days from the date of submission of complete set of invoice along with documentary evidence, whichever is later.

LOADING FACTORS FOR DEVIATION IN PAYMENT TERMS (APPLICABLE FOR IMPORT PROCUREMENT ONLY):

- 1) For offers received with Sight draft payment term in place of Usance draft, loading applicable will be 1.0% of basic value.
 - 2) For offers received with Letter of Credit payment term with Usance of 45 days, loading applicable will be 2.5% of basic value.
Additional loading of 2% will be applicable for payment term as Letter of Credit at Sight.
- k. Any payment term with credit period of less than 45 days for indigenous supply/HSS and any other variation of payment terms are liable for rejection.
- l. Standard payment terms indicated in Clauses: F (a), (b), (c), (d), (e), (f), (g), (h), (i) & (j) will not attract any loading.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable). Wherever the Purchase Order is split into import portion and indigenous portion of supply, minimum % to be quoted for Services, wherever mentioned, will be of both purchase order values put together.

Note 2: In case of multiple packages/units in a power plant, payment of E&C charges will be processed on pro-rata basis.

Note 3: No deviation will be permitted from the duration of Guarantee/Warranty and/or Comprehensive Annual Maintenance Contract period specified in SCC.

G. Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB. However for CGST +SGST/UGST billing outside the state of Karnataka, invoice has to be generated with BHEL's Nodal Agency GSTIN number. Address of Nodal Agency along with GSTIN number will be provided by BHEL at the time of issuing dispatch clearance.
2. The Bidder shall mention Bidder's GSTIN number in all quotations and Invoices submitted.
3. The Bidder shall also mention HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) mandatorily in all quotations and invoices submitted.
4. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST,IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. For invoices paid on Reverse charge basis – “Tax payable on reverse charge basis” to be mentioned on the invoice.
7. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
8. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.
9. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
10. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the calendar month notified by BHEL.
11. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.

H. Performance bank guarantee (PBG):

Performance bank guarantee (PBG) will be applicable as called in the tender documents. Unless otherwise specified in the SCC, the PBG against performance of the contract shall be valid for a period of 24 months from the date of dispatch of goods + claim period of 03 months, for a value equal to 10 % of the basic value of the purchase order which will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C and AMC charges (wherever applicable).

1. The BG issued in Indian Rupees by Banks in India is to be executed 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/Bank issuing the guarantee.
2. No deviation for the duration and value of PBG will be permitted.
3. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure VI**).
4. PBGs from nationalized banks are also acceptable.
5. 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.
6. PBG should be in the format specified (**refer Annexure VII**). No deviation to this format will be allowed. However in case BHEL changes the PBG format, bidder shall honor the same.
7. Bank Guarantee should be enforceable in Bangalore.
8. 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 Bangalore.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 Please note that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter-Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It shall be noted that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor.
 - 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 is 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).
9. Expired PBGs will be returned only after expiry of the claim period.
10. PBG shall not be applicable for spares.

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

Benefits/facilities as applicable for Micro and Small Enterprises (MSEs) shall be available to MSEs registered with Government designated authorities as per the Purchase & Price Preference Policy of the Government subject to them becoming eligible otherwise.

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 the Udyog Aadhaar/Udyam Registration certificate along with attested copy of a CA certificate (Annexure VIII) applicable for the relevant financial year (latest audited) along with the tender documents in the Part-I bid to avail the applicable benefits.

Date to be reckoned for determining the deemed validity will be the date of bid opening (Part-I in case of two-part bid and three-part bid).

Documents have to be notarized/attested by a Gazetted officer and must be valid as on the date of part I bid opening for the vendors to be eligible for the benefits applicable for MSE vendors. Please note that no benefit shall be applicable if any deficiency in the above required documents are not submitted before the price bid opening/Reverse Auction. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal.

Bidders to however note the documents that shall be furnished in order to establish credentials as MSE vendor should be as per the extant statutory requirements specified by the Ministry of Micro, Small and Medium Enterprises.

PURCHASE PREFERENCE FOR MSE VENDORS:

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

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 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. 3% of the 25% will be earmarked for women owned MSEs.
5. 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) & (2) are fulfilled.
6. In case where no SC/ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, the 6.25% of earmarked quantity for SC/ST owned MSE firms will be distributed among the other eligible MSE vendors who have participated in the tender.
7. In case after the bid opening it is seen that no MSE has become L1, then depending on the nature of the item, if it is not possible to split the tendered items/quantities on account of reasons like customer contract requirements of supplying one make for a given project or technical reasons like the tendered item being a system etc., then BHEL would not counter offer the L1 prices even though there may be MSE bidders within the +15% band of L1. Such information that tendered quantity will not be split shall be indicated in the SCC.

J. 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.

K. Integrity Pact (IP):

- a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner.
A panel of independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.
The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial bid. Only those Bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- b) Please refer Section-8 of the IP for Role and Responsibilities of IEMs (Annexure IX). In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

Note: No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department."

Annexure-X

Restrictions under Rule 144(xi) of General Financial Rules, 2017 amendment dt: 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means :-
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation--

 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.



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.

- '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.
- '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.
- '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.
- 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.
- "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.
- 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:

- words indicating one gender include all genders;
- words indicating the singular also include the plural and words indicating the plural also include the singular;
- provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- "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 transshipment and to take care of transit damages. Smaller consignments can be dispatched through Courier services/ RPP with the prior approval of the purchasing Executive.

Deviation for the delivery term is liable for rejection.

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 Phytosanitary / Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment. Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (L x B x H) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated. Separate packing & identification of items should be as follows.
 1. Main Scope - All items must be tagged with part no. & item description.
 2. Commissioning spares - All items must be tagged with part no. & item description.
 3. Mandatory spares - All items must be tagged with part no. & item description.
13. **Assignment of Rights & Obligations; Subcontracting:** Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
14. **Progress report:** Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.

15. **Non-disclosure and Information Obligations: Vendor** shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.
16. **Cancellation / Termination of contract:** BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination.
BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so, on account of any decline, diminution, curtailment or stoppage of the business.
17. **Risk Purchase Clause:** In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services NOT supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.
In case of items demanding services at site like erection and commissioning, vendor should send his servicemen /representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase / service including additional handling charges due to the change.
18. **Shortages:** In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages shall be made good within a reasonable time that BHEL may allow from such intimation and free of cost.
Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, Supplier shall make good of all such damages within a reasonable time from such intimation by BHEL.
19. **Remedial work:** Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.
20. **Indemnity Clause:** Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment.
21. **Product Information, Drawings and Documents:** Drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract.
Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.
All intellectual properties, including designs, drawings and product information etc. exchanged during the

formation and execution of the Contract shall continue to be the property of the disclosing party.

22. **Intellectual Property Rights, Licenses:** If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods / related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.

23. **Force Majeure:** Notwithstanding anything contained in the purchase order or any other document relevant thereto, neither party shall be liable for any failure or delay in performance to the extent said failures or delays are caused by the "Act of God" and occurring without its fault or negligence, provided that, force majeure will apply only if the failure to perform could not be avoided by the exercise of due care and vendor doing everything reasonably possible to resume its performance.
A party affected by an event of force majeure which may include fire, tempest, floods, earthquake, riot, war, damage by aircraft etc., shall give the other party written notice, with full details as soon as possible and in any event not later than seven (7) calendar days of the occurrence of the cause relied upon. If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

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

24. **Guarantee / Warranty:** Wherever required, and so provided in the specifications / Purchaser Order, the Seller shall guarantee that the stores supplied shall comply with the specifications laid down, for materials, workmanship and performance. The guarantee / warranty period as described 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 noticed 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
D06	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

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 at _____ (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 No _____ dated _____³ valued at Rs _____⁴ (Rupees -----)/FC _____ (in words _____) for _____⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to _____ % (_____ . Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, _____, (hereinafter referred to as the Bank), having registered/Head office at _____ and inter alia a branch at _____ being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer 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 _____ 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, _____ 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 including _____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 _____⁸ we shall be discharged from all liabilities under this guarantee thereafter.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed _____⁶
- b) This Guarantee shall be valid up to _____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)

Dated _____.

Place of Issue _____.

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

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

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ 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/Region's 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 Bank's (BHEL's 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 / transferring 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 responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone NO. with STD Code

Company Seal

Bank Certificate

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

Date: _____ (.....)

Place: _____ Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : 080-26998xxx / 2674xxxx or fax no. 080-2674xxxx

List of Consortium Banks

Sl. No	Nationalised Banks	Sl. No	Public Sector Banks
1	State Bank of India	18	IDBI
2	Allahabad bank		
3	Andhra bank	Sl. No	Private banks
4	Bank of Baroda	19	Axis Bank
5	Canara Bank	20	HDFC
6	Corporation bank	21	ICICI
7	Central bank	22	The Federal Bank Limited
8	Indian Bank	23	Kotak Mahindra Bank
9	Indian Oversea Bank	24	Indusind Bank
10	Oriental bank of Commerce	25	Yes Bank
11	Punjab National Bank		
12	Punjab & Sindh Bank	Sl. No	Foreign banks
13	Syndicate Bank	26	CITI Bank N.A
14	UCO Bank	27	Deutsche Bank AG
15	Union Bank of India	28	HSBC
16	United Bank of India	29	Standard Chartered Bank
17	Vijaya Bank	30	J P Morgan

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

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

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, 29.05.2019 & 04.06.2020 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ PO/ WO against this NIT.

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

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.”

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in

order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further 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 the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 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.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his sub-contractors a commitment consistent with this Integrity Pact. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal.
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or

take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal
(Office Seal)

For & On behalf of the Bidder/ Contractor
(Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address)_____

Certificate by Chartered Accountant on letterhead

This is to certify that M/s _____
(hereinafter referred to as 'enterprise') having P A N Number _____ and
UDYAM Registration Number _____, registered office at _____
_____ is falling under the category
_____ (Micro / Small / Medium) under MSMED Act 2006. (Copy of UDYAM Registration
Certificate to be enclosed).

The said classification of _____ (Micro / Small / Medium) is arrived at based on the
Notifications / guidelines / clarifications issued under Micro, Small and Medium Enterprises
Development Act, 2006 including the notification S.O.2119 (E) dated 26th June 2020.

The Investment of the enterprise in Plant and Machinery or Equipment as at 31st March
2020 as per Clause 4 of the Notification is _____ (Rupees in Lakhs).

The turnover of the Enterprise for the period ending 31st March 2020 as per Clause 5
of the Notification is _____ (Rupees in Lakhs).

Date:

(Signature) Name-
Membership number-

Seal of Chartered Accountant with UDIN reference

Self-Certification on the letter head of the company

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, issued by Ministry of Commerce and Industry

AND

P-45021/2/2017-PP (BE-II) dated 04.06.2020, issued by Ministry of Commerce and Industry

AND

Office Memorandum issued by MNRE REF no F No. 146/57/2018-P&C dated 11/12/2018

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 :

RAJBOS0060 - Supply and I&C of 20MVA Power Transformer for NTPC 20MW
Solar PV Project at Gandhar, Gujarat

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.

Authorised signatory with date

Name of Authorised Signatory

Seal of Company