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 for Supply and I&C of 5.3 MVA Inverter Transformers for NTPC 20MW Solar PV Project at Gandhar, Gujarat through e-procurement route.

| RFQ NO and date | RAJBOS0056 dated 03.07.2020 (E-tender) |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RFQ due date & time | 13.07.2020 up to 13.00 hrs (IST) |
| Date, Time & Venue of Part-I Bid Opening | 13.07.2020 after 13.30 hrs (IST) (E-tender) – Website - https://bhel.abcprocure.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 |

RAJBOS0056 – Pre Qualification Criteria

BHEL-EDN is executing Solar PV projects of 20 MW capacity for NTPC on EPC basis. The requirement for Inverter transformers is being floated as open tender. The project requirement is as below-

| S.No | Item Description | Estimated Quantity |
|------|------------------------------|--------------------|
| 1 | 5.3 MVA Inverter Transformer | 4 Nos |

Pre-Qualification Criteria (PQC) is as below:

- 1) The bidder should be an OEM and should have supplied and commissioned at least four number of minimum rating of 5 MVA, 3 phase, 3 or more windings inverter duty transformer with HV winding of minimum 33kV grade for solar PV plants 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 copies along with the commissioning/performance certificate from respective clients.
- 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: RAJBOS0056

> RFQ DATE : 03.07.2020

Due Date Day: 13.97, 2020 MON Time 13:00 HRS Tender Box : Reception Area Opening Venue: NEW ENGG. BLDG

MMEPURF 003

(address for communication) :

(for all correspondence)

Purchase Executive: RAJESH SHELMEDA

Phone: 26989637 Fax: :00918028520135 E-mail: s.rajeshūi bhel.in

| l No. | Description | Qty | Unit | Delivery qty | Delivery Date |
|-------|----------------------------------------------------------------------------------------------|-----|------|--------------|---------------|
| ્રા | PS0670086536 Supply-of 5.3 MVA Transformer * HSN/SAC 8504 Test Certificate | 4 | NO | * | 11.09.2020 |
| 2 | PS0679086544 Supply of Spares of 5.3 MVA Transformer * HSN/SAC : 8504 Test Certificate | 1 | ST | 1% | 11.09.2020 |
| 3 | PS0679086552 I&C of 5.3 MVA Transformer * HSN/SAC - 7308 | .4 | AU | 4 | 03.10,2020 |

Total Number of Items - 3

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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.
- Bidders / Representatives who would like to be present during opening of offers are required to famish authorization latter 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 SHELMEDA Semiconductors & Pho

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PS-439-1336

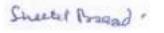
REV NO: 00

PAGE: 1 OF 20

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PURCHASE SPECIFICATION FOR SUPPLY AND COMMISSIONING SUPPORT OF ONAN TYPE, 3-PHASE, 3-WINDING, 5.3MVA, 33KV / xxxV - xxxV INVERTER DUTY TRANSFORMER





| Revision | Date | Prepared | Checked & Approved |
|----------|------------|----------------|--------------------|
| 0 | 12-06-2020 | SHEETAL PRASAD | PRACHI RAO V |



PS-439-1336

REV NO: 00

PAGE: 2 OF 20

1.0 INTRODUCTION

This document details the technical specifications, supply conditions, erection and commissioning and post-commissioning requirements for ONAN Outdoor type, 5.3 MVA, 33kV/xxxV-xxxV, 3-phase, 3-Winding, Inverter duty transformers for Solar PV grid connected power plants.

2.0 LIST OF ITEMS

| 2.1 | ONAN type, 3-phase, 3-winding, Inverter Duty Transformer with two identical LV windings and one HV winding - Rating 5300 kVA | Qty as per BHEL tender requirement |
|-----|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| | 1) HV Voltage: 33kV | 1 |
| | 2) LV voltage: xxxV-xxxV ** | |
| | 3) Vector group: Dyn11yn11 (Floating Neutral) | |
| | ** xxx Volts - Value shall vary between 550V and 690V depending on | |
| | the output of the Inverter. Exact voltage shall be informed during | |
| | detailed engineering. | |
| | Price quoted by vendor shall be firm irrespective of the LV Voltage | |
| 2.2 | Spares shall be offered as per list below: | |

| # | Spares(0&M) | Qty |
|----|---------------------------------------------------------------|-----------------------|
| 1 | HV Bushings with metal parts and gaskets | 1 sets (3 Nos) |
| 2 | LV Bushings with metal parts and gaskets | 1 set (6 Nos) |
| 3 | LV Neutral Bushing | 1 set (2 Nos) |
| 4 | Set of valves | 1 set |
| | (Each set shall represent complete qty of different types of | |
| | valves used in one transformer. Total list of valves shall be | |
| | indicated by vendor during detailed Engg) | |
| 5 | Pressure Relief Device with trip contacts | 1 No |
| 6 | Winding temperature indicator with alarm & trip contacts | 1 No |
| | along with 4-20mA transmitter | |
| 7 | Oil temperature indicator with alarm & trip contacts along | 1 No |
| | with 4-20mA transmitter | |
| 8 | Buchholz Relay (complete unit) | 1 No |
| 9 | Magnetic Oil Level Gauge (MOG) | 1 No |
| 10 | Set of Gaskets | 1 set |
| | (Each set shall represent complete qty of different types of | |
| | gaskets used in one transformer. Total list of gaskets shall | |
| | be indicated by vendor during detailed Engg) | |
| 11 | Transformer Oil | 10 % of total |
| | | quantity of extra oil |
| | | required for all the |
| | | transformers |

Notes:



2.3

PURCHASE SPECIFICATION FOR SUPPLY AND COMMISSIONING SUPPORT OF ONAN TYPE, 3-PHASE, 3-WINDING, 5.3 MVA, 33KV / xxxV - xxxV INVERTER DUTY TRANSFORMER

PS-439-1336

REV NO: 00

PAGE: 3 OF 20

| total price. | t price, quantity an |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| b) BHEL reserves the right in selection and inclusion of the spares in the f | inal scano of supply |
| · · · · · · · · · · · · · · · · · · · | Tan scope of suppry. |
| Installation and commissioning support for the transformers at site: | 1 AU per transformer |
| BHEL scope of activities at site for installation and commissioning:(1) Movement and positioning of transformers on their respective foundations. BHEL shall arrange all necessary labour, machinery and | |
| tools.(2) Erection / assembly of transformer fittings and accessories. BHEL shall arrange all necessary labour, machinery and tools. | I&C Support for 1 No. transformer |
| (3) Laying of LV/HV cables, erection of HV termination kits and cable terminations at the LV/HV cable boxes. BHEL shall arrange all necessary labour and tools. Supply of cables and accessories (glands, lugs, nuts, washers in BHEL scope. | , |
| Vendor scope of activities at site for commissioning: (1) Supervision of erection / assembly of transformer fittings and accessories including marshalling box wiring. This shall include providing technical | |
| guidance to BHEL erection team wherever required.(2) Commissioning / service engineer(s) shall be available at site at the time of commissioning of the power plant. All necessary guidance / support in overcoming technical problems (if any) related to the transformers. | |

2.4 Service during Warranty

and any other contingency expenses.

Vendor shall enclose, along with technical bid, the complete scope, terms and conditions of the warranty.

lump-sum price shall include all the costs that will be incurred by the vendor towards the above activities including travel, boarding, lodging

During the warranty period, whenever a technical problem is encountered with transformers, BHEL will report the same to the vendor. All parts of the transformers shall be covered under warranty. Replacement of all defective material during warranty period shall be in scope of the vendor.

Vendor shall ensure that the problem is attended to by their service engineer within two days from the date of reporting.



PS-439-1336

REV NO: 00

PAGE: 4 OF 20

3.0 TECHNICAL SPECIFICATIONS

| # | Technical parameter | BHEL specifica | tion |
|----|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| 1 | Transformer type | Outdoor, oil-immersion type ONAN, Transformer shall be designed for at distortion (THD) | |
| 2 | IP class | Transformer, including the cable box be of IP55 or better. | and marshalling box shall |
| 3 | Application | Grid-connected solar photovoltaic pov | ver plant. |
| 4 | Governing Standards | Power Transformer | IS: 2026, IS: 6600, IEC:60076,CBIP |
| | | Fittings and Accessories | IS: 3639 |
| | | Insulating Oil | IEC: 60296 |
| | | Bushings | IS: 2099, IEC: 60137, IS 3347, IS 12676 |
| | | Bushing CTs | IS:2705, IEC 60185 |
| | | Degree of protection | IS: 2147, IEC 76 |
| | | Tests and tolerance of guaranteed particulars | IS: 2147, IEC 76 |
| | | Buchholz relay | IS: 3637 |
| | | Electrical insulation classified by thermal stability | IS: 1271,IEC 85 |
| | | Climate proofing | IS: 3202, IEC 354 |
| | | Indian Electricity Act 2003, BEE Guid CEA regulations/notifications | lelines & |
| 5 | Rating in KVA | 5300 kVA | |
| 6 | No. of phases | 3 | |
| 7 | Frequency | 50 Hz, +/- 3% | |
| 8 | Vector Group | Dyn11yn11 (Floating neutral) | |
| 9 | HV winding | One 3-phase winding with Delta conn | ection. HV voltage: 33KV |
| 10 | LV windings | Two independent 3-phase windings, e LV voltage: as defined at Cl. 2.1. | each with Star connection. |
| | | Each winding shall have an identical winding shall be rated at 50% of overa | |
| | | Design shall be such that transformer performance for both the LV winds winding is not fed from solar generation other (operational) LV winding shall respect to the solar generation of the solar gen | ings. Even when one LV on side, performance of the |
| 11 | Neutral on LV side (Floating neutral) | Neutral terminals of both LV winding separately through bushings. | ngs shall be brought out |



PS-439-1336

REV NO: 00

PAGE: 5 OF 20

| 12 | Winding material | Electrolytic grade Copper/Aluminum for both HV and LV windings. |
|----|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | Winding Insulation | Class A |
| 14 | Rated Thermal Short time current withstand time | 25kA for 2 sec |
| 15 | % Impedance on principal tap, at 2.65 MVA base at 75deg C and 50 deg C | HV - (LV1 + LV2): 7% HV - LV1 / LV2 : 7 % LV1 - LV2 : 11% (min) Tolerance shall be as per IS 2026 |
| 16 | Termination HV/LV/Orientation | Air insulated cable box with disconnecting chamber, for both HV and LV sides. Cable box / Cable box / 180°. |
| 17 | Cable entry on HV side | Bottom entry of cables. Cable size: 1 run per phase of 1Cx240 sq-mm, 33kV grade, aluminum conductor, armoured, XLPE insulation, PVC sheath as per IS: 7098. Cables, lugs, glands, termination kits etc shall be in BHEL SCOPE. Vendor shall provide hole on the bottom-side gland-plate of HV side cable box for cable entry. The minimum length provided for terminating 33KV XLPE cable shall be 1000MM from cable gland plate to cable lugs in the cable boxes. Cable OD will be intimated to the vendor at the time of manufacturing. |
| 18 | Cable entry on LV side | Three wire system. No neutral wire Bottom entry of cables Cable size: 6 runs per phase of 1Cx400 sq.mm, aluminum conductor, armoured, XLPE insulation, PVC sheath as per IS: 7098. Cables, lugs, glands etc shall be in BHEL SCOPE Vendor shall provide holes in the busbars and on the bottom-side gland-plate of LV side cable box for placement of glands. The minimum length provided for terminating LV cable from cable gland plate to cable lugs in the cable boxes shall be finalised during detailed engineering. Cable OD shall be informed to vendor during drawings approval by BHEL. Cables shall enter the cable box straight upwards and get connected to the bus bars. After entry into cable box, cables shall not undergo any bends or turns. Cables shall enter the cable box straight upwards and get connected to the bus bars. After entry into cable box, cables shall not undergo any bends or turns. |



PS-439-1336

REV NO: 00

PAGE: 6 OF 20

| 19 | Tapping on HV winding | Off circuit tap changer (OCTC) switch with tap positions range from -5% to +5% in steps of 2.5%. |
|----|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 upto a load of 150%. There shall be no limitation imposed by bushings etc. or any other associated equipment. |
| 21 | Ambient temperature | Max 50 deg C |
| 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 Vendor shall furnish over-fluxing characteristics upto 150% during detailed engg. The transformer shall also be capable of withstanding without damage during the time, for a duration of at least two seconds the stresses caused by short circuit limited only by the transformer impedance with 110% rated voltage maintained at source end. |
| 24 | Air Clearances | As per CBIP |
| 25 | Harmonics | Shall be designed to suppress harmonics especially 3rd & 5th. Inverter Transformer shall be designed for at least 5% total harmonic distortion (THD) |
| 26 | Noise level | As per NEMA TR-1 standard |
| 27 | Highest system voltage | LV side: 3.6kV HV side: 36 kV |
| 28 | Insulation Class (Winding | As per relevant IS / IEC standard |
| | and bushing) | LV side winding and bushing insulation class shall be of at least 3.6 kV |
| 29 | Insulation levels Rated Lightning Impulse withstand voltage / Short | As per IEC 60137 |



PS-439-1336

REV NO: 00

PAGE: 7 OF 20

| | duration power frequency withstand voltage | | | | |
|----|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------|
| 30 | Painting | PARTS NAME | TYPE OF PAINT | NO. OF | 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 (Micaceious iron oxide) as intermediate paint followed by polyurethane finish paint (RAL 5012 Blue) | One coat each | At least 10 micron |
| | | External Radiator surface | Anticorrosive primary paint followed by high quality full glossy outer finish paint (RAL 5012 Blue) | Two coats each | At least 10 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 |
| 31 | Constructional features | As per clause 4.0 c | of this specification | | |
| 32 | Fittings and accessories | As per clause 5.0 c | of this specification | | |
| 33 | Provision of shield | Inverter Transformer shall have Copper/Aluminum Shield winding between LV & HV windings. Each LV winding must be capable of handling non-sinusoidal voltage with voltage gradient as per relevant applicable standards and Inverter manufacturer recommendation. Also each shield winding shall be taken out to tank with two separate connection from shield to bushing with proper support with 2 nos. of 3.6 kV shield bushings and same shall be brought down along with support insulator from tank & copper flat up to the bottom of the tank for independent grounding. | | | |
| 34 | No load current at rated voltage and frequency | Vendor to indicate | e value (%) | | |



PS-439-1336

REV NO: 00

PAGE: 8 OF 20

| 35 | Efficiency at 75°C at UPF | Minimum 98.5% at full load. Vendor to indicate value |
|----|----------------------------------------------------------|-------------------------------------------------------|
| 36 | Maximum Efficiency (%) and load at which it occurs (kVA) | Vendor to provide details |
| 37 | Overall dimension in mm Length x Breadth x Height | Vendor to provide details |
| 38 | Oil capacity (in Litres) | Vendor to mention Oil capacity |
| 39 | Weight of transformer (kg) | Vendor to provide details |
| 40 | Minimum creepage distance | 35mm/kV |

4.0 Constructional features and details of transformer components

| 4.0 | Governing standard | IS: 2026, IEC 60076 and IS: 3639 or equivalent international |
|-----|--------------------|--------------------------------------------------------------|
| | | standard. |

4.1 Tank

| 4.1.1 | 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. | | |
| 4.1.2 | At least two adequately sized inspection hole(s) with welded flange(s) and bolted cover(s) | | |
| | shall be provided, one at each end of the tank. The inspection hole(s) shall be sufficient size | | |
| | to afford easy access to the lower ends of the bushings, terminals etc. | | |
| 4.1.3 | The interior of the tank shall be cleaned by sand blasting and painted with two coats of heat | | |
| | resistant and oil insoluble insulating varnish of white shade. | | |
| 4.1.4 | All 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. | | |
| 4.1.5 | Transformer tank shall be mounted on bi-directional rollers for rail gauge suitable as per | | |
| | IS / CBIP. Suitable locking arrangement shall be provided to prevent accidental movement | | |
| | of transformer. Tank shall also be provided with lifting lugs and minimum four jacking | | |
| | pad. | | |
| 4.1.6 | 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 Ibs/sq.in) with oil as at operating | | |
| | level. | | |
| | (ii) The transformer shall have conservator tank of adequate capacity to accommodate oil | | |
| | preservation system and volumetric expansion of total transformer oil. The | | |
| | <u> </u> | | |



PS-439-1336

REV NO: 00

PAGE: 9 OF 20

| | 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 indicating type cobalt free silica gel breather (in transparent enclosure). Silica gel shall be isolated from atmosphere by an oil seal. (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. |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1.7 | The adverse effect on life of transformer due to cloud intermittency and solar generation loading cycle must be compensated through suitable design. |
| 4.1.8 | The thermal design of Inverter Transformer needs to consider the temperature dependent performance of the inverter. It is to in accordance with Inverter output and under worst condition it should not limit inverter output. (Temperature dependent performance of the inverter data will be provided during detailed engineering stage). |
| 4.1.9 | The multi-winding transformer needs to be designed for long term operating conditions with asymmetrical load on LV side i.e., in case three winding design, the transformer needs to operate reliable with only one inverter supplying power to only one LV winding. |
| 4.1.10 | Contacts from Inverter transformer and Auxiliary transformer fittings/protection devices shall be wired for tripping of inverter transformer Circuit Breaker. Detailed scheme regarding same shall be finalized during detailed engineering. |

4.2 Core

| 4.2.1 | The magnetic circuit shall be of core type. The core shall be constructed from high grade, non-ageing, cold rolled, super grain oriented silicon steel laminations (CRGOS) equivalent to M4 grade steels or better. | |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 4.2.2 | The insulation structure of the core to clamp plates shall be such that it withstands a voltage of 2kV (rms) for one minute in air. | |
| 4.2.3 | Adequate lifting lugs will be provided to enable the core & windings to be lifted. | |

4.3 Windings

| 4.3.1 | Windings shall be of electrolytic grade copper/Aluminum free from scales & burrs. | |
|-------|------------------------------------------------------------------------------------------------|--|
| 4.3.2 | Windings shall have uniform insulation. | |
| 4.3.3 | Tapping shall be so arranged as to preserve the magnetic balance of the transformer at | |
| | all voltage ratios. | |
| 4.3.4 | 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. | |
| 4.3.5 | Windings shall be made in dust proof and conditioned atmosphere. | |
| | | |



PS-439-1336

REV NO: 00

PAGE: 10 OF 20

4.4 Internal earthing

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

4.5 Bushings

4.5.1 Bushings shall be supplied with terminal connector clamp suitable for connecting the cables. Bushings below 52 kV shall be oil communicating type with porcelain insulator No arcing horns to be provided on the bushings. Inverter Transformer LV bushing palms shall be silver/tin plated.
 Bushing CTs
 Shall be of adequate rating for protection as required, WTI (WTI CT applicable for transformer above 50 KVA) etc. All CTs (except WTI) shall be mounted in the turret of bushings, mounting inside the tank is not permitted.

All CT terminals shall be provided as fixed type terminals on the M. 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.

4.6 Cables boxes and disconnecting chambers

| 4.6.1 | Cable boxes shall be supplied with gland plates having holes to suit BHEL specified cables. |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.6.2 | Cable boxes / disconnecting chambers shall be provided with body earth terminals. |
| 4.6.3 | LV cable boxes shall be provided with necessary LV bushings, bus bars, bus bar supports for making cable terminations. LV neutral cable box- separate cable box shall be provided for each LV neutral |
| 4.6.4 | HV cable boxes shall be segregated air insulated type & shall be of sufficient size to accommodate Employer's cable & termination. Phase segregation shall be achieved by insulating barriers (for 3.3 kV and above side) necessary HV bushings and terminals for making cable terminations. |
| 4.6.5 | Cable boxes shall be provided with suitable gaskets to ensure the specified protection class requirement (IP55). Cable boxes / disconnecting chambers shall be provided with necessary arrangements to prevent entry of rain water into the same. The support from base for the cable box (for 3.3 kV and above side) shall be of galvanized iron. The minimum length provided for terminating BHEL 33 kV XLPE cable shall be 1000 mm from cable gland plate to the cable lug) for the cable boxes, for LT side suitable length shall be provided (shall be discussed during detail engineering). 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 (as applicable). Cable boxes shall have removable top cover and ample clearance shall be provided to enable either transformer or each cable to be subjected separately to high voltage test. |



PS-439-1336

REV NO: 00

PAGE: 11 OF 20

4.6.6 **Disconnecting chambers:**

- (1) Disconnecting chambers shall be provided to enable the transformer to be removed without unsealing the cables or draining oil from the main tank.
- (2) Disconnecting chamber shall be air insulated and complete with seal-off bushings, removable flexible connectors / links and removable covers.
- (3) 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.

4.6.7 | Cable Entry on LV SIDE

- Three wire system
- Bottom Entry of cables
- Cable size: 6runs per phase 1CX400QMM Aluminium conductor armoured XLPE Insulation.
- Cable shall be in BHEL Scope
- Cable Gland, Lugs and SS hardware for connecting cable on LT bus bar shall be in BHEL scope. Vendor shall provide hole on the bottom side gland plate of HV Cable box for cable entry

4.6.8 | Cable Entry on HV Side

- Bottom Entry of cable
- 1 run per phase of 1Cx240 sqmm 33KV grade Aluminium Conductor armoured XLPE insulation
- Cable termination kits are in BHEL scope
- Cable Gland Lugs and SS hardware for connecting cable on HT bus bar shall be in BHEL scope. Vendor shall provide hole on the bottom side gland plate of HV Cable box for cable entry

4.7 Neutral bushings

4.7.1 The neutrals of the star-connected LV windings shall be brought out to separate bushing terminals.

The neutral bushing shall be covered with an insulating cap and an **M.S / FRP Sheet** and there shall be a warning plate/label provided for the neutral bushing: "For testing purpose only. Do not earth".

4.8 Marshalling box

| 4 | 1.8.1 | Marshalling box shall be tank mounted, outdoor and weather/vermin/dust proof |
|---|-------|----------------------------------------------------------------------------------------------|
| | | (protection class IP55), sheet-steel (2mm thick minimum) enclosure, with hinged door |
| | | having padlocking facility and painted. |
| | | Marshalling box shall have proper lighting and thermostatically controlled space heaters. |
| | | All doors, covers and plates shall be fitted with neoprene gaskets. Bottom shall be at least |
| | | 450 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. |
| 4 | 1.8.2 | 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 |
| | | unarmoured cables routed through Gl conduit (or) PVC insulated, armoured cables |



PS-439-1336

REV NO: 00

PAGE: 12 OF 20

| 4.8.3 | 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. |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.8.4 | One dummy terminal block in between each trip wire terminal shall be provided. The terminal blocks shall be ELMEX 10 mm2 or approved equal. At least 20% spare terminals shall be provided on each panel. The gasket used shall be of neoprene rubber. Wiring scheme (TB details) shall be engraved in a stainless-steel plate with viewable font size and the same shall be fixed inside the Marshalling Box door. |

4.9 Transformer oil

| 4.9.1 | Transformer Oil shall conform to the requirements of IEC : 60296 | |
|-------|-------------------------------------------------------------------------------------------------|--|
| | Transformers shall be supplied complete with transformer oil. No inhibitors shall be used in | |
| | the oil. | |
| 4.9.2 | In case transformer is supplied partially filled with oil, oil required for topping up shall be | |
| | supplied in non-returnable sealed containers along with main consignment to avoid any | |
| | shortage of oil at the time of topping up of oil at site. | |
| | | |

| shortage of oil at the time of topping up of oil at site. | | |
|-----------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------|
| S.No. | Property | Permissible values |
| 1 | Kinematic Viscosity, mm ₂ /s | ≤ 12 at 40 ° C ≤ 1800.0 at (-)30 ° C |
| 2 | Flash Point, ° C | ≥ 140° C |
| 3 | Pour point, ° C | ≤ (-)40 ° C |
| 4 | Appearance | Clear , free from sediment and suspended matter |
| 5 | Density kg/dm₃ at 20 ° C | ≤ 0.895 |
| 6 | Interfacial Tension N/m at 25° C | ≥ 0.04 |
| 7 | Neutralisation value, mgKOH/g | ≤ 0.01 |
| 8 | Corrosive sulphur | Non Corrosive |
| 9 | Water content mg/kg | ≤ 30 in bulk supply ≤ 40 in drum supply |
| 10 | Anti-oxidants additives | Not detectable |
| 11 | Oxidation Stability -Neutralization value, mgKOH/g -Sludge, % by mass | ≤ 1.2 ≤ 0.8 |
| 12 | Breakdown voltage As delivered, kV After treatment, kV | ≥ 30 ≥ 70 |
| 13 | Dissipation factor, at 90° C And 40 Hz to 60 Hz | ≤ 0.005 |
| 14 | PCA content | ≤1% |
| 15 | Impulse withstand Level, kVp | ≥ 145 |
| 16 | Gassing tendency at 50 Hz after 120 min, mm ₃ /min | ≤ 5 |



PS-439-1336

REV NO: 00

PAGE: 13 OF 20

Subsequently oil samples shall be drawn and the following parameters tested during testing at works and repeated at site:

| Sr. No. | Parameters | Before filling in main tank & tested for | Prior to energization for Following properties & acceptance norms: |
|---------|------------------|------------------------------------------|--------------------------------------------------------------------|
| i) | BDV | 60 kV (min) | 60 kV (min) |
| ii) | Moisture content | 10 ppm (max.) | 10 ppm (max.) |

4.10 Valves

| 4.10.1 | All valves upto and including 50 mm shall be of gun metal or of cast steel. Larger valves may | |
|--------|-----------------------------------------------------------------------------------------------|--|
| | be of gun metal or may have cast iron bodies with gun metal fittings. | |
| | Sampling & drain valves should have zero leakage rate. | |

4.11 Gaskets

| 4.11.1 | Gasket shall be fitted with weather proof, hot oil resistant, rubberized cork gasket. | | | | | | |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| 4.11.2 | If gasket is compressible, metallic stops shall be provided to prevent over compression | | | | | | |
| 4.11.3 | 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 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 at least 3 months during the guarantee period. In case any sweating / leakage is observed, vendor shall rectify the same & establish for a further period of 3 months of the same. If it is not established during the guaranteed period, the guaranteed period shall be extended until the performance is established. | | | | | | |

4.10 Fittings on transformer for Nitrogen Injection Fire Protection System (NIFPS)

| 4.10.1 | Vendor shall provide valves on tank, provision for TCIV valves between tank and |
|--------|--------------------------------------------------------------------------------------|
| | conservator, mounting arrangements on tank for fire detectors and NIFPS control box. |
| | Detailed scope for the same are indicated under Fittings and Accessories Clause. |
| | NIFPS system shall be in BHEL Scope. |

5.0 Fittings and accessories

Following fittings per transformer shall be provided. In case of non-compliance or deviation, vendor shall indicate and provide comments.

| # | Nomenclature of fitting / accessory | Qty |
|---|-------------------------------------|--------|
| 1 | Oil conservator with equalizer pipe | 1 set |
| 2 | HV cable box | 1 set |
| 3 | HV disconnecting chamber | 1 set |
| 4 | LV cable box | 2 sets |



PS-439-1336

REV NO: 00

PAGE: 14 OF 20

| 5 | LV disconnecting chamber | 2 sets |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 6 | LV Neutral Cable Box | 2 sets |
| 7 | Off circuit tap changing switch (OCTC) with operating knob, tap position marking and locking facility, with warning plate "Tap switch to be operated only with the transformer de-energized". | 1 set |
| 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 value at the bottom, relief valve at the top, air plug, shut-off valves at every point of connection to the tank and lifting lugs. | 4 sets |
| 10 | Double float Buchholz relay conforming to IS: 3637 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 2 nos. shut-off valve (on conservator side and tank 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; indicating type cobalt free silica gel breather in transparent enclosure. (maximum height 1400 mm above ground level) | 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 discharge pipes away from the transformer. | 2 sets |
| 16 | Explosion vent (double diaphragm) with sight glasses and equalizing pipe connection to conservator | 1 set |
| 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: Minimum 1.5% RTD PT-100 temperature sensor for OTI (IEC 751). Analog output of 4-20mA for remote indication of OTI. Maximum height 1500mm above ground level. Accuracy class of +/-2 deg. | 1 No |



PS-439-1336

REV NO: 00

PAGE: 15 OF 20

| 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: Minimum 1.5% Analog output of 4-20mA for remote indication of WTI. WTI shall be provided for HV winding and both LV windings. Maximum height 1500mm above ground level. | 3Nos (1HV+ 2LV) |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 23 | Accuracy class of +/-2 deg. 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 (LED type), MCBs, power socket, switch for WTI, terminal connectors and all other attachments that are necessary to meet its functional aspects. Terminal connectors for the following signals / connections shall be made | 1 set |
| | available. Number of terminal connectors for each case shall be as per connection requirements: PT-100 sensor from thermometer pocket 1) 4-20mA output for OTI 2) 4-20mA output for WTI 3) WTI CT secondary 4) Alarm contact of WTI 5) Trip contact of OTI 7) Trip contact of OTI 8) Buchholz relay alarm 9) Buchholz relay trip 10) Magnetic oil level gauge alarm 11) Pressure relief valve alarm 12) 90-260V DC power supply (external source) 13) 240V AC supply (external source) 14) Spare connectors: Eight terminals Note: Alarm and trip contacts shall be rated for 110 / 220V DC which will be | |
| 23 | confirmed during detailed engineering. Inspection window with cover | 1 set |
| 24 | Cover lifting lugs / eyes | 2 Nos |
| 25 | Core and winding lifting lugs / eyes | 2 Nos |
| 26 | Tank lifting lugs / eyes for the entire transformer | 4 Nos |
| 27 | Jacking pad with hauling eyes, to enable transformer with oil to be raised or lowered using hydraulic or screw jacks. | 4 sets |
| 28 | LV & LVN cable box supports with mounting plates | 2 sets each |
| 29 | HV cable box supports with mounting plates | 2 sets |
| 30 | Bi-directional flat rollers | 4 sets |
| 31 | Base channel with towing holes / lugs | 2 sets |



PS-439-1336

REV NO: 00

PAGE: 16 OF 20

| 32 | Air release hole with plug | 1 No |
|----|----------------------------------------------------------------------------------------------------------------------------|-------|
| 33 | Oil filling hole with cap | 1 No |
| 34 | Top filter cum sampling valve with threaded male adapter (blanking plug) | 1 No |
| 35 | Bottom filter valve with threaded male adapter (blanking plug) | 1 No |
| 36 | Drain valve at the bottom most point of the tank. for conservator, with blanking plug | 1 No |
| 37 | Shut-off valves for conservator | 2 Nos |
| 38 | Bottom Sampling valve, with blanking plug | 1 No |
| 39 | Shut-off valves for radiators, with open and close markings | 8 Nos |
| 40 | Drain / Sludge valve at bottom most point of tank to be provided for easy flush out / removal of sludge during maintenance | 1 No |
| 41 | Valve schedule plate made of stainless steel or aluminium (anodized) | 1 No |
| 42 | Rating and diagram plates made of stainless steel or anodized aluminium (Hindi and English) | 2 Nos |
| 43 | Terminal marking plates | 1 Set |
| 44 | Core to frame earthing hood (2kV isolation) | 1 No |
| 45 | Earthing pads | 2 Nos |
| 46 | Rain hoods on Buchholz, MOG and PRD with entry points of wires suitably sealed | 1 set |
| 47 | Bolts & nuts – G.I / S.S – For all current carrying parts, S.S hardware shall be | 1 set |
| | provided and all other places, G.I hardware shall be provided. | |
| 48 | Protected type Mercury or alcohol in glass thermometer | 1 No |
| 49 | Gas sampling pet cock for Buchholz Relay | 1 No |
| 50 | Shielding Bushing along with copper flat and insulators | 2 set |
| 51 | Valves on transformer tank for NIFPS connection | 1 set |
| 52 | Provision for connecting Isolation valve (TCIV) of NIFPS System between transformer tank and conservator | 1 set |
| 53 | Mounting arrangement on transformer tank for NIFPS control box mounting | 1 set |
| 54 | Mounting arrangement on transformer tank for mounting of fire detectors for NIFPS | 1 set |

6.0 Inspection and testing of transformers at vendor works

| 6.1 | Vendor shall provide inspection call to BHEL for all routine, type and special tests are per |
|-----|--------------------------------------------------------------------------------------------------|
| | relevant clauses. Prior to the call, vendor shall submit the detailed manufacturing quality plan |
| | (MQP) format for approval. Inspection shall be carried out jointly by BHEL and customer. |



PS-439-1336

REV NO: 00

PAGE: 17 OF 20

7.0 Routine, Type & Special tests (as per IEC 60076 latest amendment)

7.1 **Routine Tests (On all transformers):**

- 1) All routine tests as per IEC 60076. shall be conducted on 100% transformers in the scope of supply of this tender.
- 2) The list of tests shall include but not be limited to the following tests as per IEC 60076:
- 3) Measurement of Voltage Ratio & phase displacement (as per IEC 60076-1)
- 4) Measurement of winding resistance on all the taps (as per IEC 60076-1)
- 5) Vector group and Polarity Check (as per IEC 60076-1)
- 6) Magnetic Balance and Magnetising Current Test
- 7) Measurement of no load current with 415 V, 50 Hz AC supply
- 8) Measurement of no load losses and current at 90%, 100% & 110% of rated voltage (as per IEC 60076-1)
- 9) Load Loss & Short Circuit Impedance Measurement on principal & Extreme Taps
- 10) IR measurement (As per IEC 60076-1)
- 11) Measurement of capacitance & tan delta to determine capacitance between wdg & earth.
- 12) Separate Source Voltage Withstand Test /Applied voltage test (as per IEC 60076-3)
- 13) Induced overvoltage test/Induced voltage withstand(IVW) test as per IEC60076 part 3
- 14) Repeat no load current/loss & IR after completion of all electrical test
- 15) Oil leakage test on completely assembled transformer along with radiators (as per relevant clause of this sub section)
- 16) Jacking test followed by D.P. test
- 17) Marshalling Box/Cable box: It shall not be possible to insert a thin sheet of paper under gaskets and through enclosure joints.
- 18) IR measurement on wiring of Marshalling Box.
- 19) Oil Leakage Test on completely assembled transformer -
- 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 24 hours during which time no sweating shall occur.



PS-439-1336

REV NO: 00

PAGE: 18 OF 20

7.2 **Type Tests and Special Tests (On 1 No. Transformer)**

- 1) Type Test of the transformer shall be carried out in accordance with IEC 60076 Part-5
- 2) In case the transformer manufacturer has conducted all type tests required as per IEC 60076 Part-5 within last ten years as on the date of bid opening, the type test reports have to be submitted to BHEL/BHEL Customer for waiver of conductance of such type test(s). These reports shall be for the tests conducted on the equipment similar to those proposed to be supplied under this contract and test(s) shall have been either conducted at an independent laboratory or shall have been witnessed by a client.
- 3) In case the Contractor is not able to submit report of the type test(s) conducted within last ten years from the date of bid opening, or in case the type test report(s) are not found to be meeting the specification requirements, the vendor shall conduct all such tests under this contract free of cost to the Employer and submit the reports for approval.

(a) List of Type / Special Tests:

- 1) Lightning impulse (Full and chopped wave) test on windings (as per IEC 60076-3) (Not applicable for LV)
- 2) Short circuit test (special test) as per IEC 60076-5 (details below at (b)).
- 3) Temperature Rise test at a tap corresponding to maximum losses as per IEC 60076. Gas Chromatography 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).
- 4) Measurement of harmonics of no load current (special test)
- 5) Measurement of acoustic noise level as per NEMA TR-1 (special test)
- 6) Tank Vacuum & Pressure Test (as per CBIP norms)

(b) Short Circuit Test:-

In case short circuit test has not been conducted or the test report not meeting the specification requirement for the offered transformer manufacturer, vendor shall establish" Ability to withstand the dynamic effects of short circuit "for the offered transformer as per latest IEC 60076-5. The ability to withstand the dynamic effects of short circuit can be established either by performing actual Dynamic Withstand Short Circuit Test or by method of calculation with reference to short circuit tested reference transformer as per IEC-60076-5/Annexure A&B. vendor shall choose any one the two options mentioned below;

Option-1: Performing actual short circuit test as Type Test. In order to meet project schedule, vendor shall take suitable steps quite in advance to ensure successful conduction of short circuit test within three months' time from date of LOA failing which the offered make of the transformer shall not be considered.

Option-2: By theoretical evaluation of the ability to withstand dynamic effect of short circuit based on 'Calculation and Design and Manufacture Consideration'. In this regard the guidelines given in Annexure-A with applicable tables of the IEC 60076-5 is to be followed. The reference transformer chosen shall be of same application, winding configuration, conductor current density and as per Annexure-B of latest IEC-60076-5. Necessary Design document and reference test reports related to theoretical comparative evaluation must be submitted by vendor as required by Employer in this case.



PS-439-1336

REV NO: 00

PAGE: 19 OF 20

All the type and special tests shall be conducted after performing Short Circuit Test. If Tank Vacuum & Pressure Test is to be carried out, then it shall be conducted before SC test.

Inverter Transformer LV winding Di-electric tests (except for lightning impulse test for LV winding) shall be carried out corresponding to levels (as per IEC 60076) for 3.6 kV class.

Note:

- The reference transformer chosen for type/special test shall be of the same application.
- Winding configuration, conductor current density as per Annexure of the latest IEC 60076-5

8.0 Tests at Site:

- 8.1 After erection at site all transformer(s) shall be subjected to the following tests:
 - i. Insulation resistance test.
 - ii. Measurement of Voltage Ratio
 - iii. Polarity test.
 - iii. Magnetic Balance test
 - iii. Dielectric test on oil.
 - iv. Physical check.
 - v. Breakdown voltage on transformer oil. Oil filtration (if Oil BDV is not satisfactory)

These tests shall be conducted under the supervision of transformer manufacturer.

9.0 Documents to be submitted along with offer

- 9.1 Following documents shall be submitted to BHEL along with technical offer:
 - (1) Filled in values/details wherever the same is asked for in BHEL technical specifications
 - (2) 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.
 - (3) Filled up sub-vendor questionnaire format (Attachment-A) with supporting documents for vendor approval with NTPC
 - (4) Compliance to NTPC's QAP of transformer (Attached with specification)

10.0 Documents to be submitted after receipt of purchase order

- 10.1 Following documents shall be submitted for BHEL approval within seven days from date of purchase order.
 - (1) Drawings
 - (a) Overall General Arrangement (plan, elevation, end view) with overall dimensions and BOM.
 - (b) Rating plate details
 - (c) Valve schedule plate details with elevation & 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



PS-439-1336

REV NO: 00

PAGE: 20 OF 20

(i) Untanking details (removal of core and assembly from tank)

(j) Type Test Reports

- (3) Guaranteed technical specification of transformer in line with Appendix-B (schedule of technical particulars to be furnished by manufacturer) of IS: 2026 Part-1. Over and above the same, any details asked for as per Annexure-1 shall be included.
- (4) Manufacturing Quality Plan (routine tests, type tests, test certificates) covering Incoming materials, in-process checks during manufacturing, final inspection, finished goods, packing and forwarding.
- (4) Manufacturing clearance shall be subject to approval of the above documents by BHEL/customer.

11.0 Documents to be submitted along with consignment

- 11.1 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 of transformer
 - (4) Test certificate for transformer oil
 - (5) Operations and maintenance manual of transformer in hard + soft copy

12.0 Support from vendor during document approval phase

During the phase of approval of design / engineering / quality documents (GA, GTP, BOM, MQP, Test report etc), it will be required to hold in-depth discussions with BHEL/customer to provide clarifications through clear understanding of technical queries. Accordingly, when needed, vendor shall hold direct (across-the-table) discussions with BHEL (Bangalore office) and customer to eliminate undue time delays.

NTPC's QAP of transformer

14) TRANSFORMER Converter Duty Type

| - | | | | | | <i>7</i> 1 | | | | | | | | |
|-----|---------------------------------------------------------------------------------|---------------------------------------|-----------------------|---------------------|--------------------|----------------------|------------------------|----------------------|--------------|------------------------------------------------------------------|---------------------------------------------------------------------|------------------|-----------|------------------------------------------------------------|
| | Attributes / Characteristics tems/Components Sub Systems | Visual & Dimensional Checks | Mechanical properties | Electrical strength | Thermal properties | Chemical Composition | Compatibility with oil | NDT / DPT / MPI / UT | Ageing Test. | Voltage Ratio, Vector Group & Polarity, Magnetic Balance Test | Make / Type / Rating / Model / TC / General Physical Inspection. | Functional check | WPS & PQR | Routine Test as per relevant standard / NTPC Specification |
| - | ank, H.V. & L.V. Cable Box / lange throat | Υ | Υ | | | | | Υ | | | | | Υ | |
| | onservator / Radiator / | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | \ \ | | | | | \ <u>'</u> | | | | | | |
| (| ooler / Pipes | Υ | Υ | | | | | Υ | | | | | | |
| | opper Conductor (IS:191) | Υ | Υ | Υ | | Υ | | | | | | | | |
| | nsulating Material | Υ | Υ | Υ | Υ | Υ | Υ | | | | | | | |
| (| RGO Lamination & Built ore | Υ | Υ | Υ | | Υ | Υ | | | | Υ | | | |
| E (| Bushing / Insulator IS:2544 / 5621) | Υ | Υ | | | | | | | | Υ | | | Υ |
| | asket | Υ | Υ | | | Υ | Υ | | Υ | | Υ | | | Υ |
| - | ransformer Oil (IEC296) | | | Υ | | | | | | | | | | Υ |
| (| LTC / Off-Circuit Tap | Υ | | | | | | | | | Υ | | | Υ |
| | hanger | | | | | | | | | | | | | _ ' |
| | ore Coil Assembly & Pre- | Υ | | | | | | | | Υ | Υ | | | |
| | anking Aproballing Boy | 1/ | | | | | | | | | \/ | \/ | | \ |
| | Marshalling Box | Υ | | | | | | | | | Υ | Υ | | Υ |
| E | VTI, OTI, MOG, PRD, reather, Terminal connector, Bucholz Relay, /alves | Υ | | | | | | | | | Y | Υ | | |
| _ | Velding (ASME Sect-IX) | Υ | | | | | | Υ | | | | | Υ | |
| (| omplete Transformer S:2026/ IEC-60076) | Υ | | | | | | | | | | | | Υ |

Note: 1) This is an indicative list of tests / checks. The manufacturer is to furnish a detailed Quality Plan indicating the practice and procedure along with relevant supporting documents.

2) All major Bought Out Items will be subject to NTPC approval.



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್ भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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

PB 2606, Mysore Road Bangalore, 560026 INDIA

SCPV: BOS: ITB - Rev 04

INSTRUCTIONS TO BIDDERS (ITB)

Bidders are requested to read the instructions carefully and submit their quotations covering all the points:

A. GENERAL INSTRUCTIONS:

- 1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: SCPV: BOS: ITB Rev 01), General Conditions of Contract (document reference: SCPV: BOS: GCC Rev 01) and Special Conditions of Contract (document reference: SCPV: BOS: SCC: I Rev 01/ SCPV: BOS: SCC: F Rev 01), if any, of the enquiry.
- 2. Any deviations from or additions to the "General Conditions of Contract" or "Special Conditions of Contract" require BHEL's express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
- 3. Bidders (also includes the term suppliers / contractors wherever used in this document) are instructed to quote their most competitive price and best delivery, etc. in the offer. Prices should be indicated in both figures & words. (Please also refer clause 11 under section B)
- 4. Regret letter (either through post or by mail) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender. If a bidder fails to respond against 3 consecutive tenders for the same item, he will be liable for removal as a registered vendor of BHEL.
- 5. Procurement directly from the manufacturers shall be preferred. However, if the OEM / Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer / supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer / supplier or the manufacturer / supplier could bid directly but not both. In case bids are received from the manufacturer / supplier and his agent, bid received from the agent shall be ignored.
- 6. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
- 7. If an Indian representative / associate / liaison office quotes on behalf of a foreign based bidder, such representative shall furnish compulsorily the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages / damages / replacement / repair of imported scope till system is commissioned and handed over to customer will be the sole responsibility of the Indian representative / associates / agent / liaison office.
- 8. In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport / Seaport. Bidders must provide all original documents required for completing the customs clearance along with the shipment. Warehousing charges due to incomplete or missing documentation will be recovered from the supplier's bill. All offers for imported scope of supply must be made from any of the gateway ports (within the country) indicated. (Refer Annexure I)
- 9. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: **www.bhel.com.**

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

B. GUIDELINES FOR PREPARATION OF OFFER:

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

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

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

- Power Projects, Export Projects, MNRE Concession or other similar projects wherein supplies are eligible for customs duty /Excise duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
- 11. All quotations shall be free from corrections /overwriting. Corrections if any should be authenticated with signature and seal. Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure VI** "Guidelines for dealing with Discrepancy in Words & Figures quoted in price bid". BHEL decision will be final.

C. GUIDELINES FOR OFFER SUBMISSION:

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

Service provider: e-Procurement Technologies Limited (abc Procure)

Website address: https://bhel.abcprocure.com

Helpline no.: +91-79-68136819/809/862/867/823/872/842 (9:30 am to 5:30 pm)

10:00 AM - 07:00 PM (Monday - Friday)

10:00 AM-04:00 PM (Saturday)

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

D. PROCESSING OFFERS RECEIVED:

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

- 4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL and it accounts for price implications from vendors, all techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening. Impact price means only for those items which have been impacted by addition / deletion / changes in the technical specifications or commercial conditions. The impact may be +/- incremental value of the currency in which originally quoted. The impact price bid to be submitted on the cut-off date, time & venue as specified by BHEL. The impact price bid shall be opened along with original price bid.
- 5. Un-opened bids (including price bids) will be returned to the respective bidders after release of PO and receipt of order acknowledgement from the successful bidder.
- 6. After receipt of Purchase Order, supplier should submit required documents like drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and / or any other relevant documents as per Specification / Purchase Order, as and when required by BHEL / Customer.
- 7. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order.
- 8. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL"). As per RFQ terms. "Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and duties, inspection charges, freight charges, test charges, insurance, service tax for services, any other cost indicated by vendor for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions). Benefits arising out of Nil Import Duty on Mega Projects, Physical Imports or such 100% exemptions & MNRE Exemptions (statutory benefits), customer reimbursements of statutory duties (like Excise Duty, CST, VAT) will also be taken into account at the time of tender evaluation. (Wherever applicable and as indicated in SCC document of tender)
- 9. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

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

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

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

10. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers and on the basis or evaluation of Total Cost to BHEL.

E. 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. Statutory deductions, if any, will be made and the deduction certificate shall be issued. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act. (Applicable for Indian vendors only). Foreign vendors shall submit relevant details of their bankers like Swift Code, Banker's Name & Address etc.
- 3. Vendors must submit bills & invoices along with required supporting documents in time. Incomplete documentation / delayed submission of invoice / documents will result in corresponding delay in payment.

F. STANDARD PAYMENT TERMS OF BHEL-EDN

Purchase Orders for indigenous procurement

(a) SUPPLY WITH I&C/SUPERVISION:

Supply:

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

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

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

(b) SUPPLY ONLY:

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

Purchase orders for import procurement:

(c) SUPPLY WITH I&C/SUPERVISION:

Supply:

- 1) 80% of the basic value (excluding I&C charges) will be paid with 45 days credit, against Sight draft, from the date of AWB/BOL on submission of complete set of documents as in PO.
- 2) 10% of basic supply value will be paid on completion of I&C against submission of supplementary invoice along with proof of completion of I&C along with I&C charges (if any).
- 3) Balance 10% (retention money) against submission of supplementary invoice along with PBG valid for Warranty Period+3 months Claim Period from BHEL Consortium Bank.

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

(d) SUPPLY ONLY:

1) 100% of PO value will be paid against Sight draft with 45 days Credit from the date of dispatch or 15 days credit from the date of submission of complete set of documents whichever is later)+ submission of PBG valid for Warranty Period+3 months Claim Period from BHEL Consortium Bank ,if applicable.

Note for (a), (b), (c) and (d): In exceptional cases, if vendor fails to submit PBG after supplies, vendors can also accept for the final 10% payment, payable after the warranty period + 3 months of claim period against supplementary invoice subject to the completion of commissioning (if applicable) as PBG is linked to Warranty period.

G. LOADING FACTORS FOR PAYMENT TERMS & DELAYED DELIVERY:

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

| SI No | Deviation on | Nature of Deviation / Offered Terms | Loading % | |
|----------|------------------|-------------------------------------------------------------------|-----------|--|
| | | For Purchase within India :- | | |
| | | 1) Credit period less than 45 days | 15 | |
| | | * For Foreign Purchase :- | | |
| | | Payment through At Sight Letter of Credit Please see | 10 | |
| 1. | Payment Terms | 2)Payment through Letter of Credit with usa page (Page of 45 days | e No.9) | |
| | | 3) Sight Draft with credit period less than 45 foreign Pur | rchase | |
| 2. | Penalty for | 1) Non – Acceptance | 10 | |
| | Delayed Delivery | 2) Partial Acceptance (X%) | (10 – X) | |

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

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

NOTES:

- 1. ADVANCE PAYMENT/LC: Quotations with "Advance payment/Inland LC" shall be rejected.
- 2. Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight and I&C charges (wherever applicable).
- 3. Wherever the Purchase Order is split into import portion and indigenous portion of supply the retention money will be 10% (as applicable) of both purchase order values put together.
- 4. Non-Compliance of Warranty terms. Offers not complying with Warranty terms as per RFQ Terms is liable for rejection.
- 5. SALE IN TRANSIT/ LOCAL VAT: Sale in transit under section 6(2) of CST is allowed if movement of goods is interstate. In case intra state movement of goods, benefit of sale in transit is not available.
- 6. In case of intrastate movement i.e. supply within same state and VAT is applicable, the vendor shall furnish the respective BHEL's nodal agency TIN no. and address in their invoice. (Refer **Annexure IX**)

H. BANK GUARANTEE (BG) / PERFORMANCE BANK GUARANTEE (PBG):

- 1. Bank guarantee (BG) / Performance bank guarantee (PBG) will be applicable as called in the tender documents. Such PBG shall be valid for a period of Warranty Period + claim period of 3 months for a value equal to 10 % of the basic value of the purchase order. No deviation for the duration of PBG / BG will be permitted.
 - a. PBG shall be from any of the BHEL consortium of bankers (refer Annexure V).
 - b. PBGs from nationalized banks are also acceptable.

- c. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order. PBG should be in the format indicated. (Refer Annexure III). No deviation to these formats will be allowed.
- d. Confirmation from any of the BHEL consortium of banks or any of the Indian Public Sector Banks is essential for the acceptance of PBGs issued by foreign banks (located outside India).
- e. Expired BGs / PBGs will be returned only after expiry of the claim period or on completion of the contractual obligation.
- f. In case vendor does not accept for submission of PBG, the vendor is liable for rejection on commercial grounds.

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

1. FOR INDIGENOUS SCOPE OF SUPPLY:

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

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

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

2. FOR IMPORTED SCOPE OF SUPPLY:

For Supply: Invoice in Triplicate, Air Way Bill/Bill of Lading, Packing List, PSI Call Letter Copy, and Warranty Certificate. **For I&C:** Supplementary Invoice in Triplicate with copy of I&C Certificate (Proof of Completion of I&C).

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

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

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

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

PURCHASE PREFERENCE FOR MSE VENDORS:

- e. MSE vendors quoting within a price band of L1 + 15% shall be allowed to supply up to 25% of the requirement against this tender provided. Minimum of 3% reservation for women owned MSEs within the above mentioned 25% reservation.
 - 1. The MSE vendor matches the L1 price.
 - 2. L1 price is from a non MSE vendor.
 - 3. L1 price will be offered to the nearest vendor nearest to L1 in terms of price ranking (L2 nearest to L1). In case of non-acceptance by the MSE vendor (L2) next ranking MSE vendor will be offered who is within the L1 + 15% band (if L3 is also within 15% band).
 - 4. 25% of the 25% (i.e. 6.25% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms provided conditions as mentioned in (1) and (2) are fulfilled.
 - 5. In case no vendor under SC / ST category firms are meeting the conditions mentioned in (1) and (2) or have not participated in the tender, in such cases the 6.25% quantity will be distributed among the other eligible MSE vendors who have participated in the tender.

6. Serial no. 1 to 5 will not be applicable wherever it is not possible to split the tendered quantity / items on account of customer contract requirement, or the items tendered are systems. Such information that tendered quantity will not be split will be indicated in the SCC.

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

1. Commitment by BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the Tender process and execution of the Contract. BHEL will, during the tender process, treat all bidder / suppliers in a transparent and fair manner, and with equity.

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

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

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

L. FRAUD PREVENTION POLICY:

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

PURCHASE EXECUTIVE

Clause G of ITB: Loading Factors for Foreign Purchases

| Nature of Deviation / Offered Terms | | |
|-------------------------------------|-------|--|
| | | |
| | | |
| 100% Sight Draft | 1 % | |
| 100% Usance LC with 45 days credit | 2.5 % | |
| 100% LC at Sight | 4.5 % | |



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್ भारत हेवी इलेक्टिकल्स 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.

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

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

Interpretation:

In the contract, except where the context requires otherwise:

- a) words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

- 1. <u>Price Basis:</u> 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. <u>Validity:</u> 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. <u>Taxes & Duties:</u> 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. <u>Documentation:</u> After receipt of Purchase Order, vendor should submit required documents like drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.
 - At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents /specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.

6. TERMS OF DELIVERY:

FOR IMPORTED PURCHASE:

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

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

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

Vendors shall indicate the name of International Airport/Seaport. The consignment shall be handed over to BHEL approved freight forwarder as mentioned in PO.

FOR INDIGENOUS PURCHASE:

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

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

Deviation for the delivery term is liable for rejection.

7. Penalty:

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

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

- 8. Contract variations (Increase or decrease in the scope of supply): BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be applied to such additional work. Vendor shall not perform additional work before BHEL has issued written instructions / amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
- 9. <u>Reverse Auction:</u> 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. <u>Transit Insurance:</u> Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.
- 12. Packaging and dispatch: The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea / Air / Rail / Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures / hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations.

The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw / solid wood packing material should be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitory / Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment.

Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (L x B x H) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated.

Separate packing & identification of items should be as follows.

- 1. Main Scope All items must be tagged with part no. & item description.
- 2. Commissioning spares All items must be tagged with part no. & item description.
- 3. Mandatory spares All items must be tagged with part no. & item description.
- 13. Assignment of Rights & Obligations; Subcontracting: Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
- 14. <u>Progress report:</u> 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. <u>Risk Purchase Clause:</u> 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. <u>Shortages:</u> 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.
 - <u>Transit Damages:</u> 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. <u>Indemnity Clause:</u> 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. <u>Limitation of Liability:</u> 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. <u>Liability after guarantee / warranty period:</u> At the end of the guarantee / warranty, the Vendor's liability ceases except for latent defects (latent defects are defects / performance issues notices after the

guarantee / warranty has expired). The Contractor's liability for latent defects warranty for the plant and equipment including spares shall be limited to a period of six months from the end of the guarantee / as specified in RFQ.

- 28. <u>Compliance with Laws:</u> 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. <u>Settlement of Disputes:</u> 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. <u>General Terms:</u> That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

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

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

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

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

ANNEXURE - I LIST OF INTERNATIONAL GATEWAY AIRPORTS

| SCHEDULE NO | COUNTRY | CURRENCY CODE | AIRPORT | |
|-------------|--------------|---------------|----------------------------------------------|--|
| D01 | UK | GBP | LONDON (HEATHROW) | |
| D02 | UK | GBP | NEW CASTLE | |
| D03 | UK | GBP | OXFORD. CHETLAM | |
| D04 | UK | GBP | BRISTOL. WELLINGBOROUGH | |
| D05 | UK | GBP | BIRMINGHAM | |
| DO6 | UK | GBP | EAST MIDLANDS | |
| D07 | UK | GBP | MANCHESTER | |
| D08 | UK | GBP | LEEDS | |
| D09 | UK | GBP | GLASGOW | |
| D10 | FRANCE | EURO | PARIS (ROISSY) & LYON | |
| D11 | SWEDEN | EURO | STOCKHOLM | |
| D12 | SWEDEN | EURO | GOTHENBERG & MALMO | |
| D13 | ITALY | EURO | ROMA, MILAN | |
| D14 | ITALY | EURO | TURIN, BOLOGNA, FLORENCE | |
| D15 | NETHERLANDS | EURO | AMSTERDAM, ROTTERDAM | |
| D16 | AUSTRIA | EURO | VIENNA, LINZ, GRAZ | |
| D17 | BELGIUM | EURO | ANTWERP, BRUSSELS | |
| D18 | DENMARK | DKK | COPENHAGEN | |
| D19 | JAPAN | JPY | TOKYO, OSAKA | |
| D20 | | SGD | | |
| | SINGAPORE | | SINGAPORE TORONTO | |
| D21 | CANADA | CAD | | |
| 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, | |
| D27 | GERMANT | LOKO | 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 | |
| D43 | ISRAEL | USD | TEL AVIV | |
| D45 | UAE | USD | DUBAI | |
| D45 | OMAN | USD | MUSCAT | |
| D47 | EGYPT | USD | CAIRO | |
| D47 | TAIWAN | USD | TAIPEI | |
| D48 | UKRAINE | USD | KIEV | |
| D50 | CHINA | USD | SHANGHAI, SHENZHEN | |
| | | | MANILA | |
| D51 | PHILIPINES | USD | | |
| 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 |
| То |
| NAME |
| & ADDRESSES OF THE BENEFICIARY |
| Dear Sirs, |
| In consideration of <u>Bharat Heavy Electricals Limited</u> (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 |
| through its Unit atõ õ õ õ õ õ õ o value of the Unit) having awarded to $\underline{\text{(Name of the Vendor / Contractor)}}$ |
| <u>Supplier</u>) with its registered office at² hereinafter referred to as the ' <u>Vendor / Contractor / Supplier</u> |
| which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted |
| assigns), a contract Ref Noõ õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ |
| Rupees)/FC $\tilde{0}$ |
| 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Ban |
| Guarantee, equivalent to \tilde{o} % (\tilde{o} . Percent) of the said value of the Contract to the Employer for the faithful |
| performance of the Contract, |
| we, $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$, (hereinafter referred to as the Bank), having registered/Head office at $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$. and integrated in the Bank of $\tilde{0}$ $$ |
| alia a branch at $\tilde{\text{o}}$ $\tilde{\text{o}}$ $\tilde{\text{o}}$ $\tilde{\text{o}}$ being the Guarantor under this Guarantee, hereby, irrevocably and unconditionall |
| 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 Employe |
| 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 Ban |
| 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 raise |
| 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 <u>Vendor / Contractor / Supplier</u> shall have no claim against us for making such payment. |
| We the õ õ õ õ õ õ õ 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 to |

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 õ õ õ õ õ o ...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 <u>Vendor / Contractor / Supplier</u> and notwithstanding any security or other guarantee that the Employer may have in relation to the <u>Vendor / Contractor / Supplier</u> 's liabilities.

This Guarantee shall remain in force upto and including $\tilde{0}$ \tilde

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the <u>Vendor / Contractor / Supplier</u> 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 $\tilde{0}$ $\tilde{0$

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

a) The liability of the Bank under this Guarantee shall not exceed $\tilde{0}$ $\tilde{0}$

Notwithstanding anything to the contrary contained hereinabove:

| b) | This Guarantee shall be valid up to $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ $\tilde{0}$ |
|----|-------------------------------------------------------------------------------------------------------------------------|
| c) | Unless the Bank is served a written claim or demand on or before8 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)

Datedõ õ õ õ õ õ .

Place of Issueõ õ õ õ õ õ .

- 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/Regions 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 Banks (BHELs 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 TYPE OF REQUEST(Tick one): _ | . LETTERS onl | - | _ CHANGE |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| BHEL Vendor / Supplier Code: | | | 1 |
| Company Name : | | | 1 |
| Permanent Account Number(PAN): | | | |
| Address | | | |
| 7.444.656 | | | |
| | | | |
| | | | |
| City: | PINCODE | | STATE |
| | - | | |
| Contact Person(s) | | | |
| Telephone No: | | | |
| Fax No: | | | |
| e-mail id: | | | 1 |
| . — | | T | |
| 1 Bank Name: | | | |
| 2 Bank Address: | | | |
| | | | |
| O Dank Talankana Na | | | |
| 3 Bank Telephone No: 4 Bank Account No: | | | |
| 4 Bank Account No: 5 Account Type: Savings/Cash Credit | . | | |
| 6 9 Digit Code Number of Bank and b | | | |
| appearing on MICR cheque issued | | | |
| 7 Bank swift Code(applicable for EFT | | | |
| 8 Bank IFSC code(applicable for RTC | | | |
| 9 Bank IFSC code(applicable for NEF | | | |
| o Bariik ii Go oodo(appiioabio ioi ive | • / | L | |
| I hereby certify that the particulars of that I, as a representative for the abbangalore to electronically deposit If the transaction is delayed or not einformation, I would not hold BHEL. This authority remains in full force or requesting a change or cancellation. I have read the contents of the coverexpected of me as a participant under the contents. | pove named Copayments to the effected at all for a transfering Bauntil BHEL, EDION. | ompany, herebe designated bor reasons of ir ank responsible N,Bangalore reagree to disch | y authorise BHEL, EDN, pank account. Incomplete or incorrect e. eceives written notification |
| | | | |
| Date: | | | |
| Authorised Signatory: Designation: | | | Telephone NO. with STD Code |
| Company Seal | | | |
| AND SECULAR SECULAR | Bank Certi | | *** |
| We certify that | | | with us and |
| we confirm that the bank details giv | en above are d | correct as per o | our records. |
| Date: | | | () |
| Place: | | | Signature |
| Please return completed form along | with a blank c | ancelled ched | Jighalare |
| Bharath Heavy Electricals Ltd, | , with a blank t | anochou cheq | as of photocopy thereof to. |
| Attn: | | | |
| Electronics Division, Mysore Road, | | | |
| BANGALORE - 560 026 | | | |
| In case of any Querry, please call : | 080-26998xxx | / 2674xxxx or | fax no. 080-2674xxxx |

Α

В

С

D

| List of Consortium Banks | | | | | |
|--------------------------|---------------------------|--------|--------------------------|--|--|
| SI. No | Nationalised Banks | SI. No | Public Sector Banks | | |
| 1 | State Bank of India | 18 | IDBI | | |
| 2 | Allahabad bank | | | | |
| 3 | Andhra bank | SI. 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 | SI, 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 discrepancybetween the unit price and the total price (which is obtained by multiplying the unit price by thequantity), the unit price shall prevail and the total price corrected accordingly, unless in theopinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- (d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

ANNEXURE - VII

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

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

0r

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

Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid).

Non-submission of such documents will lead to consideration of their bid at par with other bidders.

No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazette officer.

Certificate by Chartered Accountant on letter head

| | nafter re | eferred | to | as ' | company') | under | MSMED | Act 2006 | , (Entrepreneur |
|-------------------------|-------------------------------|--------------------------|-----------------|-----------------------------|--------------------------------------------|---------------------|-----------------------------------------|------------------------------|--------------------------------------------------------------------|
| | and disparate | (Part-II) | | | | | | dto | f:, |
| Memo | ory: | o trace m | ioro/Sma | iii)). (Co | py enclosed). | | | | |
| Catego | J1 y | | U SE | 10 2 | | | | + of the con | npany as per the |
| F | urther veri | fied from | the Bo | oks of | Accounts 1 | mat the | ct 2006 is a | as follows: | npany as per the |
| latest a | audited fin | ancial yea | r | | as per iv | JIVICO A | CC EGGG III | 70.07 | 7) NEW W. |
| 1. | notification h | nd and du No.S.O.1722 | (E) dated | rprise of the October | s: Investm Items specifi r 5, 2006 : | ent in ed by the | plant and Ministry o | i machiner f Small Scale | y (i.e. original cost Industries vide its |
| | Rs | | Lacs | | | winmen | t (original co | est excluding li | and and building and lied under the MSMED |
| 2. | furniture, fitt Act, 2006: | ings and oth | er nems | not direc | tly related to | he service | rendered or | as may be notifi | ied under the MSMEC |
| | Rs | | Lacs | | | | | | |
| | | | | | | VI - 063 | P61-1 | | |
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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.

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

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."

No. P-45021/2/2017-PP (BE-II) Government of India Ministry of Commerce and Industry Accordment for Promotion of Industry and Internal Trad

Department for Promotion of Industry and Internal Trade (Public Procurement Section)

Udyog Bhawan, New Delhi Dated: 04th June, 2020

To

All Central Ministries/Departments/CPSUs/All concerned

ORDER

Subject: Public Procurement (Preference to Make in India), Order 2017- Revision; regarding.

Department for Promotion of Industry and Internal Trade, in partial modification [Paras 2, 3, 5, 9(a), 9(b) and 10(b) modified and Para 3A added] of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017 as amended by Order No.P-45021/2/2017-B.E.-II dated 28.05.2018 and Order No.P-45021/2/2017-B.E.-II dated 29.05.2019, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017" dated 04.06.2020 effective with immediate effect.

Whereas it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

Whereas procurement by the Government is substantial in amount and can contribute towards this policy objective, and

Whereas local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

Now therefore the following Order is issued:

- This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017.
- 2. Definitions: For the purposes of this Order:

'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this Order.

'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.

'Non - Local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this Order.

"L1" means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

'Margin of purchase preference' means the maximum extent to which the price quoted by a "Class-I local supplier" may be above the L1 for the purpose of purchase preference.

'Nodal Ministry' means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

'Procuring entity' means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

'Works' means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'.

Eligibility of 'Class-I local supplier'/ 'Class-II local supplier'/ 'Non-local suppliers' for different types of procurement

- (a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.
- (b) In procurement of all goods, services or works, not covered by sub-para 3(a) above, and with estimated value of purchases less than Rs. 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority as designated by Department of Expenditure. Only 'Class-I local supplier' and 'Class-II local supplier', as defined under the Order, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, 'Non-local suppliers' shall also be eligible to bid along with 'Class-I local suppliers' and 'Class-II local suppliers'.
- (c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

3A. Purchase Preference

(a) Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.

- (b) In the procurements of goods or works, which are covered by para 3(b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
 - Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
 - ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.
- (c) In the procurements of goods or works, which are covered by para 3(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
 - Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
 - ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
 - iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
- (d) "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

- 4. Exemption of small purchases: Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.
- 5. Minimum local content: The local content requirement to categorize a supplier as 'Class-I local supplier'/ 'Class-II local supplier'/ 'Non-local supplier' shall be as defined in the Para "2" of the Order. No change is permissible on this account. However, if any nodal Ministry/ Department finds that for any particular item, pertaining to their nodal ministry/department, the definition of Local Content, as defined in the Order, is not workable/ has limitations, it may notify alternate suitable mechanism for calculation of local content for that particular item.
- Margin of Purchase Preference: The margin of purchase preference shall be 20%.
- 7. Requirement for specification in advance: The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.
- 8. Government E-marketplace: In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.

Verification of local content

- a. The 'Class-I local supplier' 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
- b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.

- d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.
- Nodal Ministries and procuring entities may prescribe fees for such complaints.
- f. 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.
- g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph
- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
 - The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
 - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
 - iii. In respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

10. Specifications in Tenders and other procurement solicitations:

- a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.
- b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier'/ 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.
- c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.

- d. If a Nodal Ministry is satisfied that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, it may, if it deems appropriate, restrict or exclude bidders from that country from eligibility for procurement of that item and/ or other items relating to that Nodal Ministry. A copy of every instruction or decision taken in this regard shall be sent to the Chairman of the Standing Committee.
- e. For the purpose of sub-paragraph 10 d above, a supplier or bidder shall be considered to be from a country if (i) the entity is incorporated in that country, or ii) a majority of its shareholding or effective control of the entity is exercised from that country; or (iii) more than 50% of the value of the item being supplied has been added in that country. Indian suppliers shall mean those entities which meet any of these tests with respect to India."
- 10A. Action for non-compliance of the Provisions of the Order: In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.
- 11. Assessment of supply base by Nodal Ministries: The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing minimum local content or the manner of its calculation, with a view to avoiding cost increase from the
- 12. Increase in minimum local content: The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.
- 13 Manufacture under license/ technology collaboration agreements with phased indigenization: While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.
- 14. Powers to grant exemption and to reduce minimum local content: administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,
 - a. reduce the minimum local content below the prescribed level; or
 - reduce the margin of purchase preference below 20%; or

c. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

- 15. Directions to Government companies: In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance
- 16. Standing Committee: A standing committee is hereby constituted with the following

Secretary, Department for Promotion of Industry and Internal Trade—Chairman Secretary, Commerce-Member

Secretary, Ministry of Electronics and Information Technology-Member Joint Secretary (Public Procurement), Department of Expenditure—Member Joint Secretary (DPIIT)—Member-Convenor

The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

- 17. Functions of the Standing Committee: The Standing Committee shall meet as often as necessary, but not less than once in six months. The Committee
 - a. shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.
 - shall annually assess and periodically monitor compliance with this Order
 - c. shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content
 - d. may require furnishing of details or returns regarding compliance with this Order and related matters
 - e. may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures
 - f. may examine cases covered by paragraph 13 above relating to manufacture under license/ technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization
 - g. may consider any other issue relating to this Order which may arise.
- 18. Removal of difficulties: Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.

- 19. Ministries having existing policies: Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1st January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.
- 20. Transitional provision: This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.

(Rajesh Gupta)

Director Tel: 23063211

rajesh.gupta66@gov.in

Self-Certification on the letter head of the company

| In line with Government Public Procurement Order No. P-45021 45021/2/2017-PP (BE-II) dated 28.05.2018 | /2/2017-BE-II dt. 15.06.2017, P- |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 43021/2/2017-11 (BE-11) dated 20.03.2010 AND | |
| P-45021/2/2017-PP (BE-II) dated 29.05.2019, issued by Ministry | y of Commerce and Industry |
| AND | |
| P-45021/2/2017-PP (BE-II) dated 04.06.2020, issued by Ministry | y of Commerce and Industry |
| AND Office Memorandum issued by MNRE REF no F No. 146/57/20 | 18-P&C dated 11/12/2018 |
| We hereby certify that | |
| (Supplier name) are local supplier meeting requirement of defined in as above orders for the material against Enquiry RAJBOS0056 dtd 03.07.2020 for Supply and I&C of 5.3 Transformers for NTPC 20MW Solar PV Project at Ga | No : 3 MVA Inverter |
| Details of location at which local value addition will be ma | |
| We also understand, false declarations will be in breach o 175(1)(i)(h) of the General Financial Rules for which a debarred for up to two years as per Rule 151 (iii) of the C such other actions as may be permissible under law. | f the Code of Integrity under Rule bidder or its successors can be |
| | Authorised signatory with date |
| | Name of Authorised Signatory |
| | Seal of Company |