

1. **Clause No. 1.3 of GTC** – Enquiry is floated through E-procurement system and hence Offer has to be submitted through EPS portal only (<https://eprocurebhel.co.in/>).
2. **Clause No. 1.7 of GTC** – For any technical clarification, please contact Mr. Neeraj Kumar, Sr. Manager (TBEM); Contact No. 0120-6748538; e-mail: neeraj.kumar@bhel.in
3. **Clause No. 1.8 of GTC** - For any commercial clarification, please contact Mr. Sandeep , Dy. Manager (TBMM); Contact No.0120- 6748450; e-mail: kumar.sandeep@bhel.in
4. **Clause No. 2.1 of GTC** - The prices as quoted in price schedule shall be on **Firm basis**.
5. **Clause No. 3 of GTC** - **Payment Terms:** Payment of supply shall be applicable as per **Cl. 3.2 & 3.5 (for supply & services) and 3.1 (for supply of spares)** of BHEL/TBG/GTC/2016 Rev.01
6. **Destination-** TSGENCO Yadadari TPS
7. **PRE-QUALIFICATION REQUIREMENT-** Technical Pre-Qualifying Criteria is specified in Technical Specification (Annexure-I). Bidder to comply the same as per NIT. If there is change shall be intimated through corrigendum.
8. **Acceptance of Offer** is subjected to TSGENCO approval. TSGENCO approval shall be considered as final. Bidders to provide following documents for approval along with Bid:
Company profile, list of orders/references, performance certificate issued by SEBs/State utilities/NTPC/PGCIL etc., Type Test Reports, Purchase orders, Audited balance sheets for the latest 3 years any other documents as desired by end Customer
9. **Project Status:** Domestic. GST shall be payable as applicable.
10. **Guarantee-(Clause-5 of GTC):** The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier. The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc.

In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover the same from PBG / other dues of this Purchase Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor.

- 11. Clause-7 (PBG validity) of GTC:** PBG for 10% of the total Ex-works PO value, valid for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier, with claim period of 3 months extra over and above. Ex-works PO value at the time of placement of PO shall be considered for calculation of the PBG amount.

(Note- Vendor has to submit separate BG for Separate PO's).

- 12. Delivery Period-(Clause-12 of GTC)-** Delivery required by **March'2022**. Bidder to quote their best possible delivery plan in activity schedule to meet immediate delivery requirement.

Lot wise delivery is acceptable.

(For PO of Breakers and CSD)

LOT-1 = 08 Breakers with all accessories and support structure, foundation bolt of all (33) CB, 09 CSD and CSD cables.

LOT-2 = 08 Breakers with all accessories and support structure, 05 CSD

LOT-3 = 08 Breakers with all accessories and support structure.

LOT-4 = 09 Breakers with all accessories and support structure.

(For PO of CB accessories and Spares)

LOT-1 = Circuit Breakers accessories

LOT-2 = All Spares

Lot wise LD shall be applicable.

Note: In case, BHEL's delivery requirement is not met by vendor(s), then a chance may be given to all such vendors to review their quoted delivery schedule in line with BHEL's delivery requirement. However, if vendor fails to meet the requisite delivery plan, then BHEL reserves the right not to consider the offer of such vendor(s).

- 13. Proposed Liquidated Damage for Supply (Clause no. 13 of BHEL/TBG/GTC/2016 Rev.01):**

As per Addendum to General Terms and Conditions (GTC-2016) clause no. 11.

- 14. Proposed Liquidated Damage for ETC (Clause no. 15 of BHEL/TBG/GTC-ETC/2016 REV 01):**

(a) In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the Total PO Ex- Works value & F&I Charges for supply per week of delay or part thereof subject to a maximum of 10% of the Total PO Ex-works value & F&I Charges shall be deducted as Liquidated Damages (LD) along with applicable GST (If any) on LD.

(b) However, in case of staggered (lot-wise) contractual delivery schedule, an amount of 0.5% of the total delayed lot of **PO EX-WORKS VALUE & F & I CHARGES** of for supply per week of delay or part thereof subject to maximum of 10% of the total delayed lot of **PO EX-WORKSVALUE & F & I CHARGES** shall be deducted as Liquidated Damages (LD) along with applicable.

Clause 14(b) shall be applicable for this tender enquiry for LD.

- 15. Clause No. 33 of GTC for Reverse Auction of NIT:** Reverse Auction applicable for this tender. As per Addendum to General Terms and Conditions (GTC-2016) clause no. 13.

- 16. Clause No. 34 of GTC: Integrity Pact:** Applicable as per annexure-XI
- 17. Technical Specification-** TB-387-316-001 Rev 02. No permissible Technical Deviation has been envisaged. Bidders to quote as per Technical Specification.
- 18. Evaluation Criteria:** (a) Evaluation criteria shall be **total cost to BHEL basis**. Order shall be placed separately for (1) Main Supply & services (2) Mandatory Spares.
- (b) Evaluation in case of more than one L-1 bidders.
In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discount from respective L-1. In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).
- (c) Ranking will be done accordingly. BHEL decision in such situations shall be final and binding.
- 19. Make in India (Clause No. 15 of Addendum to General Terms and Conditions (GTC-2016):**
For this procurement, the local content to categorize a supplier as Class-I local supplier / class-II local supplier / Non-Local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020, issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT but before opening of part-II bids against this NIT.
- "Bidder to specify the percentage of local content as per the format of self-declaration for local content" as per Annexure-V."
- "This tender is not a global tender and Class-I & Class-II suppliers as defined under the DPIIT order no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 are eligible to bid in this tender. Bids received from Non-Local supplier shall be rejected."
- 20. Compliance to GOI Order for restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017 (Refer clause no: 16 of Addendum of GTC):** Annexure-VI and VII or VIII are applicable.
- 21. MOP Circular (Refer clause no: 17 of Addendum of GTC):** Annexure-IX & X are applicable.
- 22. The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.**
- In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.**

- 23. Quantity Variation**- BHEL shall have the right to variation in quantities of items within **+/-10%** of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order the purchaser shall have the right to increase or decrease quantity and scope up to the above extent of value and seller/contractor shall be bound to accept the same at the contracted prices without any escalation.

Note: In case of package is broken into purchase orders of main supply, services and spares, quantity variation clause shall be applicable on cumulative sum of such individual orders.

- 1. IMPORTANT INSTRUCTION:** GeM Seller ID- GeM seller ID is mandatory for the bidders and must be mentioned in their offer. In case at the time of submission of offer GeM seller ID is not available with bidder, then successful tenderer should ensure to have GeM Seller ID prior to award of contract. Department of Expenditure (DOE) OM no. 6/9/2020-PPD dated 24.08.2020 may be referred in this regard.

(Sign and seal of Bidder)

Addendum to General Terms and Conditions (GTC-201)

1	Offer Submission/ Opening Time	Offer Submission Time: 14:00 Hrs IST Offer Opening Time: 14:30 Hrs IST
2	Instruction to Bidder(s)	(a) For Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site is in the scope of the supplier or Supply where Testing & Commissioning (T&C) at Site is in scope of the supplier, minimum 10% of total ex-works value shall be quoted under supervision of ETC/T&C. In case bidder quotes less than 10%, then 10% of Total PO value excluding GST and F&I shall be allocated to the supervision of ETC/T&C scope. Service charges shall be back calculated to keep 10% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items. (b) For Supply where Erection, Testing & Commissioning (ETC) at Site is in the scope of the supplier, minimum 20% of total ex-works value shall be quoted under ETC. In case bidder quotes less than 20%, then 20% of Total PO value excluding GST and F&I shall be allocated to the ETC scope. Service charges shall be back calculated to keep 20% of total cost to BHEL (without GST). This price adjustment shall be done from supply Ex works prices only on prorata basis for all supply line items. (c) Bidder's offer will be technically acceptable subject to final acceptance of vendor by ultimate customer as approved supplier. Price Bid will be opened only for those bidders in respect of which vendor approval is received from respective customer. Necessary credentials/documents to be submitted to customer for approval.
3	Offer Submission Mode	Clause No. 1.3 of GTC – Tender is invited through e-Procurement System only. The bidder shall submit their bid through e-Procurement platform at https://bhel.abcpocure.com. Vendors participating through e-procurement portal for this tender should have Class-III Digital Signature Certificate (DSC) for Signing & Encryption of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India.
4	Validity of Purchase Order	Purchase order shall be valid for two years from date of Purchase Order.
5	Work Address	Bidder to mention their works address below from where material will be supplied Works Address----- ----- -----
6	Pre- Qualification Requirement(PQR)	As per Annexure-I The bidder must ensure that they are meeting the PQR (Technical) and should submit all the requisite credentials as per PQR.
7	Deviation	<u>Technical Deviation</u>: No Technical Deviation is envisaged. <u>Commercial Deviation</u>: No Commercial Deviation envisaged except defined in GTC.
8	Delivery Plan	As per Activity Schedule-Annexure-II
9	Terms of Payment	As per clause 3.1 to 3.7 of GTC (as applicable). Supplier to submit bills alongwith billing checklist as per Annexure-III
10	Performance Bank Guarantee (PBG)	Clause No. 7 of GTC, If no option is specified by the bidder, by default option – B for Bank Guarantee shall be considered. BG for Main supply items and Spares shall be submitted separately alongwith first bill. Note BG should be submitted on non-judicial stamp paper of appropriate value by the supplier alongwith first submission of bill to BHEL.

Addendum to General Terms and Conditions (GTC-201)

11	Liquidated Damage	Clause no. 13 of GTC - In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of delayed lot value (Ex Works and F&I charges) for supply per week of delay or part thereof subject to a maximum of 10% of delayed lot value (Ex Works and F&I charges) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD. LD will be calculated for lotwise and Manufacturing Clearance (MFC) date will be the last date of inputs for that particular lot Lot-1: items for which MFC is issued from 1-15 days of calendar month Lot-2: items for which MFC is issued from 16-30/31 days of calendar month Lot-3: items for which MFC is issued from 1-15 days of next calendar month, Lot-4: items for which MFC is issued from 16-30/31 days of next calendar month and so on...
12	Arbitration	As per Annexure-IV
13	Reverse Auction	"BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking." Abridged Version of "Guidelines for Reverse Auction-2020" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.
14	Splitting of Contract	Splitting of Contract not applicable for this tender.
15	Make In India (PPP-MII)	For this procurement, the local content to categorize a supplier as class-I local supplier / class-II local supplier / Non-Local supplier and purchase preference to class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020, issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT but before opening of part-II bids against this NIT. "Bidder to specify the percentage of local content as per the format of self-declaration for local content" as per Annexure-V." "This tender is not a global tender and only class-I and Class II suppliers as defined under the DPIIT order no. P-45021/2/2017-PP (BE-II) dated 04.06.2020 are eligible to bid in this tender. Bids received from Class-II & Non-Local supplier shall be rejected."
16	Compliance to GOI Order for restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017	Refer Clause at Annexure-VI and Certification at Annexure-VII / Annexure-VIII (whichever is applicable) regarding restrictions under Rule 144 (xi) of General Financial Rules (GFRs), 2017. Bidder to comply the clause and submit the certification. Non-compliance/ Non-submission of certification will lead to rejection of Offer.
17	MOP Circular	Bidder to comply the MOP circular dated 02-07-2020 (Annexure-IX) and its subsequent amendment, if any, in prescribed format (Annexure-X). Non-compliance/ Non-submission will lead to rejection of Offer [Not Applicable for cases where local content is 100%]. Vendor to quote as per specified price format of NIT, otherwise their offer shall be liable to be rejected. Following confirmation to be provided by vendor: "We confirm that we have quoted as per specified price format provided along with this tender".
18	Integrity Pact	As per Annexure-XI.
19	Risk and Cost	As per Annexure-XII.
20	Prevention for cartel formation	The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

Addendum to General Terms and Conditions (G C-201)

21	Documents Required for Customer approval	Bidders to submit below documents alongwith their offer but not limited to: (a) PAN, GST, Certificate of Incorporation (b) Factory Registration Certificate (c) Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc.) (d) List of Plant and Machinery (e) List of Testing and Measuring equipment (f) Third party approval, if any (viz. ISO, BIS) (g) Pollution clearance wherever applicable (h) Energy conservation & Efficiency Report(Applicable to industries having contact load more than 100KVA) (i) Manufacturing Quality Plan (MQP) (j) List of past supplies references along with copy of major PO (k) Performance certificate from end user (l) Photographs of factory, plant and machinery & testing facilities
22	BHEL Supplier Registration Portal	The link for Online Supplier registration Portal is https://supplier.bhel.in/ The link for Online Supplier Registration Portal may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page.

The Notice Inviting Tender (NIT)/ the tender requirement of BHEL will not be henceforth published in newspapers. All the concerned are hereby notified that tender enquiries of BHEL will be published on BHEL tender website (www.bhel.com) and Government's Central Public Procurement Portal (<https://eprocure.gov.in/>).

(Sign and seal of Bidder)

**BHARAT HEAVY ELECTRICALS LTD.
(TRANSMISSION BUSINESS GROUP)**

GENERAL TERMS AND CONDITIONS FOR TENDER ENQUIRY / CONTRACT

This is to be submitted duly signed by bidder in original. Clause-wise deviations and / or additional conditions / clarifications, if any, are to be brought out clearly in “Schedule of Commercial Deviation”. Deviations and / or additional conditions / clarifications, if any, mentioned elsewhere in the bid / offer, shall not be considered.

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1.	INSTRUCTION TO BIDDERS : 1.1 Sealed bids are invited for the items mentioned in the tender enquiry conforming to the NIT including Technical Specifications. Bids should be typed and free from overwriting and erasures. Corrections or additions / deletions, if any, must be clearly written and attested, otherwise offer may be rejected. 1.2 Bidder must ensure that their bid is submitted / dropped in the tender box on or before 14-00 Hrs. IST on the due date of opening, unless otherwise specified in the NIT, at the address as follows :- Tender Box, Materials Management, Transmission Business Group, Bharat Heavy Electricals Limited, 5th Floor, Tower-A, Advant Navis IT Business Park, Plot-7, Sector-142, Noida Expressway, Noida, Dist. G. B. Nagar, U. P. ĩ 201305 1.3 In case tender enquiry is floated though the e-procurement system, offer / bid has to be submitted through the e-procurement system ONLY as per instructions given in the e-procurement portal (https://bheleps.buyjunction.in). 1.4 The bids shall be opened at 14-30 Hrs. IST on the due date of opening, in the presence of participating bidders who may like to be present, unless otherwise specified in the NIT. Bids received late are liable for rejection. Bidders sending bids by courier or post will have to ensure that it is timely delivered at the above address. 1.5 Bids are to be submitted duly signed with seal in two parts :- a) Techno-commercial Bid (Part-I) ĩ To be submitted in 2 sets (original + copy). A copy of Price Bid (Part-II) clearly mentioning all the necessary information as per format without prices ĩUn-Priced BidĚ is also to be enclosed in Part-I Bid. b) Price Bid (Part-II) ĩ To be submitted only in one set in a separate sealed envelope. This should not contain any Technical and / or Commercial Terms and Conditions. The rates should be quoted both in figures and words. 1.6 The Part-I and Part-II Bids are to be sealed in separate envelopes and marked

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	as "Techno-commercial Bid (Part-I)" and "Price Bid (Part-II)" respectively. Both the envelopes are to be kept in another common envelope and marked as "BID". Each envelope should be sealed and super scribed with tender enquiry no., item / package name, project name and due date of opening. Bidder's name and address shall also be mentioned on each envelope. 1.7 For any technical clarification, please contact official mentioned in the tender enquiry / NIT. 1.8 For any commercial clarification please contact official issuing tender enquiry / NIT. 1.9 Price bid (Part-II) should not contain any additional information / description other than given in "Un-Priced Bid" submitted with "Techno-commercial Bid (Part-I)" except prices, otherwise bid is liable for rejection. 1.10 Price Bid submitted along with the bid shall remain valid up to validity of offer. Any discount / revised offer submitted by the bidder on its own shall be accepted provided it is received 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 including optional items, if any, unless specified otherwise by the bidder. Discount offered shall be valid for full duration of validity of the offer including extension of validity, if any. Unsolicited Supplementary / Revised Price Bid submitted after the due date and time of offer submission (i.e. Part-I Bid), during validity period of offer, unless asked by BHEL, shall not be considered. Withdrawal of quotation by the bidder, at any stage after its opening, may entail suitable action against such bidder by BHEL. 1.11 The consultants / firm (and any of its affiliates) shall not be eligible to participate against tender enquiry for the related goods or works or services for the same project, if they were engaged by BHEL-TBG for the consultancy services. 1.12 In case any Foreign OEM / Foreign Principal insists 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 the agent, bid received from the agent shall be ignored. 1.13 Non-conformities / errors / discrepancies in quoted prices in price bids shall be dealt as follows :- a) If, in the price structure quoted for the required goods / services / works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of BHEL 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. c) If there is a discrepancy between words and figures, the amount in

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	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 as mentioned in (a), (b) & (c) above, 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 BHEL, the bid is liable to be ignored. 1.14 In case the scope of the successful bidder / supplier against this tender enquiry includes Erection, Testing and Commissioning (ETC) of the equipment / material at site in addition to Supply, Purchase Order shall be placed for Supply Portion and Contract shall be separately awarded for ETC at Site Portion. General Terms and Conditions for Tender Enquiry / Contract mentioned herein shall be applicable for both Supply & ETC at Site. Additional Terms and Conditions for Tender Enquiry / Contract for Erection, Testing and Commissioning at Site (BHEL/TBG/GTC-ETC/2016 Rev. 01) shall be applicable for ETC at Site only which is to be read in conjunction with General Terms and Conditions for Tender Enquiry / Contract mentioned herein. However, any breach of either the Purchase Order or the Contract shall be deemed to be breach of the other. 1.15 Taxes and Duties payable extra as per Clause No. 2.3 in NIT, if not specified/quoted clearly as extra shall be considered as included in Ex-works Price and therefore shall not be reimbursed. Taxes and duties not payable extra as per NIT shall be deemed to be included in Ex-works Price. 1.16 If the rates for taxes and duties in respect of the quoted materials and / or services assumed by the Supplier are less than the tariff prevailing at the time of tendering, Supplier will be responsible for such under quotations. However if the rates assumed are higher than the correct rates prevailing at the time tendering, the difference will be to the credit of BHEL. Note : Representative / official deputed by the bidder to witness tender opening must produce authorization letter for the same.
2.	PRICES : 2.1 Unless specifically indicated in the NIT, all prices shall be FIRM. No enhancement of rate for whatsoever reasons unless and until asked by BHEL shall be allowed. 2.2 Unless specifically indicated in the NIT, the prices shall be on INR basis. 2.3 Unless specifically indicated in the NIT, the prices are to be quoted on FOR (Site / Destination) basis excluding GST. The break-up of prices shall be as under :- a) Ex-works Price: Ex-works price including packing & forwarding charges. b) Freight: Freight for door delivery up to destination / site / store are to be quoted separately. c) Insurance: Insurance for door delivery up to destination / site / store are to be quoted separately.

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	d) Type Test Charges: If asked in the technical specification, it is to be quoted separately for each test. e) Charges for Supervision of Erection, Testing & Commissioning (ETC) at Site: To be quoted separately if specified in NIT/Price Schedule. f) Charges for Testing & Commissioning at Site: To be quoted separately if specified in NIT/Price Schedule. g) Charges for Erection, Testing & Commissioning at Site: To be quoted separately if specified in NIT/Price Schedule. h) Training Charges: To be quoted separately if specified in NIT/Price Schedule. 2.4 GST rates along with HSN/SAC code as applicable on Sr No (a) to (h) above is to be mentioned separately in percentage in both un-priced bid and price bid. Note : i) Unless otherwise specified in the NIT, the purchase order shall be placed on Ex-works basis for Indian bidders. ii) Prices quoted by Indian bidders shall be in Indian Rupees only. iii) In case Supervision of Erection, Testing & Commissioning (ETC) at Site or Testing & Commissioning at Site or Erection, Testing & Commissioning at Site is also in scope of the bidder along with supply, bidder has to ensure that prices quoted for such services also are in line with special terms & conditions of the NIT, if any. iv) Unless otherwise specified in the NIT, Unloading at Site / Destination shall not be in the scope of the supplier. v) Prices in respect of Sr No (a) to Sr No (h) of Clause 2.3 above are to be quoted inclusive of all taxes & Duties, charges. Levies, royalty etc. if any, excluding GST.
3.	TERMS OF PAYMENT : 3.1 For Supply only in scope of the supplier 100% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order. 3.2 For Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier or Supply where Testing & Commissioning at Site is in scope of the supplier

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	a) 95% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order. b) 5% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : · Certificate of successful completion of Supervision of Erection, Testing & Commissioning at Site if it is in the scope of the supplier or Certificate of successful completion of Testing & Commissioning at Site if it is in the scope of the supplier. · Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management 3.3 For Supply where Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier a) 90% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : · LR / GR duly endorsed by BHEL Site Official. · Material Receipt Certificate issued by BHEL Site Official. · GST Compliant Tax Invoice · Packing List (Case-wise) · Copy of Transit Insurance Certificate from underwriters. · Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management · Guarantee Certificate · Copy of Performance Bank Guarantee (PBG) · Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order b) 10% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : · Certificate of successful completion of Erection, Testing & Commissioning at Site issued by BHEL Site Official / Construction Management · Certificate of completion of final documentation as per Purchase Order / Technical Specification issued by BHEL Engineering Management 3.4 For Type Test Charges 100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with copy of Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management in 3 sets (original + 2 copies) on completion of delivery (at site, if F&I is in scope of

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	supplier) of main supplies (excluding spares) for which Type Tests are applicable. List of main supplies (excluding spares) for which Type Tests are applicable shall be certified by BHEL Engineering Management. 3.5 For Charges for Supervision of Erection, Testing & Commissioning at Site 100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Supervision of Erection, Testing & Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies). 3.6 For Charges for Testing & Commissioning at Site 100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of successful completion of Testing & Commissioning at Site issued by BHEL Site Official / Construction Management in 3 sets (Original + 2 copies). 3.7 For Training Charges 100% payment along with applicable GST within 60 days from the date of receipt of complete GST compliant Tax invoice along with certificate of completion of training issued by BHEL Engineering Management in 3 sets (original + 2 copies). Note : i) Supplier has to submit invoice(s) as per PO or approved billing break-up of prices (if applicable as per NIT). ii) In case of supplies for overseas project, Material Receipt Certificate issued by BHEL Authorized Representative shall also be acceptable. iii) In case of Transit Insurance under Open Insurance Policy, Intimation / Declaration of Transit Insurance as per terms of the relevant Open Insurance Policy along with copy of Open Insurance Policy from underwriters shall also be acceptable. iv) Supplier has to ensure commencement of transit insurance from the date not later than LR / GR date. v) Supplier has to submit Tax Invoice(s). Supplier should ensure that Tax Invoice should comply all statutory requirements under GST Law to enable BHEL to avail input credit vi) MSMED Act, 2006 and the rules made thereunder as amended from time to time shall be applicable for release of payment to suppliers qualified & registered as Micro & Small Enterprises based on documents mentioned in the NIT for MSME. vii) Supplier has to submit PBG (as per BHEL format) & Guarantee Certificate as per PO terms. viii) In case any shortages and / or damages in supplies, an amount calculated

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	based on comments against Material Receipt Certificate issued by the BHEL Site Official shall be withheld from the supply payment against 3.1(a) or 3.2(a) above to be deemed fit by BHEL subject to a minimum of 10% of the total ex-works value of the invoice corresponding to the LR / GR against which any shortages and / or damages are reported. The withheld amount shall be released after the shortages and / or damages in supplies are supplied / replenished against Certification by BHEL Site Official. ix) Payment of GST component shall be made only if vendor has deposited the Tax and credit for the same is reflected in GSTN (GST Network). In case credit of the same is not reflected in GSTN , vendor may alternatively furnish BG of GST Amount for a period valid for not less than 1 month .In case of disallowance of credit /non reflection of credit in GSTN , amount will be recovered from supplier along with applicable Interest , penalty etc from any of his dues. x) If GST is payable by BHEL on reverse Charge Mechanism basis, vendor should ensure the submission of GST compliant Tax invoice immediately on dispatch/ performance of service. In case of non-compliance any additional charges towards interest, penalty etc, will be to vendors account. xi) TDS under GST Act, if applicable, shall be deducted unless Exemption Certificate If applicable, from the appropriate authority is furnished to BHEL along with Invoice.
4.	INTEREST LIABILITY : In case of any delay in payment due to any reason, BHEL shall not pay any interest on delayed payment. Also, no interest shall be payable by BHEL on the bank guarantee / deposit amount or balance payment or any other money which may become due owing to difference or misunderstanding or any dispute before any quasi judicial authority between BHEL and the Supplier / Contractor.
5.	GUARANTEE : The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is earlier. Wherever Erection, Testing & Commissioning at Site are also in the scope of the Supplier, the guarantee period shall be 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is later. The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc. In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover the same from PBG / other dues of this Purchase

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	Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor. Note : i) In case of Illumination System, items viz. Lamps, Tubes, Ballast, Starters, Capacitors & Fuses will not be under Guarantee after commissioning. ii) In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications. iii) In case offer of agent of Foreign OEM / Foreign Principal is considered, as per Clause No. 1.12 above, Guarantee as mentioned above has to be provided by the Foreign OEM / Foreign Principal also.
6.	LATENT DEFECT : Liability for latent defects shall be for defects inherently lying within material or arising out of design deficiency which does not manifest itself during guarantee period but later and shall be limited to five years from the expiry of the guarantee period.
7.	PERFORMANCE BANK GUARANTEE (PBG) : Supplier shall arrange to submit Performance BG / Deposit on a non-judicial stamp paper of appropriate value along with first invoice or within 60 days from placement of Purchase Order (PO) whichever is earlier, in line with one of the applicable options as follows :- <u>Option A</u> A single rolling PBG for Rs. 50 Lakhs initially valid for 18 months with claim period of 3 months extra over and above 18 months for all the Purchase Orders being executed for Transmission Business Group, BHEL. However, validity of the PBG shall be extended till 18 months from the date of last delivery with 3 months claim period extra over and above 18 months. Single Rolling PBG option shall not be applicable in case Ex-works value of the PO at the time of placement of PO exceeds Rs. One Crore. <u>Option B</u> PBG for 10% of the total Ex-works PO value, valid for 18 months from the date of last delivery with claim period of 3 months extra over and above 18 months. Ex-works PO value at the time of placement of PO shall be considered for calculation of the PBG amount. <u>Option C</u> In case the total Ex-works PO value at the time of placement of PO does not exceed Rs. Ten Lakhs, interest free Deposit of 10% of the total Ex-works PO value at the time of placement of PO in form of Demand Draft favouring Bharat Heavy Electricals Limited and payable at New Delhi / Delhi / Noida shall also be acceptable to BHEL in lieu of PBG, which shall be released after expiry of 21 months from the date of last delivery after deduction, if any, within 60 days from receipt of invoice in 3 sets (original + 2 copies) to be submitted by the supplier. Note : i) The Bank Guarantee shall be from any bank as per Annexure for List of Banks (32 Nos.). The original PBG should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida. ii) Extension of validity of the PBG in original, as per above clause, should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida at least 45 days before expiry of validity of the PBG. iii) Unless otherwise specified in the NIT, deviation taken for non-submission of PBG / Deposit, as applicable, shall not be accepted.

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	iv) Supplier has to confirm one of the applicable options for submission of PBG / Deposit before placement of PO. v) In case of non submission PBG / Deposit, as applicable, BHEL reserve the right for Risk Purchase as per terms of the NIT and impose Suspension of Business Dealings with the Supplier / Contractor. vi) BHEL reserve the right to encash the Bank Guarantee and forfeit the amount in the event of any default, failure or neglect on part of the Supplier in fulfilment of performance of the Purchase Order. vii) Value of the Bank Guarantee (at the time of submission) shall remain unchanged for any subsequent variations in Purchase Order value up to $\pm 20\%$. Beyond this variation of $\pm 20\%$, the Supplier shall arrange to enhance or may reduce the value of the Bank Guarantee accordingly for the total variation promptly. viii) Vendor to ensure submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, as referred in clause No 9 regarding Final Documentation. BG shall be released only after submission of the same to BHEL TBMM.
8.	SUBMISSION OF DRAWINGS / DOCUMENTS FOR APPROVAL : Supplier shall submit the master document list within 7 days from date of Purchase Order / Contract, unless otherwise specified in the NIT, with planned dates for submission which shall be in line with activity schedule as per Purchase Order / Contract and shall be finalized with BHEL Engineering Management. Date of first submission of drawings / documents shall be certified by BHEL Engineering Management after the receipt of applicable drawings / documents (e.g. project specific cover sheet, GTP, OGA drawings, schemes, type test reports etc.) by BHEL. During detailed engineering stage, necessary hard copies of the engineering drawings / documents shall also be submitted by the supplier as per the Purchase Order / Contract requirement. The supplier shall also submit the packing drawings as per technical specifications. In case item(s) offered require any interface details of other item (not in the scope of supplier & required for operating the equipment), the supplier has to submit interfaces schedule along with submission of engineering drawings / documents. It shall be responsibility of the supplier to get the details of the interfaced item from BHEL before manufacturing to avoid any mismatch at site.
9.	FINAL DOCUMENTATION : Final documentation as called in the Technical /contract specification is to be submitted within 3 months from the date of first delivery of respective equipment, item/material. After submission of Final Documentation, BHEL Engineering Management (TBEM) will issue a Certificate of Completion of Final Documentation. Wherever Final Documentation is not applicable, BHEL Engineering Management (TBEM) will issue confirmation regarding the same, Vendor to submit the Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, to BHEL TBMM. In case of Non Submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, BG will be liable for encashment.
10.	INSPECTION : BHEL / customer / third party shall inspect equipment / material before despatch. Stage inspection during manufacturing may also be carried out. Material to be despatched only after getting Material Despatch Clearance Certificate (MDCC) / MICC issued by BHEL. Supplier shall send inspection call on prescribed format / web site only, with an advance notice of 15 days. Supplier to ensure submission of all routine / acceptance test reports, inspection

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	reports and all other documents related to inspection, immediately to BHEL. BHEL representative is authorised to carry out audits along with Third Party Inspection Agency at vendor's / supplier's works before clearing the items for despatch.
11.	DESPATCH DOCUMENTS : Despatch documents to be immediately sent to BHEL on despatch are as follows :- • Copy of Invoice • Copy of LR / GR in case of Indian suppliers or BL / AWB in case of foreign suppliers • Copy of Packing List (Case-wise) • Copy of Transit Insurance Certificate from underwriters • Copy of Guarantee Certificate
12.	DELIVERY PERIOD : Delivery / Completion requirement shall be mentioned in the NIT. Bidder to specify best delivery / completion period possible in weeks from the date of LOI / PO as per activity schedule for consideration by BHEL. Time required for type test, if applicable, is to be separately indicated. Note : LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) contracts shall be considered as delivery date.
13.	LIQUIDATED DAMAGES FOR DELAYED DELIVERY: In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes and duties, freight & insurance as applicable) per week of delay or part thereof subject to a maximum of 10% of the total Purchase Order value for supply (incl. taxes and duties, freight & insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD. However, in case of staggered (lot-wise) contractual delivery schedule, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes, duties, freight & insurance as applicable) of delayed lot per week of delay or part thereof subject to maximum of 10% of the total Purchase Order value. (Incl taxes, duties, Freight & Insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD. Note : i) In case of any amendment / revision in PO /WO, the LD shall be linked to the amended / revised Purchase Order / Contract value and delivery / completion time / schedule, if applicable. ii) LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) for imported supplies shall be treated as the date of dispatch for levying LD as above. iii) However, for indigenous supply, if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 30 days, where distance from place of despatch as per LR / GR is upto 1000 Kms or if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 45 days, where distance from place of despatch as per LR / GR is more than 1000 Kms, such excess period shall also be considered for LD purpose. iv) If, as per supplier, delay is not attributable to the supplier, delay analysis with documentary evidence may be submitted by the supplier at the earliest but not

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	later than six months from the end of the financial year in which the payment is withheld. Based on the above details / documents submitted by the supplier, BHEL shall take final decision and if considered appropriate by BHEL, withheld amount (full or part as the case may be) shall be released, otherwise, full or balance withheld amount shall be treated as deduction of Liquidated Damages (LD) towards delayed delivery.
14.	VALIDITY OF OFFER : The offer shall be valid for 120 days from the due date of opening of tender (i.e. techno-commercial bid unless otherwise specified in the NIT). Prices of Spares, wherever they optional items, shall be valid till two years from the date of placement of PO.
15.	ACCEPTANCE / REJECTION OF TENDER : BHEL reserve the right to reject in full or part, any or all tender without assigning any reason thereof. BHEL also reserve right to vary the quantities as mentioned in the NIT. Acceptance of offer is subject to vendor approval by customer before opening of price bid. BHEL shall not be bound by any power of attorney granted by tenderer or by changes in composition of the firm made subsequent to award of order / contract. BHEL may however recognize such power of attorney and changes after obtaining proper legal advice, cost of which will be chargeable to the seller / contractor concerned. If the tenderer deliberately gives wrong information, BHEL reserves the right to reject such an offer at any stage or cancel the order / contract, if awarded, and forfeit the security deposit and bank guarantee.
16.	DEVIATION : The bids having deviation(s) w.r.t. tender are liable for rejection. However, BHEL, at its discretion, may load the prices for evaluation of offer with prior intimation to bidder.
17.	TENDER EVALUATION : Comparative statement shall be prepared and evaluated on total cost basis at destination/site (as per terms of NIT) considering overall quantity indicated in NIT unless contrary to same is specifically mentioned in the tender enquiry / NIT. Total cost for this purpose shall include cost of scope of work as mentioned in NIT along with applicable taxes & duties, and other services etc. (if applicable). GST input credit available to BHEL shall be reduced from prices while determining L1 status. In case all bidders are foreign & Port of Import (destination port) is same for all the bidders, evaluation of offers shall be done on CIF (Port of Import) basis. Otherwise, evaluation of offers shall be done on the basis of delivered cost at site /destination to BHEL. Further, in case of foreign bidders, marine freight & insurance are to be quoted separately & the purchase order may be placed on FOB basis with an option for delivery on CIF / CFR basis, if required, later. In case of foreign bidders, Exchange Rate (TT selling rate of State Bank of India) as on date of tender opening (Part-I Bid in case of two part bid) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken for tender evaluation.
18.	LOADING CRITERIA : List of permissible deviations & loading criteria thereof are as follows :- a) Payment Terms Base rate of SBI (as applicable on the date of bid opening / techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidder(s) against terms of payment in the NIT. b) Liquidated Damages (LD) for Delayed Delivery

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	Loading on LD clause shall be to the extent to which it is not agreed to by the bidder (at offered value). c) In case of foreign bidders, if the quoted prices is on CIF basis only, it shall be loaded to arrive at total FOR (Site / Destination) price, as applicable, by factors as follows :- i) Port handling / clearing charges: @ 1% of CIF value to arrive at Customs Assessable Value. ii) Custom Duty (including CVD & SAD) as per NIT prevailing on date of price bid opening. iii) Inland Freight & Transit Insurance: @ 5% of CIF value where distance between site / destination and Port of Discharge is upto 1000 Kms or @ 7% of CIF value where distance between site / destination and Port of Discharge is more than 1000 Kms. Note : Additional deviations (if considered acceptable by BHEL) & the loading criteria shall be communicated to all the qualified bidders before price bid opening.
19.	ARBITRATION : In the event of any dispute emanating from and relating to this contract, the matter shall be referred to the sole arbitration of the person appointed by the competent authority of BHEL. Subject to aforesaid, the provisions of "The Arbitration and Conciliation Act, 1996" and the rules made thereunder as amended from time to time in India shall apply to the arbitration proceedings. The venue of arbitration shall be in New Delhi. Further there shall be no claim for any pre-reference or pendente-lite interest on the claims and any claim for such interest made shall be void. However, in case of contract with Public Sector Enterprise / Undertaking (PSE/PSU) or Govt. Dept., the extant guidelines of Govt. of India shall be followed.
20.	LEGAL SETTLEMENT : Indian Courts at New Delhi / Delhi shall have exclusive jurisdiction to decide the dispute, if any, arising out of or in respect of the contract(s) to which these conditions are applicable. Contract, including all matters connected with contract, shall be governed by the Indian Law, both substantive and procedural, for the time being in force including modification thereto.
21.	SUB-CONTRACTING : In case further subcontracting of BHEL Purchase Order / Contract or part thereof is envisaged by supplier, the same can be done after written permission is obtained from BHEL. However it shall not absolve the Supplier / Contractor of the responsibility of fulfilling BHEL Purchase Order / Contract requirements. In case of subcontracting of Purchase Order / Contract awarded by BHEL or part thereof without such permission, BHEL reserve the right to cancel the Purchase Order / Contract and source such material / component / equipment / system from any other agency at the risk and cost of the Supplier / Contractor. If Supplier / Contractor is an individual or proprietary concern and the individual or the proprietor dies or the partnership is dissolved or substantially affected, then unless BHEL is satisfied that legal representative of individual Supplier / Contractor or proprietor of proprietary concern and surviving partners of partnership firm are capable of carrying out and completing the Purchase Order / Contract, BHEL shall be entitled to cancel the Purchase Order / Contract as to its incomplete portion and without being in any way liable to payment of any compensation to legal representative of Supplier / Contractor and / or to surviving partners of Supplier's / Contractor's firm on account of cancellation of the Purchase Order / Contract. Decision of BHEL that legal representatives of deceased Supplier / Contractor or

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	surviving partners of the Supplier's / Contractor's firm cannot carry out and complete the Purchase Order / Contract shall be final and binding on the parties hereto. Terms and Conditions shall not get affected in case of de-merger / amalgamation / taking-over / re-constitution etc.
22.	RISK PURCHASE : In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause. Recovery amount on account of purchases made by BHEL at the risk and cost of Supplier / Contractor shall be the difference of total value of new Purchase Order (PO) value and total value of old Purchase Order for applicable items, where the total value of new PO is more than total value of old PO for applicable items, plus additional 15% of the total ex-works value of new PO as overheads. The Supplier / Contractor shall on no account be entitled to any gain on such risk & cost purchase. In case the purchase order (PO) value of the new PO is less than the PO value of the old PO, 15% of the total ex-works value of the new PO shall be recovered as overheads and the difference between the PO value of the old PO and the new PO shall not be considered for calculation of the recovery amount.
23.	ADJUSTMENT OF RECOVERY : Any amount payable by the Supplier / Contractor under any of the condition of this contract shall be liable to be adjusted against any amount payable to the Supplier / Contractor under any other Purchase Order / Contract awarded to him by any BHEL unit. This is without prejudice to any other action, as may be deemed fit, by BHEL.
24.	FORCE MAJEURE CONDITION : If by reason of war, civil commotion, act of god, Government restrictions, strike, lockout which are not in control of Supplier / Contractor the deliveries / services are delayed, Supplier / Contractor shall not be held responsible. If at any time during the continuance of the Purchase Order / Contract, the performance in whole or in part by either party of any obligations under the Purchase Order / Contract is prevented or delayed by reason of any war hostilities, acts of the public enemy, restrictions by Govt. of India, civil commotion, sabotage, fires, floods, explosion, epidemics, quarantine restrictions, strike, lock-outs or acts of God (hereinafter referred to as 'event'), which are not in control of Supplier / Contractor or BHEL, then provided notice of the happening of such event is given by either party to the other within fifteen (15) days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate the Purchase Order / Contract nor shall have any claim for damages against each other in respect of such non-performance and delay in performance. Performance under the Purchase Order / Contract shall be resumed immediately after such event has come to an end or

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	ceased to exist and decision of BHEL as to whether the deliveries have to be resumed or not shall be final, conclusive and binding on the parties hereto. In the event of the parties hereto not able to agree that a force majeure event has occurred, the parties shall submit the disputes for resolution pursuant to the provisions hereunder, provided that the burden of proof as to whether a force majeure event has occurred shall be upon the party claiming such an event. Notwithstanding above provisions, BHEL shall reserve the right to cancel the Purchase Order / Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of delivery and other schedules.
25.	MANUFACTURING QUALITY PLAN (MQP) : Supplier to submit approved MQP in line with requirement of BHEL/customer.
26.	SUPPLIER PERFORMANCE MONITORING AND RATING SYSTEM : BHEL reserve the right for evaluation of Supplier Performance Rating as per Supplier Performance Monitoring and Rating System of BHEL for necessary action. Details are available at BHEL Website www.bhel.com for reference.
27.	DEALING WITH BANNED SUPPLIERS / CONTRACTORS IN BHEL : Offers of the bidders, who are on the banned list, as also the offers of the bidders who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com for reference.
28.	ORDER OF PRECEDENCE : The order of precedence shall be as follows :- - Special Terms & Conditions (STC) for Tender Enquiry / Contract, if any - General Terms & Conditions (GTC) for Tender Enquiry / Contract & Additional General Terms & Conditions (GTC) for Tender Enquiry / Contract for Erection Testing & Commissioning (ETC) at Site, if applicable Provisions in (a) above shall prevail over (b). In case of conflict, between Technical Specifications and STC / GTC, bidder to seek necessary clarifications from BHEL concerned official as specified in NIT.
29.	PACKING : Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage. In case of shipment by sea or air, the packing shall be sea-worthy or air-worthy respectively and of international standards. Different types of spares i.e. start-up / commissioning spares and initial spares (mandatory spares and recommended O&M spares) are to be packed separately. Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate :- - Case / Packing size (as applicable). - Gross weight and net weight of each package. - Detailed contents of the package with quantity of each item separately. Project, Item / Package Description, BHEL's PO No. with date & Case / Packing Mark should also be clearly mentioned on the Case / Packing and Packing List for identification. Also, Packing List must be duly signed & should include respective Invoice No. & LR No. Note : Foreign suppliers to furnish details to arrange inland transportation by BHEL, if applicable, as follows :- - No. of Packages - Size with Weight (Gross & Net) of each Package - No. of Containers with type & size required for inland transportation

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	iv) Type of Cargo (Break Bulk / LCL / FCL) v) Customs Tariff No.
30.	COLOUR CODING : Aluminium stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc. Tags should be of the colour as follows :- a) Main equipment : Yellow or White tag b) Start-up / Commissioning spares : Blue tag c) Mandatory spares : Pink or Red tag d) Recommended / O&M spares : Green tag
31.	MICRO, SMALL & MEDIUM ENTERPRISES (MSME) : MSMED Act 2006 as amended from time to time & extant regulations of Govt. of India for MSME will be applicable. Micro & Small Enterprises (MSE) can avail the intended benefits only if they submit along with the offer / bid, attested copies of either Acknowledgement of Entrepreneur Memorandum Part-II (EM-II certificate) having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (As per BHEL format where deemed validity of EM-II certificate of five years have expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of opening (for Techno-commercial Bid : Part-I 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 arrested (in original) by a Gazetted officer. Copy of Udyog Aadhaar Memorandum with Acknowledgement of Ministry of Micro, Small & Medium Enterprises should also be furnished.
32.	BUSINESS ETHICS / SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS : If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution, indulges in malpractices cheating, bribery, fraud or other misconduct or formation of cartel so as to influence the bidding process or influences the price or fails to perform or is in default without any reasonable cause etc or performs any act considered objectionable as per extant guidelines, action may be taken against such bidders/supplier/contractor as per extant Guidelines for Suspension of Business Dealings with Suppliers/Contractors. Abridged version of same is available at BHEL website (www.bhel.com) on Supplier Registration Page.
33.	REVERSE AUCTION : BHEL reserve the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder or price bid submitted by the bidder through e-procurement system. This will be decided after techno-commercial evaluation. All bidders to give their acceptance 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. In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit online sealed bid in the Reverse Auction. Non-submission of online sealed bid by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. General Terms and Conditions of RA are available at Annexure. Business Rules for

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	RA shall be sent to the bidders before conducting RA. Abridged Version of "Common Guidelines for Conducting Reverse Auction" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page & "Tender Notifications" Page.
34.	INTEGRITY PACT : Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.
35.	TERMINATION OF CONTRACT : BHEL shall have the right to cancel the Purchase Order / Contract without any financial implication to BHEL if vendor approval by end user / customer is withdrawn or in case of Suspension of Business Dealings with the Suppliers / Contractors by BHEL. BHEL shall have the right to cancel Purchase Order / Contract, wholly or in part, in case they are obliged to do so on account of any decline, diminution, curtailment or stoppage of their business and in that event, the Supplier's / Contractor's compensation claim shall be settled mutually. In case of cancellation of Purchase Order / Contract for main supply, all other associated Purchase Orders / Contracts like those for Mandatory Spares / Recommended Spares / Erection, Testing & Commissioning (ETC) / Supervision of ETC, if any, would also get cancelled.
36.	SHELF LIFE : Supplier has to inform the list of the items / sub-items which have limited shelf life like consumables or those required for the first fill and shall indicate the corresponding shelf life period in the offer. Such items / sub-items shall be manufactured / despatched only after getting formal clearance from BHEL.
37.	LIMITATION OF LIABILITY : Notwithstanding any other provisions, except in cases of wilful misconduct and / or criminal negligence / acts, a) Neither the Supplier / Contractor nor BHEL shall be liable to the other, whether in Purchase Order / Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the Supplier / Contractor to pay Liquidated Damages to the BHEL and b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the Contractor in respect of this contract, whether under the Contract, in tort or otherwise, shall not exceed total Contract Price, provided however that this limitation shall not apply to any obligation of the Vendor to indemnify BHEL with respect to Patent Infringement or Intellectual Property Rights.
38.	SHORTAGES / DAMAGES : a) Against Supply only or Supply where Supervision of Erection, Testing & Commissioning (ETC) at Site or Supply where Testing & Commissioning at Site is in scope of the supplier : Any shortages and / or damages in supplies shall be supplied / replenished free of cost by the supplier as early as possible but not later than 30 days from the date of intimation by BHEL to the supplier. b) Against Supply where Erection, Testing & Commissioning (ETC) at Site is in scope of the supplier :

Sr. No.	
	Any shortages and / or damages in supplies and during handling / storage, erection, testing and commissioning at site shall be supplied / replenished free of cost by the Supplier / Contractor, as early as possible, to meet the contractual completion time / schedule. Note: There shall not be any extension in the contractual delivery time / schedule due to any shortages and / or damages in supplies.
39.	VARIATION OF CONTRACT VALUE / QUANTITY VARIATION : BHEL shall have the right to variation in quantities of items within $\pm 30\%$ of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order / Contract or completion of execution of the Purchase Order / Contract whichever is earlier but quantities of individual items may vary to any extent or may get deleted unless otherwise specified in the technical specifications. No compensation is payable due to variation in the quantities and the Supplier / Contractor shall be bound to accept the same the contracted prices / rates without any escalation. However, if the Purchase Order / Contract is on "Lumpsum" basis, no variation of Purchase Order / Contract value shall be admissible to the Supplier / Contractor within the scope of Purchase Order / Contract, as long as the inputs remain unchanged.
40.	STATUTORY VARIATION : GST rates prevailing at the time of dispatch of goods / completion of services shall be payable by BHEL. All other taxes, duties, charges, royalty, cess, other levies shall be deemed to be included in the Ex Works Prices / Charges quoted by bidders and no variations shall be payable in respect thereof. No other variations such as on customs duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the BHEL. Notwithstanding anything above, where the actual completion of the supply / services occurs beyond the period stipulated in the Purchase Order / Contract or any extension thereof, variations referred to above, will be limited to the rates prevailing on the dates of such agreed completion periods only. For variations after the agreed completion periods, the Supplier / Contractor alone shall bear the impact for the upward revisions and for downward revisions BHEL shall be given the benefit of reduction in applicable taxes /GST. This will be without prejudice to the levy of liquidated damages for delay in delivery / completion. If new tax is introduced by Central/ State Govt / Municipality becomes directly applicable on items specified in Bill of Quantities/Purchase Order/Contract, full reimbursements shall be made provided it becomes applicable on items specified in Bill of Quantities. However, any additional tax implication due to delay in delivery, beyond the Contractual Delivery, attributable to supplier shall be borne by supplier.
41.	MODE OF PAYMENT : Payment shall be made directly to the Supplier / Contractor by BHEL through NEFT / RTGS.
42.	CONFIDENTIALITY : Supplier / Contractor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents etc. belonging to BHEL and also of systems, procedures, reports, input documents, manuals, results and any other BHEL documents discussed and / or finalized during the course of execution of Purchase Order / Contract.
43.	INDEMNIFICATION : The Supplier / Contractor shall indemnify and keep indemnified and hold harmless BHEL and its employees and officers from and against any and all claims, suits, actions or administrative proceedings, demands, losses, damages, costs and

Sr. No.	
	expenses and any other claim of whatsoever nature in respect of the death or injury of any person or loss of or damage to any property arising during the course and out of the execution of the Purchase Order / Contract.
44.	TITLE OF GOODS : a) Ownership of the equipment / material procured in India, shall be transferred to BHEL upon loading on to the mode of transport to be used for transportation of the said equipment / material from the works to the site / destination and upon endorsement of the dispatch documents in favour of BHEL. b) Ownership of the equipment / material to be imported into the country where the site is located, if not procured in India, shall be transferred to BHEL upon loading on the mode of transport to be used for transportation of the equipment / material from the country of origin to that country / destination and upon endorsement of despatch document in favour of BHEL. c) Notwithstanding the transfer of ownership of the equipment / material, the responsibility for care and safe custody thereof together with the risk of loss or damage thereto for whatsoever reason shall remain with the Supplier.
45.	COMPLIANCE OF STATUTORY REQUIREMENTS : The vendor shall comply with all State and Central Laws / Acts, Statutory Rules, Regulations etc., as may be enacted by the Government during the tenure of the Purchase Order / Contract and having in force and applicable to the Purchase Order / Contract and nothing shall be done by the Supplier / Contractor in contravention of any Law / Act and / or Rules / Regulations, thereunder or any amendment thereof. The Supplier / Contractor shall pay all taxes, fees, licence charges / deposits, duties, tolls, royalty, commissions or other charges which may be levied on account of any of his operations connected with the Purchase Order / Contract. In case BHEL is constrained to make any of such payments, BHEL shall recover the same from the Supplier / Contractor either from moneys due to him or otherwise as deemed fit.
46.	ACCEPTANCE OF ORDER : Supplier should acknowledge and accept the Letter of Award / Purchase Order issued by BHEL within 7 days of the issue of Letter of Award / Purchase Order. In case of any discrepancy / typographical error in issue of Purchase Order / Contract, the agreed terms & conditions, scope of work, rates / prices for placement of PO / award of contract shall be applicable and BHEL reserves the right to issue amendment(s) to PO / Contract for correction of discrepancies / typographical errors in the PO / Contract at a later date.
47.	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.

Signature of Bidder (Authorized Signatory) with Date & Seal

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
(hereinafter referred to as 'company') having its registered office at
is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category: (Micro/Small)). (Copy enclosed).

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

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:
Rs.....Lacs

(Strike off whichever is not applicable)

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

Or

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

Date:



(Signature)

Name -

Membership number -

Seal of Chartered Accountant

Annexure for List of Banks (32 Nos.)

Sr. No.	Name of Bank
1	Allahabad Bank
2	Andhra Bank
3	Bank of Baroda
4	Canara Bank
5	Corporation Bank
6	Central Bank
7	Indian Bank
8	Indian Overseas Bank
9	Oriental Bank of Commerce
10	Punjab National Bank
11	Punjab & Sindh Bank
12	State Bank of India
13	State Bank of Hyderabad
14	Syndicate Bank
15	State Bank of Travancore
16	UCO Bank
17	Union Bank of India
18	United Bank of India
19	Vijaya Bank
20	IDBI
21	CITI Bank N. A.
22	Deutsche Bank AG
23	The Hongkong and Shanghai Banking Corporation Limited
24	Standard Chartered Bank
25	J P Morgan
26	Axis Bank
27	The Federal Bank Limited
28	HDFC
29	Kotak Mahindra Bank
30	ICICI
31	Indusind Bank
32	Yes Bank

Tender Inviting Authority: BHEL, TBG Noida

Name of Work: Supply & Services of 400kV Circuit Breakers

Enquiry/NIT No: 06G2100334 dated 08.02.2021

Name of the Bidder/ Bidding Firm / Company :															
<u>PRICE SCHEDULE</u> (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
1.01	MAIN SUPPLY- CIRCUIT BREAKER : 420KV, 63KA FOR 3S, 3150A,3 PHASE CIRCUIT BREAKER WITHOUT PIR WITH GRADING CAPACITOR (IF APPLICABLE) ALONGWITH OPERATING MECHANISM, INTERPOLE CABLING, COMMON CONTROL CABINET, INSULATORS, SUPPORT STRUCTURE, FIXING BOLTS AND OTHER ALLIED EQUIPMENT/ ITEMS ETC. COMPLETE IN ALL RESPECTS	Main item1	33	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.02	MAIN SUPPLY- CIRCUIT BREAKER : 400KV, FOUNDATION BOLTS FOR CIRCUIT BREAKER, PLATFORM AND LADDER	Main item2	33	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.03	MAIN SUPPLY- CIRCUIT BREAKER : 400KV, CONTROLLED SWITCHING DEVICE (CSD) ALONG WITH ALL ACCESSORIES (EXCEPT SPECIAL CABLES) COMPLETE IN ALL RESPECT FOR GENERATOR TRANSFORMER (GT) AND BUS REACTOR	Main item3	9	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.04	MAIN SUPPLY- CIRCUIT BREAKER : 400KV, CONTROLLED SWITCHING DEVICE (CSD) ALONG WITH ALL ACCESSORIES (EXCEPT SPECIAL CABLES) COMPLETE IN ALL RESPECT (CSD SHALL BE SUITABLE FOR DUAL OPERATION FOR GT & ST/FGD-ST	Main item4	5	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.05	MAIN SUPPLY- CIRCUIT BREAKER : 420KV, SPECIAL CABLES FOR CSD	Main item5	5000	MTR.	INR			0.00			0.00		0.000	0.000	INR Zero Only

2.01	SERVICES- CIRCUIT BREAKER : 400KV, SUPERVISION OF ERECTION, TESTING AND COMMISSIONING OF CIRCUIT BREAKER	Service item1	99	Mandays	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.02	SERVICES- CIRCUIT BREAKER : 400KV, SUPERVISION OF ERECTION TESTING AND COMMISSIONING OF CONTROLLED SWITCHING DEVICE	Service item2	28	Mandays	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.03	SERVICES- CIRCUIT BREAKER : TO & FRO CHARGES APPLICABLE FOR RAIL/ ROAD/ AIR	Service item3	10	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.01	SUPPLY- CIRCUIT BREAKER : 420KV, PORTABLE TYPE SF6 GAS FILLING AND EVACUATING PLANT (MIN. 300L CAPACITY)	Spare item1	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.02	SUPPLY- CIRCUIT BREAKER : 420KV, PORTABLE SF6 VACUUM PUMP WITH PRESSURE GAUGE/ SWITCHES & HOSE PIPES	Spare item2	1	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.03	SUPPLY- CIRCUIT BREAKER : SF6 GAS LEAKAGE DETECTOR	Spare item3	4	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.04	SUPPLY- CIRCUIT BREAKER : 420KV, CIRCUIT BREAKER OPERATIONAL ANALYZER WITH DCRM AS PER SPECIFICATION	Spare item4	1	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.05	SUPPLY- CIRCUIT BREAKER : 420KV, BASIC TIMER KIT WITH PRINT FACILITY	Spare item5	1	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.06	SUPPLY- CIRCUIT BREAKER : 420KV, CRM METER (100A)	Spare item6	1	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.07	SUPPLY- CIRCUIT BREAKER : 420KV, SF6 GAS (20% EXTRA)	Spare item7	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.08	SPARES- CIRCUIT BREAKER : 420KV, COMPLETE POLE WITH COLUMN AND INTERRUPTER AND GRADING CAPACITOR (IF APPLICABLE) AND OPERATING MECHANISM BUT WITHOUT SUPPORT STRUCTURE	Spare item8	3	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.09	SPARES- CIRCUIT BREAKER : 420KV, RUBBER GASKETS, O-RINGS AND SEALS	Spare item9	6	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.10	SPARES- CIRCUIT BREAKER : 400KV, TRIP COILS WITH RESISTOR	Spare item10	6	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only

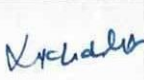
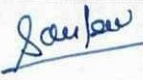
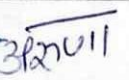
3.11	SPARES- CIRCUIT BREAKER : 400KV, CLOSING COILS WITH RESISTOR	Spare item11	6	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.12	SPARES- CIRCUIT BREAKER : 420KV, FIXED, MOVING & ARCING CONTACTS	Spare item12	14	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.13	SPARES- CIRCUIT BREAKER : 400KV, MOLECULAR FILTER	Spare item13	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.14	SPARES- CIRCUIT BREAKER : 420KV, GAS DENSITY MONITOR	Spare item14	6	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.15	SPARES- CIRCUIT BREAKER : 420KV, OPERATING MECHANISM WITH MOTOR (SPRING)	Spare item15	4	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.16	SPARES- CIRCUIT BREAKER : 400KV, AUX. SWITCH	Spare item16	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.17	SPARES- CIRCUIT BREAKER : 420KV, AIR PRESSURE SWITCH	Spare item17	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.18	SPARES- CIRCUIT BREAKER : 420KV, SF6 GAS PRESSURE SWITCH	Spare item18	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.19	SPARES- CIRCUIT BREAKER : 420KV, AIR PRESSURE GAUGE	Spare item19	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.20	SPARES- CIRCUIT BREAKER : 420KV, CONTACTS FOR CIRCUIT	Spare item20	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.21	SPARES- CIRCUIT BREAKER : 420KV, MCB/MCCB FOR DC CIRCUIT	Spare item21	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.22	SPARES- CIRCUIT BREAKER : 420KV, MCB/MCCB FOR AC CIRCUIT	Spare item22	2	Nos	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.23	SPARES- CIRCUIT BREAKER : 420KV, FUSES	Spare item23	4	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only

[illegible]



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS GROUP
ENGINEERING MANAGEMENT, NOIDA, SECTOR-142

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BHEL Document No.		Rev		Prepared by	Checked by	Approved by
TB-387-316-001		02	Name	NK	SKS	AG
Type of Document	TECHNICAL SPECIFICATION		Sign			
Title	420 kV Circuit Breaker		Date			
			Group	TBEM		
CUSTOMER:		TELANGANA STATE POWER GENERATION CORPORATION LTD.				
PROJECT:		5x800 MW YADADRI TPS – 400 kV SWITCHYARD				
LOI NO:		ED/TPC/SE-III/YADADRI TPS(5X800MW)/D.No. 102/17, Dated: 17/10/2017				
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3	General Technical Requirement					13
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5	Annexure – B (Technical PQR)					01
6	Check List					04
02	06.01.21	NK	SKS	AG	Revised for 63kA fault current	
01	11.05.20	NK	SKS	AG		
Rev No.	Date	Altered	Checked	Approved	REVISION DETAILS	
Distribution				To		
				Copies		

SECTION – 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS AND QUANTITIES

1.0 SCOPE

This technical specification covers the requirements of design, manufacture, testing at works, packing and dispatch of Circuit Breaker complete with accessories as listed under this specification.

This section covers the specific technical requirements of Circuit Breaker. This constitutes minimum technical parameters for the above item as specified by the customer (TSGENCO). The offered equipment shall also comply with the General Technical Requirements for the project as detailed under section-3 of this specification.

The specification comprises of following sections:

Section-1: Scope, Specific Technical Requirements and Quantities.
Section-2: Equipment Specification
Section-3: General Technical Requirements

In case of any conflict between various sections, order of precedence shall be in the same order as listed above.

1.1 THE EQUIPMENT IS REQUIRED FOR THE FOLLOWING PROJECT

Name of customer : Telangana State Power Generation Corp. Ltd.
Name of the project : 400 kV Switchyard at 5X800MW Yadadri TPS

Refer Section - 3 for Project Details and General Specifications.

1.2 SPECIFIC TECHNICAL REQUIREMENTS

Technical parameters

Rated voltage kV (rms)	:	420
Nominal system voltage kV (rms)	:	400
Rated frequency (Hz)	:	50 Hz, +3% to -5%
No. of poles	:	3- Single Pole
Design ambient Temperature (deg. C)	:	50
Applicable Standard	:	IEC 62271-100, 60694, IS:12729

Class

- i) Mechanical Endurance Class : M2
- ii) Electrical Endurance Class : E1
- iii) Restrike Probability Class : C2
- iv) Electromagnetic Compatibility (EMC) : As per IS 12729 / IEC 60694
Normal Severity Class

1) Rated Lightning Impulse withstand voltage

- between phase to earth : ± 1425 kVp
- between phases to CB open : ± 1425 kVp
- across isolating distance : $\pm 1425 (+240)^*$ kVp
(impulse on one terminal and other terminal earthed)

* Figure given in bracket () are the peak value of the power frequency to be applied to the opposite terminal (across isolating distance)

2) Rated Switching Impulse withstand voltage

- between phase to earth : ± 1050 kVp
- between phases : ± 1575 kVp
- across isolating distance : $\pm 900 (+345)^*$ kVp

* Figure given in bracket () are the peak value of the power frequency to be applied to the opposite terminal (across isolating distance)

3) One minute power frequency dry and wet withstand voltage

- across isolating distance : 610 kV (rms)
- to earth and between poles : 520 kV (rms)

Max. radio interference Voltage (microvolts)
(Voltage at 1.1 U_{rated}/sq. rt. 3) : Less than 1000

Corona extinction voltage (kVrms) : 320 (min)

Minimum creepage distance: : 10500 mm

System neutral earthing : Effectively Earthed

Seismic acceleration : -----0.3g horizontal-----

Rating of auxiliary contacts	: -----10 A at 220 V DC-----
Breaking capacity of auxiliary contacts	: 2 A DC with circuit time constant of not less than 20 ms
Phase to phase spacing (mm)	: 7000 mm
Rated continuous current at 50 °C Ambient temperature	: 3150A
Rated short circuit current breaking capacity at rated Voltage (Symmetrical)	: 63 kA with percentage of DC component as per IEC 62271-100 Corresponding to Minimum opening time under operating conditions specified
Rated peak withstand current (kAp)	: 157.5
Symmetrical interrupting capability (kA rms)	: 63
Short time current duration	: 3-second
Rated short time making current (kAp)	: 157.5
Short time current carrying capability for 3 second (kArms)	: 157.5
Out of phase breaking current capacity (kArms)	: 15.75
Rated line/cable charging Interrupting current at 90 deg. leading power factor angle (A.rms)	: -----as per IEC-----
(The breaker shall be able to interrupt the rated line/cable charging current with the test voltage immediately before opening equal to the product of $U/\sqrt{3}$ and 1.4 as per IEC - 62271-100)	
Maximum allowable switching over-voltage under any switching condition.	: -----as per IEC-----
Total break time	: -----as per IEC-----

Opening time (ms)	:	not more than 40
Closing time (ms)	:	Not more than 150
Rated operating duty	:	O-0.3 sec.-CO-3 min-CO cycle
Auto re-closing	:	Single & three phase
Operating mechanism	:	Spring operated
Trip coil and closing coil voltage	:	220 volt DC with variation as specified
Auxiliary contacts	:	a) besides requirement of this spec., the bidder shall wire up 10 NO + 10 NC contacts for exclusively use of purchaser. b) Local Position – 1NO c) Close Position – 1NO
SF6 Gas	:	As per IEC60376 & 61634
Noise level at base and upto 50 m.(distance from base of breaker)	:	-----140 dB (max)-----
Anti-pumping	:	Required.
Rated terminal load	:	As per IEC 62271-100 or calculated value whichever is higher
Temperature rise over the design ambient temperature	:	-----As per IEC 62271-100-----
First pole to clear factor	:	-----1.3-----
Number of terminals in common control cabinet	:	all contacts and control circuits are to be wired out upto common control cabinet plus 24 terminals exclusively for purchaser's use
Rated small inductive current Switching capability with Over-voltage less than 2.3 p.u.(A)	:	-----0.5 to 10A-----

1.3 BILL OF QUANTITIES (BOQ)

Sl. No	Description	Unit	Quantity
1.	420 kV, 3150 A, 63 kA (3sec.), 3-ph, SF6 Circuit Breaker without PIR with grading capacitor (if applicable) and spring-spring operating mechanism including corona shielding, operating mechanism, Insulators, base frame, HV terminal Plates, control cabinet, support structure, fixing bolts, cable glands and other accessories, complete in all respects excluding foundation bolts	Nos.	33
2.	Foundation bolts for circuit breaker, platform and ladder (1 lot comprises of foundation bolts for 1 no. circuit breaker, platform and ladder)	Lots	33
3.	Circuit Breaker Accessories		
i)	Portable type SF6 Gas filling and evacuating plant (Min. 300L capacity) (Dilo make only) (Shall be supplied with necessary gas valves, gas cylinders, safety devices, gas purity monitoring devices, regulator, vacuum pump, pressure gauges/switches, hose pipes etc.)	Set	1
ii)	Portable SF6 vacuum pump with pressure gauge/ switches & hose pipes (Dilo 3-001-04-R002/R022 or better)	Set	1
iii)	SF6 leakage detector	Nos.	4
iv)	Circuit Breaker Operational Analyzer with DCRM as per specification (Hisac Ultima)	Nos.	1
v)	Basic timer kit with print facility (Scope Scot MXP+ or better)	Nos.	1
vi)	CRM Meter (100A) (Scope CRM 100C or better)	Nos.	1
vii)	SF6 Gas (20% of total quantity ie. quantity used for 33 nos. circuit breaker)	Lot	1
4	Controlled Switching Device (CSD) for above 400kV CB'S along with all accessories (except special cables) complete in all respects for Generator Transformer (GT) and Bus Reactor	Nos.	9
5	Controlled Switching Device (CSD) for above 400kV CB'S along with all accessories (except special cables) complete in all respects (CSD shall be suitable for dual operation (i.e. suitable for GT & ST/ FGD-ST switching) otherwise bidder may provide two nos. of CSD against price of 1 no. CSD)	Nos.	5
6	Special cables for CSD	m	5000
7	<u>Mandatory spares:</u> Complete pole with column and interrupter and grading capacitor (if applicable) and operating mechanism but without support structure	Nos.	3
8	<u>Mandatory spares:</u> Rubber gaskets, 'O' rings and seals (1 set comprise of complete replacement for one breaker)	Sets	6
9	<u>Mandatory spares:</u> Trip coils with resistor	Nos.	6
10	<u>Mandatory spares:</u> Closing coils with resistor	Nos.	6
11	<u>Mandatory spares:</u> Set of fixed contacts, moving contacts as below (1 set comprise of following) (Shall be suitable for complete replacement of 1 pole) a) Stationary contact – 2nos. b) Stationary arc contact- 2 nos. c) Moving contact- 2 nos.	Sets	14

	d) Moving arc contact- 2 nos. e) Puffer cylinder- 2 nos.		
12	<u>Mandatory spares:</u> Molecular filter for SF6 Circuit for 1 pole	Sets	2
13	<u>Mandatory spares:</u> Gas density monitor	Nos.	6
14	<u>Mandatory spares:</u> Operating mechanism with motor	Nos.	4
15	<u>Mandatory spares:</u> Aux. Switch (1 set shall be suitable for one complete pole)	Set	2
16	<u>Mandatory spares:</u> Air pressure switch If air pressure switch is not applicable as per manufacturer design, the following should be supplied. (1 no. comprise of following:) Relays, contactors, timers of each type & rating	Nos.	2
17	<u>Mandatory spares:</u> SF6 gas pressure switch If SF6 gas pressure switch is not applicable as per manufacturer design, gas density monitor shall be supplied against this item.	Nos.	2
18	<u>Mandatory spares:</u> Air pressure gauge If air pressure gauge is not applicable as per manufacturer design, the following should be supplied. (1 no. comprise of following:) a) Corona ring- 1 no. b) Terminal pad- 1 no.	Nos.	2
19	<u>Mandatory spares:</u> Contacts for circuit (shall be each type & rating) or Contactors of each type & rating	Nos.	2
20	<u>Mandatory spares:</u> MCB/MCCB for DC Circuit (shall be each type & rating)	Nos.	2
21	<u>Mandatory spares:</u> MCB/MCCB for AC Circuit (shall be each type & rating)	Nos.	2
22	<u>Mandatory spares:</u> Spare fuses for each type and rating If Spare fuses are not applicable as per manufacturer design, MCB of each type & rating shall be supplied against this item.	Sets	4
23	<u>Mandatory spares:</u> Auxiliary relay (for 1 pole) (shall be each type & rating) If Auxiliary relay is not applicable as per manufacturer design, Auxiliary Contactors shall be supplied against this item.	Sets	2
24	<u>Mandatory spares:</u> Complete set of gaskets (shall be suitable for complete replacement of one circuit breaker set)	Sets	4
25	<u>Mandatory spares:</u> Set of seals (shall be suitable for complete replacement of one circuit breaker pole)	Sets	4
26	<u>Mandatory spares:</u> Isolation valves, control valves & safety valves for air or oil system (for 1 pole) If Isolation valves, control valves & safety valves for air or oil system is not applicable as per manufacturer design, the following shall be supplied: 1 set comprising of a) Push button- 1no. b) Spring charging motor-1 no.	Sets	4
27	Supervision of Erection, Testing & Commissioning of supplied 420kV, 3 Phase Circuit Breakers at site	Mandays	99
28	Supervision of Erection, Testing & Commissioning of supplied CSDs	Mandays	28

	at site (including interface with CB)		
29	To & Fro charges applicable for supervision of Erection, Testing & Commissioning of supplied Circuit Breakers & CSDs at site	Nos. of visit	10

Note:

- 1) Total qty. of BOQ may vary -10% to +10%.
- 2) All wiring necessary for interface of circuit breakers with CSD is deemed to be included in the scope.
- 3) Supply of terminal connectors for circuit breakers is in BHEL scope.
- 4) a. For items at sl. no. 27 & 28 of BOQ, nos. of mandays consumed in the Supervision of Erection, testing and commissioning of Circuit Breakers and CSDs shall be duly certified by BHEL site incharge.
- b. The scope of Supervision of Erection, testing and commissioning of Circuit Breakers shall be duly inclusive of the following:
 - i. Testing equipments required for testing.
 - ii. Accommodation and conveyance at site.
 - iii. Any other incidental charges.

Visit charges (To & Fro charges) shall not be covered in supervision of ETC item and are covered separately under Sl. No. 29 of BOQ.

- c. The following instruments/kits shall be brought out at site by Bidder and shall be taken back after successful completion of testing and commissioning.
 - (a) Time Interval meter (Timing kit)
 - (b) SF6 gas leakage Detector
 - (c) SF6 gas filling adopter
 - (d) Transducer for operational analyzer (if required)

The following instruments/kits shall be made available by BHEL to testing engineer:

- (a) DCRM (operational analyzer kit)
- (b) 1 & 5kV insulation tester
- (c) Single phase variac
- (d) Dew Point Meter
- (e) Capacitance and Tan Delta Kit
- (f) Contact resistance measurement kit
- (g) Multimeter

Any other instrument(s), if required for testing/commissioning of circuit breaker shall be arranged by circuit breaker supplier without any price implication to BHEL.

- 5) Items at Sl. No. 29 of BOQ shall include To & Fro fares from bidder's headquarter to BHEL site. No other charges shall be paid by BHEL.

1.4 TYPE TESTS

Bidder shall submit valid type test and additional type tests reports (as per relevant IEC/IS standard) for the tests carried out after 17.10.2012. The tests should have been conducted on identical or similar equipment/components to those offered. In case type test reports are earlier than 17.10.2012 or the reports of type tests are found to be technically unacceptable, the type test shall be conducted by the vendor without cost and delivery implication to BHEL.

In addition to type test report, test reports of following additional type tests shall be provided.

Sl No.	Additional type test On 420kV Circuit Breaker
1	Short line fault test
2	Out of phase making and breaking test as per IEC.
3	Rated line charging current breaking test. The breaker shall be able to interrupt the line charging current with a test voltage of 1.4 p.u. instead of 1.2 p.u. as per IEC.
4	a) Two (2) times rated phase to ground voltage at lockout pressure for 15 minutes b) Rated phase to ground voltage test at zero-gauge pressure for 8 hours.
5	Seismic withstand test in unpressurised condition.

1.5 INSPECTION & TESTING

Before being fitted on the equipment, all components shall be subjected to routine tests at the Contractors factory, provided by the relevant IEC/IS standards. A detailed test report proving the successful passing of such tests shall be provided.

Prior to dispatch, the routine & acceptance tests shall be carried out on each item in accordance with the applicable IEC/IS and the material shall be offered for final inspection by BHEL and TSGENCO in accordance with agreed quality plan with 3 weeks advance information. The charges for these shall be deemed to be included in the equipment price.

1.6 QUALITY PLAN

The contractor shall carry out contract works in accordance with sound quality management principles which shall include such as controls which are necessary to ensure full compliance to all requirements of the specification & applicable international standards. These quality management requirement shall apply to all activities during design, procurement, manufacturing, inspection, testing, packaging, shipping, inland transportation, storage, site erection & commissioning. Contractor shall submit detailed Quality Plan for BHEL / customer's approval.

1.7 SPECIAL TOOLS AND TACKLES

Bidder shall supply all special tools & tackle (other than maintenance tools/spares mentioned in BOQ) free of cost which are specifically required for 420kV circuit breaker and are proprietary

in nature. List of such special tools and tackles shall be clearly listed along with the technical offer. Any special tool which is not listed in the list but are required during the erection/commissioning of circuit breakers shall also be supplied free of cost by the supplier.

In case, special tools & tackles which is proprietary in nature is not required for erection/testing/commissioning or for smooth operation of circuit breaker, supplier has to submit a certificate mentioning that no special tools & tackles is required for circuit breaker.

1.8 TITLE BLOCK

The drawings / documents submitted shall be project and product specific and shall incorporate following details:

- a) Project Name : 400 kV Switchyard at 5X800MW Yadadri TPS
- b) Customer Name : Telangana State Power Generation Corp. Ltd.
- c) Consultant Name : TCE, Bangalore
- d) Contractor : BHEL
- e) Customer LOA no. : ED/TPC/SE-III/YADADRI TPS(5X800MW)/D.No. 102/17, Dated: 17/10/2017

1.9 Drawings / Documents

In addition to no. of sets of documents to be submitted to customer (refer section 3), two sets of all documents submitted for approval / information and five sets of all approved documents shall be provided for BHEL use.

Soft copies in CD-R of documents shall comprise

- i) Scanned images of all approved documents, including drawings.
- ii) Editable versions (AUTO CAD 2000 or High) of all drawings viz. drawings, GTP, Manufacturing and field quality plan, type test reports, O & M instructions / manuals.
- iii) Foundation bolt distances marked drawing of base plate of support structure shall be submitted for design of foundation.

The drawings / documents submitted shall be project and product specific and shall incorporate all project details and title block of the customer as detailed in Section 1, 2 & 3.

Date of Submission of first lot of drawings will be counted only from the date of submission of reasonably correct drawings. The drawings/ documents, as follows shall be used for providing engineering manufacturing clearance and furthermore, these shall be used for delay analysis, if any from the bidder.

- 1) General Arrangement
- 2) Scheme drawings
- 3) Bill of Materials
- 4) Wiring diagram
- 5) Mechanism Housing assembly
- 6) Marshalling box details
- 7) Interrupter insulator
- 8) Support insulator

- 9) Support structure & ladder
- 10) Foundation bolt drawing
- 11) Type test reports
- 12) GTP for CB
- 13) GTP for CSD

The following documents are to be submitted for Circuit Breaker Accessories and Mandatory Spares.

- 1) Catalogues/data sheet for Circuit breaker accessories
- 2) Mandatory spare list

The schedule for submission and resubmission shall be in line with details provided in Section-3.

The successful bidder shall have to extend all possible supports like timely submission/re-submission of drawings, visit to end customer to facilitate documents approval without any commercial implications to BHEL. Acceptance of bidder's documents shall be subject to end customer approval. The bidder shall submit the GTP of circuit breakers in the format provided by customer. The format shall be provided to successful bidder.

SECTION - 2

EQUIPMENT SPECIFICATION

1.0 Circuit Breaker

Each circuit breaker shall be furnished complete with:

- i) Fittings and accessories. (As per annexure B)
- ii) Auxiliary equipment. (As per annexure B)
- iii) First filling of SF6 gas plus 20% spare.

The equipment will be used in the switchyard having characteristics as listed in the section 1.

The equipment will be installed outdoor in a hot, humid and tropical atmosphere.

All equipment, accessories and wiring shall have tropical protection, involving special treatment of metal and insulation against fungus, insects and corrosion.

1.1 Type and Duty

The circuit breaker shall be three single pole, sulphur hexafluoride (SF6) type, having internal isolation without any sequential interlock.

The circuit breaker shall be restrike free as per IEC under all duty conditions and shall be capable of performing their duties without opening resistors.

The duty of the circuit breaker shall involve satisfactory interruption of short circuit currents as listed in the annexure.

The breaker shall be suitable for operation even under condition of "phase opposition" arising out of faulty synchronisation.

The breaker shall be capable of clearing the "Kilometric" fault of same magnitude as rated short-circuit current.

The breaker shall be capable of interruption of low reactive currents (lagging/leading) without undue over voltage.

Breakers with multi-break interruptions shall be so designed that the voltage developed across a pole is uniformly distributed over the power breaks.

The circuit breaker shall be capable of :

- i) Interrupting line/cable charging current as per IEC without any restrike and without use of opening resistors.
- ii) Clearing short line fault (kilometer faults) with source impedance behind the bus equivalent to symmetrical fault current specified.
- iii) Breaking 25% of the rated fault current at twice rated voltage under phase

opposition condition.

1.2 Constructional Feature

Each circuit-breaker shall comprise of three (3) identical poles complete with individual operating mechanism for specified duty. Three poles shall be linked together electrically for simultaneous closing.

The circuit-breaker shall be single pressure type. The design and construction shall be such that there is minimum possibility of gas leakage and ingress of moisture. Further, the arrangement shall be such that condensation of SF6 gas on the internal insulating surfaces of the circuit breaker must not occur under any condition.

Each pole shall form an enclosure filled with SF6 gas independent of two other poles. The SF6 gas density of each pole shall be monitored and regulated by individual temperature compensated gas density monitoring devices, which shall be mounted at a convenient and easily approachable location. The device shall have provision for low gas pressure alarm and breaker lockout arrangement. Also pressure gauge shall be mounted at a convenient height so that gas pressure can be visually observed.

The circuit-breaker shall have proper sealing so that leakage of gas outside is not more than 1% per annum under all conditions of operation. Further, it shall incorporate devices to absorb any moisture which may exist/be released within breaker poles after assembly, gas charging and during operation. The devices shall be so located as to permit easy removal/replacement.

The operating rod connecting the operating mechanism to the arc chamber (SF6 media) shall have adequate seals. All gasketed surfaces shall be smooth, straight and reinforced, if necessary, to minimise distortion and make a tight seal.

The circuit-breaker units shall be complete with associated valves, piping, gauges, pressure switches, seals, lubricants and other accessories/materials to ensure proper assembly and functioning.

Suitable means shall be provided in the gas chamber of circuit breaker for pressure relief so as to avoid damages or distortion during occurrence of abnormal pressure increase or shock waves generated by internal electric fault arcs. The position of vents, diaphragms and pressure relief devices, if provided, shall be so arranged as to minimise danger to personnel in the event of gas or vapour escaping under pressure.

Breaker shall be furnished with first charge of SF6 gas plus additional 20% of total gas used which shall be supplied in non-returnable gas cylinders as spare for future use.

The SF6 gas shall be supplied in properly treated steel cylinder of adequate strength. Chemical analysis of gas supplied shall be furnished for Owner/Purchaser's reference.

The circuit breaker shall be provided with terminal pads of adequate size for connection to Rigid Aluminum tube by expansion type terminal connector. Adequate transversal and vertical force shall be considered for the terminals so as to support the interconnecting tubes spanning around 10 meters during short circuit and wind force.

1.3 Main Contacts and Arc Quenching Chamber

- i) The main contacts shall have adequate area and contact pressure for carrying rated continuous and short time current without excessive heating liable to cause pitting and welding. Contacts shall be permanently under pressure of SF6 gas.
- ii) If multi-break interrupters are used, they shall be so designed and augmented that a uniform voltage distribution is developed across them.
- iii) The tips of the arcing and main contacts shall be heavily silver-plated.
- iv) The contacts shall be adjustable to allow for wear, shall be easily replaceable and shall have minimum movable parts and adjustments.
- v) Main contacts shall be first to open and last to close so that there will be little contact burning and wear.
- vi) Arcing contacts shall be first to close and last to open and shall be easily accessible for inspection and replacement.
- vii) The arc quenching device shall be of robust construction and shall not require any critical adjustment. The devices shall be easily accessible and removable for access to the breaker contacts.

1.4 Accessories and Attachments

- i) Circuit breaker operation analyser shall be supplied to record contact travel, speed and for making measurement of operating timings, pre-insertion timing of closing resistors, synchronization of contacts in one pole and all poles
- ii) The SF6 gas density monitor shall be dial type and properly temperature compensated. The sensing probe of SF6 gas leaked detector shall be able to reach all the points on the breaker where leakage is to be sensed. The accuracy of the equipment shall be at least 10 ppm. It shall be free from induced voltage effect.

The density monitor shall meet the following requirements:

- a) It shall be possible to dismantle the density monitor for checking/replacement without draining the SF6 gas by using suitable interlocked non-return valve coupling.
- b) It shall damp pressure pulsation while filling the gas in service so that flickering of the pressure switch contacts does not take place.
- iii) A Portable SF6 gas filling and evacuating system of minimum 300L capacity shall be supplied with necessary gas valves, gas cylinders, safety devices, gas purity monitoring devices, regulators, vacuum pump, pressure gauges/switches, hose pipes etc.

1.5 Auxiliary Contacts

- i) The auxiliary switches required for satisfactory operation of the circuit breaker

including auto reclosing (Single shot, single and 3 phase) ON/OFF indicators both in control room and switchyard, discrepancy switch in the mimic diagram in the control room and antipumping features shall be provided on each circuit breaker. In addition, each breaker shall be provided with six (6) normally open and six (6) normally closed electrically separate spare auxiliary contacts, in addition to those required for its own operation and indication.

- ii) The auxiliary contacts shall be rated 10A at 240 V A.C. and 5A at 220 V D.C with circuit time constant of at least 20 millisecond.

1.6 Control & Interlock

- i) All electrical and mechanical interlocks which are necessary for safe and satisfactory operation of the circuit breaker shall be furnished. Breaker operation shall be locked in case of low SF6 gas pressure at preset values. Alarms shall be provided for low gas pressure at values higher than lock-out pressure of SF6 gas. It is intended that before lock-out occurs, the breaker shall be in trip position.
- ii) The close and trip circuits shall be designed to permit use of momentary contact switches and push buttons.
- iii) The breaker shall normally be operated by remote electrical control. Electrical tripping shall be performed by shunt trip coils. Provision shall be made for local electrical/local manual control. For this purpose, local/remote selector switch, close & trip control switch, auxiliary relays, indication lamps etc. shall be provided in the control cabinet for the breaker. In addition local manual emergency trip button shall be provided.
- iv) Gas analyser contacts, pressure switch contacts, etc. shall be suitable for direct use as permissive in closing, tripping, annunciation and control circuits. DC supplies for all auxiliary circuits shall be monitored and provision shall be made for remote annunciations.

1.7 Insulators

- i) Insulator shall be wet-process porcelain, brown glazed and free from all blemishes. Metal parts and hardware shall be hot-dip galvanised.
- ii) Insulator shall have adequate mechanical strength and rigidity to withstand the duty involved.
- iii) When operated at maximum system voltage, there shall be no electrical discharge. Shielding rings, if necessary, shall be provided.
- iv) Insulation shall be coordinated with basic impulse level of the system. The creepage distance shall correspond to heavily polluted atmosphere.
- v) All routine tests shall be conducted on insulators as per IEC233/ relevant IS in addition to the following tests :
 - a) Ultrasonic test.
 - b) Pressure test.

- c) Bending load test in four directions at 50% specified bending load.
- d) Bending load test in four directions at 100% specified bending load as acceptance test of lot.
- e) Burst pressure test as a sample test.
- vi) The insulator porcelain shall be in one integral place in green and fired stage. No jointed porcelain is acceptable.

1.8 Operating Mechanism

- i) Operating mechanism shall be stored energy type, with motor operated spring – spring charged closing mechanism. Anti-pumping and trip free features complete with 2x100% shunt trip coils shall be provided. The mechanism of the breaker shall be such that the position of the breaker is maintained even after leakage of operating media and/or gas.
- ii) The operating mechanism shall be suitable for high speed reclosing (single phase and three phase). It shall be anti-pumping and trip free (as per IEC definition) electrically and either mechanically or pneumatically under every method of closing (except during manual closing of a breaker for maintenance). A latch checking switch shall be provided on mechanically trip free mechanism to prevent reclosure before the breaker latches have reset.
- iii) There shall be no objectionable rebound and the mechanism shall not require any critical adjustment. It shall be strong, rigid, positive and fast in operation.
- iv) The operating mechanism shall be such that the failure of any auxiliary spring will not prevent tripping and will not cause trip or closing operation of the power operated closing devices.
- v) Mechanical indicator shall be provided to show open and close positions of each pole of the circuit breaker. It shall be located in a position where it will be visible to a man standing on the ground. An operation counter at 1000-1300 mm level shall also be provided. The counter readings shall be visible from the ground even with the mechanism housing closed.
- vi) Closing coil shall operate correctly at all values of voltage between 85% & 110% of the rated voltage. Similarly trip coil shall operate correctly at all values of voltage between 70% & 110% of the rated voltage. If additional elements are introduced in the trip coil circuit, their successful operation for similar applications on outdoor breakers shall be clearly brought out in the appropriate schedule.
- vii) The close and trip circuits shall be designed to permit use of momentary contact switches and push buttons.
- viii) Each breaker pole shall be provided with two (2) independent tripping circuits, valves, pressure switches and coils each connected to a different set of protective relays. The trip coils shall be suitable for trip circuit supervision during both open & close positions of the breaker and the closing coil shall be suitable for pre-close supervision.

- ix) The auxiliary switch of the breaker shall be positively driven by the breaker operating rod.
- x) All three breaker poles shall operate simultaneously. Pole discrepancy feature shall be provided to trip the breaker out if all the poles do not close simultaneously within the stipulated time.

1.9 Spring operated mechanism

Spring operated mechanism shall be complete with motor, opening spring and closing spring with limit switch for automatic charging and other necessary accessories to make the mechanism a complete operating unit shall also be provided.

As long as power is available to the motor, a continuous sequence of the closing and opening operations shall be possible. The motor shall have adequate thermal rating for this duty.

After failure of power supply to the motor one close open operation shall be possible with the energy contained in the operating mechanism.

Breaker operation shall be independent of the motor which shall be used solely for compressing the closing spring. Facility for manual charging of the closing spring shall also be provided. The motor rating shall be such that it requires not more than 30 seconds for full charging of the closing spring.

Closing action of circuit breaker shall compress the opening spring ready for tripping.

When closing springs are discharged after closing a breaker, closing springs shall be automatically charged for the next operation and an indication of this shall be provided in the local and remote control cabinet.

Provisions shall be made to prevent a closing operation of the breaker when the spring is in the partial charged condition. Mechanical interlocks shall be provided in the operating mechanism to prevent discharging of closing springs when the breaker is already in the closed position.

The spring operating mechanism shall have adequate energy stored in the operating spring to close and latch the circuit breaker against the rated making current and also to provide the required energy for the tripping mechanism in case the tripping energy is derived from the operating mechanism.

1.10 Sulphur Hexafluoride (SF6) Gas

- i) The SF6 gas shall be new and comply with relevant IEC/IS and shall be suitable in all respects for use in the circuit breakers under the various operating conditions.
- ii) SF6 gas shall be tested for quality, dew point, air, hydrolysable fluorides and water content as per IEC quoted above and test certificates shall be furnished covering all tests for each lot of SF6 gas. Further site test for moisture and air content to be done prior to

commissioning of the breaker. Variation of SF6 gas pressure with temperature curves shall be furnished.

- iii) The high-pressure cylinders in which SF6 gas is shipped and stored at site shall comply with requirements of the following standards and regulations : IS-4379, IS-7311

The cylinders shall also meet Indian Boiler Regulations.

1.11 Control Cubicle

- 1.12 A common control cubicle shall be furnished to house electrical, controls, monitoring devices and all other accessories. It shall be ground mounted.
- 1.13 The cubicle shall be IP-55, of gasketed weatherproof construction, fabricated from sheet steel minimum 2 mm thick.
- 1.14 The cubicle shall have front access door with lock & keys and removable gland plate at the bottom.
- 1.15 Thermostat controlled space heater, internal illumination lamp and 5-pin 5A socket with individual ON-OFF switches shall be provided in the cubicle.
- 1.16 For local operation, following shall be provided :
- 1.16.1 LOCAL/REMOTE selector switch.
- 1.16.2 TRIP/CLOSE push buttons.
- 1.17 All electrical, pneumatic connections between the control cubicle and individual poles shall be furnished.

1.12 Wiring

- 1.13 Wiring shall be complete in all respects to ensure proper functioning of the control, protection, monitoring and interlocking schemes.
- 1.14 DC circuit for trip coil 1 & 2 shall be wired separately so as to connect with duplicate DC supply from two independent sources.
- 1.15 Wiring shall be done with flexible 1100V grade, fire resistant, PVC insulated, switchboard wires with 2.5 mm² stranded copper conductor. Wiring between individual poles and control cubicle shall be routed through rigid G.I. conduit or / and metallic flexible conduits.
- 1.16 Each wire shall be identified at both ends with permanent markers bearing wire numbers as per Contractor's wiring diagram. AC/DC wiring shall have separate colour-coding.
- 1.17 Wire termination shall be done with crimping type connectors with insulating sleeves. Wires shall not be spliced between terminals.
- vi) All spare contacts of relays, push buttons, auxiliary switches etc. shall be wired up to terminal blocks in the control cubicle.

1.13 Terminal Blocks

- i) 1100V grade, multi way terminal block complete with mounting channel, binding screws and washers for wire connections and marking strip for circuit identification shall be provided for terminating the wiring. Terminals shall be stud type, suitable for terminating 2 nos. 2.5 mm² stranded copper conductor and provided with acrylic insulating cover.
- ii) Not more than two wires shall be connected to any terminal. Spare terminals equal in number to 20% active terminals shall be furnished. Separate terminal blocks shall be used for AC/ DC wiring termination.
- iii) Terminal blocks shall be located to allow easy access. Wiring shall be so arranged that individual wires of an external cable can be connected to consecutive terminals.
- iv) Terminal blocks used for interface with DCS via termination cabinet shall be suitably sized to facilitate proper termination of interconnecting cables.

1.14 Support Structures

The equipment shall be supplied with support structures, which are integral part of the breaker.

All support structure shall be hot dip galvanized with minimum 610 gram/sq.m of zinc after full chemical treatment as per relevant standard.

The height of the support structure shall be decided based on, whichever is higher, of the following:

- a. The minimum vertical distance from the bottom of lowest porcelain part of the bushing shall be at least 2440 mm from top of the plinth level of the foundation.
- b. The height of the lower terminal pad at the specified elevation above the plinth level.

The design of the structure shall be submitted for approval.

1.15 Name Plate

Each circuit breaker and its operating devices shall be provided with nameplate clearly marked the particulars in accordance with IEC.

The nameplate shall be provided in visible portion of normal service and installation.

1.16 Grounding

Each circuit breaker shall be provided with two ground pads for connection to station ground mat.

The ground pad shall comprise buffed metal surface with two holes, M10 G.I. bolts and spring washers to receive 75x10 mm G.I. flat.

1.17 TESTS

1.17.1 Routine Test

During manufacture and on completion, all equipment accessories shall be subjected to the Routine Tests as laid down in latest revision of IEC/IS.

In addition to above tests specified by IEC/IS, the following tests also have to be carried out for specific equipments:

- i) The speed curves for EHV circuit breaker shall with the help of a suitable operation analyser to determine the breaker contact movement during opening, closing, auto-reclosing and trip-free operation under normal as well as limiting operating conditions (Control Voltage, pneumatic pressure etc.)

Type Test

Type tests on all equipment shall be carried out as stipulated in relevant IEC/Indian Standards. Test certificates for type tests, as stipulated in Indian Standards carried out on similar equipment clamps, connectors etc. shall be furnished.

Test certificates for following additional type tests shall also be furnished:

- i) Short line fault test
- ii) Out of phase making and breaking test as per IEC.
- iii) Rated line charging current breaking test. The breaker shall be able to interrupt the line charging current with a test voltage of 1.4 p.u. instead of 1.2 p.u. as per IEC.
- iv) Two (2) times rated phase to ground voltage at lockout pressure for 15 minutes
- v) Rated phase to ground voltage test at zero-gauge pressure for 8 hours..
- vi) Seismic withstand test in unpressurised condition.

1.18 APPLICABLE STANDARDS

The circuit breakers shall strictly conform to the following Indian and International standards as appropriate:

IEC 60056 (1987)	Specification for high voltage alternating-current circuit breaker.
IEC 376: 1971	Specification and acceptance of new sulphur hexafluoride.
IEC 376A: 1973	First supplement - Section 13 : Mineral oil contents
IEC 376B: 1974	Second supplement: Clause 26
IEC 62271-100	High voltage Switchgear and control gear, HV-AC Circuit Breaker

IS 13947 (Part 1):1993	Low voltage switchgear and control gear, General rules
IS 13947 (Part 2): 1993	Low voltage switchgear and control gear, Circuit Breakers.
IS 325: 1978	Three phase induction motors.
IS 2629: 1985	Recommended practices for hot dip galvanizing on iron and steel.
IEC 60 (Part 1) 1989	High voltage test techniques, General definition and test requirement.
IEC 60 (Part 3): 1976	Measuring devices
IEC 60 (Part 4):1977	Application guide for measuring devices
IEC 60694: 1980/ 1996	Common clauses for high voltage switchgear and controlgear standards
IEC 71 (Part 1): 1993	Insulation coordination, Definition Principle and rules
IEC 71 (Part 2): 1976	Insulation coordination, Application Guide
CIGRE WG Report No. 13-02-1973	Switching over-voltage in EHV and UHV systems with special reference to closing and re-closing transmission lines
IS 2633 : 1986	Method for Testing Uniformity of coating on zinc coated articles.
IS 2544 : 1973	Specification for Porcelain Post Insulators for systems with nominal voltages greater than 1000 volts.
IS 5561 : 1970	Electric Power Connectors.
IS 5621 : 1980	Hollow insulators for use in electrical equipments.
IEC 233 : 1974	Tests on hollow insulators for use in Electrical Equipment.
IS 4379 : 1981	Identification of contents & industrial gas cylinders.
IS 7285 : 1988	Seamless steel cylinders for permanent and high pressure liquifiable gases.
IEC 427(1989)	Synthetic testing of High Voltage alternating current Circuit Breaker

1.19 TECHNICAL PARAMETERS OF CIRCUIT BREAKER OPERATIONAL ANALYZER WITH DCRM

Item	Specification
Functional Requirement	1. The instrument should be suitable for measuring the operation timing of main, PIR and auxiliary contacts (wet & dry) as well as coil currents. 2. It should measure the Dynamic Contact Resistance of main & arcing contacts as well as travel measurement (with external travel transducer) of operating mechanism. 3. The instrument should be suitable for testing the CBs upto 420 kV as per applicable standards and standard testing procedures. 4. The test results should have repeatability, consistency & immunity to electromagnetic interference in live switchyard upto 420 kV levels.
No. of Channels	1. Main Contact Channels:24 (4 Main 4 PIR per pole on 3 pole simultaneously) 2. Aux. Contact Channel:06 wet & 06 Dry 3. DCRM/Test Current Channels:12 set (6 Channel for resistance 6 channel for current) 4. Travel Channel:06 5. Coil Current Channel:06
Sampling Speed	pto 20 kC
Accuracy	1. Timing : 1 % of reading 2. Coil Current: 1 % of reading 3. R : 2 % of reading 4. Travel: 1 % of reading
Measurement Range:	1. Timing: 0-4 s 2. R: 0-8 m Ω . 3. Coil Current:0-25 A
Resolution	Timing: 0.1 ms
DCRM Test Current	100 A.(Minimum)
Test Leads and accessories	One complete set of cables of sufficient length (min 20metre) with suitable clamps & connectors, compatible with the instruments should be provided for successfully carrying out the test in sub-station. Additionally, all the required accessories should be provided for the smooth functioning of kit. Further hard carrying case (which should be robust/ rugged enough) for ensuring proper safety of the kit during transportation shall have to be provided.
Travel Transducers	Three nos. of travel transducers along with clamp/fixtures to suit 420kV CBs of ABB/GE/BHEL/CGL/SIEMENS make. The voltage class and make shall be intimated after award of order during document approval.
Design/Engg.	The complete equipment along with complete accessories must be designed/ engineered by Original Equipment Manufacturer.
Power Supply	It shall work on single phase 230 Volts 10 %, 50 Hz 5 % supply with standard socket.
Operating Temperature	0 to 50 deg C
Relative humidity	Max. 90% non-condensing.
Protection/ Control	Against short circuit, over voltage, improper ground connection over load & transient surges, the kit should have alarm/cut-off features to protect the instrument. Also the kit should have facility of stopping automatically on power failure.
Cooling	Necessary in built cooling arrangement should be provided to dissipate the heat

Arrangement	generated during testing. No external coolant/ accessory shall have to be required.
eight	It should be highly portable and trolley mounted for smooth movement in live switchyards.
Software	The software should be suitable for automatic testing & report generation, signature as well as trend analysis. The kit should have facility to store and communicate with windows based computer for exporting the test data.
PC Interface	It shall include supply of one laptop PC of Dell/Lenovo/HP make with latest specifications such as Core i5 Intel Processor, 4GB RAM, 320GB or better HDD, 15" TFT screen, Combo 24xCD R/ Drive i.e. having CD read / write facility complete with required cables and connectors with preloaded operating MS Window 7 professional or better with latest version application software require for storage analysis and record management.
Environment	The test kit shall be compatible for EMI/EMC/Safety environment requirement as per IEC.
arranty/ Guarantee	arranty/Guarantee Period: Min 01 year from the date of successful & complete commissioning at sub-station. All the materials, including accessories, cables, laptops etc. are to be covered under warranty/guaranty period. If the kit needs to be shifted to supplier's works for repairs within warranty/guaranty period, suppliers will have to bear the cost of spares, software, transportation of kit for repair at test lab/ works
Calibration Certificate	nit shall be duly calibrated before supply and the date of calibration shall not be older than two month from the date of supply of Kit.
Training	Supplier shall have to ensure that the kit is made user friendly. Apart from the detailed demonstration at site, the supplier shall also have to arrange necessary training to End user engineers, where kit is being supplied.
Commissioning, handing over the Instrument	Successful bidder will have to commission the instrument to the satisfaction of end user. The supplied instrument, failed during the demonstration at site shall be rejected and no repairs are allowed.
After sales service	Bidder will have to submit the documentary evidence of having established mechanism in India for prompt services.

1.20 CONTROL SWITCHING DEVICE (CSD)

Existing Circuit Breaker shall be equipped with controlled switching with consequent optimization of switching behavior, when used in:

Switching of Bus Reactors
Switching of Station Transformers
Switching of Generator Transformers

The controller shall be provided in Main & Tie circuit breakers of Transformers.

The controlling relay shall also record and monitor the switching operations and make adjustments to the switching instants to optimize the switching behavior as necessary. It shall provide self diagnostic facilities, signaling of alarms and enable downloading of data captured from the switching events.

Requirements:

The circuit breaker with controlled switching as indicated in single line diagram shall meet the following requirement:

1. The Switching controlled Device shall be used to reduce increased over voltages, re ignition between circuit breaker contacts that may be caused by normal switching of high voltage circuit breakers and hence optimize the stresses on circuit breaker while switching the circuit. The switching controlled device will be called device henceforth.
2. The device shall be such that only switching commands (for operating purpose) are processed in the device. Open command triggered by protection on fault shall be forwarded directly to the breaker. In these cases switching instance is not controlled.
3. Circuit breaker should be able to be switched while switching controlled device is not in operation e.g. during maintenance work or power supply is not connected, a bypass shall be provided to the device. In these cases the switching commands will then be forwarded directly to the circuit breaker via this Bypass. The switching time will not be controlled with these switching operations.
4. The device shall meet the requirements of IEC-60255-4 Appendix 'E' class III regarding HF disturbance test, and fast transient test shall be as per IEC-61000 – 4 level III and insulation test as per 60255 – 5.
5. The device shall have functions for switching ON & OFF the circuit breakers.
6. The device shall get command to operate the breakers manually or through auto re-close relay at random. The controller shall be able to analyze the current and voltage waves available through the signals from secondaries of CTs & CVTs for the purpose of calculation of optimum moment of the switching the circuit breaker and issue command to circuit breaker to operate.
7. The device shall also have an adaptive control feature to consider the next operating time of the breaker in calculation of optimum time of issuing the switching command and optimize the switching behavior as necessary. In calculation of next operating time of the breaker the controller must consider all factors that may affect the operating time of the breaker.

8. The device should have display facility at the front for the settings and measured values.
9. The device shall have self monitoring facility.
10. The device shall be suitable for operation considering transient and dynamic state values of the current and voltage from the secondary of the CTs and CVTs.
11. The device should be PC compatible for the setting of various parameters. During the switching operations, current and voltage waveforms and other parameters shall be recorded and saved together with calculated values. Recorded waveform shall be downloaded on to PC for evaluation purpose. It shall also enable downloading of data captured from the switching events. Window based software for this purpose shall be supplied by the contractor to be used on owner's PC.
12. It shall have self monitoring facilities. Faults which impair the functioning of the device or peripheral components, failure of trip voltage or sensors shall be displayed visually and shall give alarm.
13. The device shall be designed to operate correctly and satisfactorily with the excursion of auxiliary A/C & DC voltages and frequency as specified elsewhere in the specification.
14. The device shall have time setting resolution of 0.1 ms or better.
15. The device shall have sufficient number of output/input potential free contacts for connecting the monitoring equipment and annunciation system available in the control room. Necessary details shall be worked out during engineering the scheme.
16. Supply of all the necessary accessories required for the successful operation of controlled switching device shall be in the scope of supplier of the device.

1.21 SF6 GAS FILTERING, DRYING, STORAGE AND RECYCLING PLANT

This shall include all the necessary devices for measurement of purity, moisture content, decomposition products etc. of SF6 gas. Mixing with air/oil/moisture during above process should be proved to be nil during testing.

The plant shall be complete with accessories and fittings so that SF6 gas from the breaker can be directly filled in the plant storage reservoir.

In case purging of the equipment before filling with SF6 gas is desirable, then the required equipment for dry gases etc. shall be furnished as a part of the plant.

The capacity of the plant shall be such as to handle and store 300Kg. of SF6 gas.

The SF6 gas handling plant shall be complete with all the necessary pipes, coupling flexible tubes, valves for coupling, gas valves, gas cylinders, safety devices, gas purity monitoring devices, regulators, vacuum pump, pressure gauges/switches, hose pipes etc. to the equipment.

The design and construction of the plant, valves, coupling, connections shall be such that leakage of the SF6 gas shall be minimum. Similarly, valves, couplings and pipe work shall

be so arranged that accidental loss of gases to the atmosphere shall be minimum.

SF6 gas decomposition analysing equipment and instruments should have capacity for performing the following functions:

- a) Moisture content measurement or alternatively dew point measurement
- b) The air content measurement
- c) Sensitivity should not be affected by dust, humidity, heat & wind etc.

The make of the plant shall be Dilo make.

ANNEXURE-B

FITTINGS & ACCESSORIES

A. Circuit Breaker

A.1 Each Circuit Breaker shall be furnished complete with fittings and accessories as listed below :

1. Operating mechanism complete with all accessories, fittings and double tripping coils and closing coil, pole discrepancy feature and low pressure blocking device etc. as required.
2. Complete SF6 gas system along with valves, pressure switches, pressure gauges, SF6 gas density monitor, etc.
3. Various attachments & accessories for gas filling.
4. Two ground pads per pole suitable for termination of 75 x 10 mm M.S. flats.
5. Base frame and anchor bolts and nuts.
6. Set of valves, pressure gauges and pressure switches as required.
7. Auxiliary contacts and relays.
8. LOCAL/REMOTE Selector switch, TRIP/CLOSE Push Buttons.
9. Manual tripping devices with protective flap.
10. Mechanical ON-OFF indicator.
11. Operation counters.
12. Weatherproof outdoor type control cubicle and pole boxes having IPW55 enclosure.
13. Set of switch fuse units/MCCB for A.C. and D.C. supply.
14. Space heater with thermostat and ON-OFF switch.
15. Cubicle illumination lamp with ON-OFF switch.
16. 3 Pin 5A Socket with ON-OFF Switch.
17. Terminal blocks and internal wiring - lot as required.
18. Set of pre-fabricated copper pipe with fittings, clamps, and hardware for connection between control cubicle and pole boxes as required.
19. Interconnecting wires, G.I. conduits and accessories for connection between control cubicle and pole boxes.
20. The gas filling and internal pressure monitoring devices per pole for SF6 breakers.
21. Other standard accessories which are not specifically mentioned but supplied with breakers of similar type and rating for efficient and trouble-free operation.
22. First filling of SF6 gas along with 20 % additional for the complete lot in non returnable container.
23. Supporting galvanized steel structure.
24. Other standard accessories, which are not specifically mentioned but are usually provided with current transformers of such type and rating for efficient and trouble-free operation.

A.II Auxiliary Equipment Common for All Circuit
Breakers (Yadadri site)

1. Portable SF6 gas evacuation and filling system of minimum 300L capacity with necessary gas valves, gas cylinders, safety devices, gas purity monitoring devices, regulators, vacuum pump, pressure gauges/switches, hose pipes etc. (One set) (Dilo Make)
2. Portable SF6 gas leaked detectors (4 sets)
3. Operational analyser with DCRM to record contact travel, speed and for making measurement of operating timings, synchronisation of contacts in all poles as per clause no. 1.19 of section -2 of technical specification. (One set)



Project: 5x800 MW YADADRI THERMAL POWER STATION.
Customer: TELANGANA STATE POWER GENERATION CORPORATION LTD

Section-3: Project Details & General Specifications

Rev. No. 02

SECTION - 3

PROJECT DETAILS AND GENERAL SPECIFICATIONS

GENERAL TECHNICAL REQUIREMENTS

1.0 PROJECT DETAILS

Customer	:	M/s Telangana State Power Generation Corporation Ltd.
Project Title	:	5x800M Yadadri Thermal Power Station
Project Location	:	Veerlapalem Village, Damercherla Mandal, Nalgonda District, Telangana
Nearest Railway station	:	Vishnupuram railway station.
Nearest Road Head	:	NH-9 is at 45km North SH-2 is at 7km South
Nearest Airport	:	Hyderabad (about 120 Km) Chief Engineer (O&M), 5X800M Yadadri Thermal Power
Postal Address	:	Station, TSGENCO, Village - Veerlapalem, Mandal- Dameracheral, Dist. – Nalgonda, Telangana

1.1 SITE CONDITIONS (FOR DESIGN PURPOSES)

1.1.1 SITE CONDITIONS

a).	Average rainfall per year	:	1124 mm
b).	Maximum hourly rainfall intensity	:	102 mm
c).	Altitude	:	1000 m

1.1.2 DESIGN AMBIENT

a).	Minimum Temperature	:	13.5 C
b).	Maximum Temperature	:	45 C
c).	Design Ambient Temperature	:	50 C

1.1.3 RELATIVE HUMIDITY

a).	Maximum	::	85%
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1.1.4 WIND PRESSURE (AS PER IS:875-1987)

a). Design wind speed : 44 m/sec.

1.1.5 SEISMIC FACTORS

a). Horizontal Seismic Coefficient : As per latest IS : 1893

b). Vertical Seismic Coefficient : As per latest IS : 1893

} **Zone - III**

1.1.6 ELECTRICAL DATA

		400 kV System	415V AC System	240V AC System	220 V DC System	48 V DC System
1.	Nominal Voltage	400 kV	415 V	240 V	220 V	48 V
2.	Highest System Voltage	420 kV	457 V	264 V	242 V	55 V
3.	No. of phases	3	3	1	NA	NA
4.	Frequency	50 Hz	50 Hz	50 Hz	NA	NA
5.	Voltage variation	5%	_10 %	_10 %	10 % to -15%	_10 %
6.	Neutral Earthing	Effectively Earthed	Solidly Earthed	Solidly Earthed	-	-
7.	Fault Level	63 kA for 1 sec.	50 kA for 1 sec.	50 kA for 1 sec.	15 kA for 1 sec.	-

1.1.7 SYSTEM PARAMETERS

Dry and wet one minute power frequency withstand voltage : 630 kVrms
Dry impulse withstand voltage positive and negative : 1425 kVpeak
Minimum Total Creepage : 25 mm/kV

1.1.8 MINIMUM CLEARANCE (AS PER IS: 10118)

Phase to phase (PP) : 4200 mm
Phase to earth (PE) : 3500 mm
Section clearance : 6500 mm
Minimum ground clearance from plinth level (Plinth level : 300 mm) : 8000 mm



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Vertical ground clearance to nearest part not at earth potential of an insulator supporting live conductor/ equipment 2440 mm

1.2 INSTRUCTION TO BIDDERS

The bidders shall submit the technical requirements, data and information as per the technical data sheets, provided in Section-4.

The bidders shall furnish catalogues, engineering data, technical information, design documents, drawings etc fully in conformity with the technical specification. It is recognised that the Manufacturer may have standardised on the use of certain components, materials, processes or procedures different than those specified herein. Alternate proposals offering similar equipment based on the manufacturer's standard practice will also be considered provided such proposals meet the specified designs, standard and performance requirements and are acceptable to the Purchaser. Unless brought out clearly, the Bidder shall be deemed to conform to this specification scrupulously.

1.3 STANDARDS

The works covered by the specification shall be designed, engineered, manufactured, built, tested and commissioned in accordance with the Acts, Rules, Laws and Regulations of India.

The equipment to be furnished under this specification shall conform to latest issue (with all amendments) of specified standards.

In addition to meeting the specific requirement called for in Sections 1 and 2 of the Technical Specification, the equipment shall also conform to the general requirement of the applicable standards, which shall form an integral part of the specification. The Bidder shall note that standards mentioned in the specification are not mutually exclusive or complete in themselves, but intended to complement each other. When the specific requirements stipulated in the specifications exceed or differ from those required by the applicable standards, the stipulation of the specification shall take precedence.

Other internationally accepted standards, which ensure equivalent or better performance than that specified in the standards referred, shall also be accepted. The bidder shall submit copies of such standards.

In case governing standard for the equipment is different from IS or IEC, the salient points of difference shall be clearly brought out in the offer along with English language version of standard or relevant extract of the same. The equipment conforming to standards other than IS/IEC shall be subject to Purchaser's / owner's approval. The bidder shall clearly indicate in his bid the specific standards in accordance with which the works will be carried out.



1.4 TYPE TESTING, INSPECTION, TESTING & INSPECTION CERTIFICATE

All equipment being supplied shall conform to type tests and shall be subject to routine and acceptance tests in accordance with requirements stipulated under respective sections. Purchaser reserves the right to witness any or all the tests. The Manufacturer shall intimate the Purchaser the detailed programme about the tests at least three (3) weeks in advance in case of domestic supplies & six (6) weeks in advance in case of foreign supplies. Purchaser reserves the option for getting any or all the type tests repeated on the equipment. The Manufacturer shall also submit type test procedure for approval of the Purchaser.

In the event of any discrepancy in the test reports i.e. any test report not acceptable due to any design/manufacturing changes (including substitution of components) or due to non-compliance with the requirement stipulated in the technical specification or any/all additional type tests not carried out without any additional cost implication to the Purchaser.

The price of conducting all tests and additional type tests is deemed to be included in Bid price. In case any bidder indicates that he shall not carry out a particular test, his offer shall be considered incomplete and shall be liable to be rejected.

The purchaser intends to repeat the type tests and additional type tests on cables for which test charges shall be payable as per provision of contract.

The Purchaser, his duly authorised representative and/or outside inspection agency acting on behalf of the Purchaser shall have at all reasonable times free access to the Contractors premises or Works and shall have the power, at all reasonable times to inspect and examine the materials and workmanship of the Works during its manufacture or erection if part of the Works is being manufactured or assembled at other premises or works, the Manufacturer shall obtain for the Engineer and for his duly authorized representative permission to inspect as if the works were manufactured or assembled on the Manufacturer's own premises or works. Inspection may be made at any stage of manufacture, dispatch or at site at the option of the Purchaser and the equipment if found unsatisfactory due to bad workmanship or quality, material is liable to be rejected.

The Manufacturer shall give the Purchaser/inspector thirty (30) days written notice of any material being ready for testing. Such tests shall be to the Manufacturer's account except for the expenses of the inspector. Unless witnessing of the tests is virtually waived, the Purchaser/ inspector will attend such tests within thirty (30) days of the date of which the equipment is notified as being ready for test/ inspection, failing which the Manufacturer may proceed with the test which shall be deemed to have been made in the Inspector's presence and the Manufacturer shall forthwith forward duly certified copies of test reports in triplicate to the Inspector.

The Purchaser or Inspector shall, within fifteen (15) days from the date of inspection as defined herein, give notice in writing to the Manufacturer, of any objection to any drawings and all or any equipment and workmanship which in his opinion is not in accordance with the Contract. The



Manufacturer shall give due consideration to such objections and shall either make the modifications that may be necessary to meet the said objections or shall confirm in writing to the Purchaser/ inspector giving reasons therein, that no modifications are necessary to comply with the Contract.

When the factory tests have been completed at the Manufacturer's works, the Purchaser/ inspector shall issue a certificate to this effect within fifteen (15) days after completion of tests but if the tests are not witnessed by the Purchaser/inspector, the certificate shall be issued within fifteen (15) days of receipt of the Manufacturer's Test certificate by the Engineer/ Inspector. Failure of the Purchaser/inspector to issue such a certificate shall not prevent the Manufacturer from proceeding with the Works. The completion of this test or the issue of the certificate shall not bind the Purchaser to accept the equipment should it, on further tests/ after erection, be found not to comply with the Contract. The equipment shall be dispatched to site only after approval of test reports and issuance of MICC by the Purchaser.

In all cases where the Contract provides for tests whether at the premises or at the works of the Manufacturer or of any Sub-Contractor, the Manufacturer except where otherwise specified shall provide free of charge such items as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be reasonably demanded by the Purchaser /Inspector or his authorised representative to carry out effectively such tests of the equipment in accordance with the Contract and shall give facilities to the Purchaser Inspector or to his authorised representative to accomplish testing.

The inspection by Purchaser and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Manufacturer in respect of the agreed quality assurance programme forming a part of the Contract.

The Purchaser will have the right of having at his own expenses any other test(s) of reasonable nature carded out at Manufacturer's premises or at site or in any other place in addition of aforesaid type and routine tests, to satisfy that the material comply with the specification.

The Purchaser reserves the right for getting any field tests not specified in respective sections of the technical specification conducted on the completely assembled equipment at site. The testing equipment for these tests shall be provided by the Purchaser.

1.5 MATERIAL/WORKMANSHIP

1.5.1 GENERAL REQUIREMENT

Where the specification does not contain characteristics with reference to workmanship, equipment, materials and components of the covered Equipment it is understood that the same must be new, of highest grade of the best quality of their kind conforming to best engineering practice and suitable for the purposes for which they are intended.



The design of the Works shall be such that installation, future expansions, replacements and general maintenance may be undertaken with a minimum of time and expenses. Each component shall be designed to be consistent with its duty and suitable factors of safety, subject to mutual agreements and shall be used throughout the design. All joints and fastenings shall be devised, constructed and documented so that the component parts shall be accurately positioned and restrained to fulfil their required function. In general screw threads shall be standard metric threads. The use of other thread forms will only be permitted when prior approval has been obtained from purchaser.

Whenever possible, all similar part of the Works shall be made to gauge and shall also be made interchangeable with similar parts. All spare parts shall be interchangeable with, and shall be made of the same materials and workmanship as the corresponding parts of the Equipment supplied under the Specification. Where feasible, common component units shall be employed in different pieces of equipment in order to minimize spare parts stocking requirements. All equipment of the same type and rating shall be physically and electrically interchangeable.

All materials and equipment shall be installed in strict accordance with the manufacturer's recommendation(s). Only first-class work in accordance with the best modern practices will be accepted. Installation shall be construed as being the erection of equipment at its permanent location. This, unless otherwise specified, shall include unpacking, cleaning and lifting into position, grouting, levelling, aligning, coupling of or bolting down to previously installed equipment bases/foundations, performing the alignment check and final adjustment prior to initial operation, testing and commissioning in accordance with the manufacturer's tolerances /instructions and the Specification. All factory assembled rotating machinery shall be checked for alignment and adjustments made as necessary to re-establish the manufacture's limits. Suitable guards shall be provided for the protection of personal on all exposed rotating and / or moving machine parts and shall be designed for easy installation and removal for maintenance purpose. The spare equipment(s) shall be installed at designated locations and tested for healthiness.

The Contractor shall apply oil and grease of the proper specification to suit the machinery, as is necessary for the installation of the equipment. Lubricants used for installation purposes shall be drained out and the system flushed through where necessary for applying the lubricant required for operation. The Contractor shall apply all operational lubricants to the equipment installed by him.

All oil, grease and other consumables used in the Works/ Equipment shall be purchased in India unless the Contractor has any special requirement for the specific application of a type of oil or grease not available in India. If such is the case, he shall declare in the proposal where such oil or grease is available. He shall help purchaser in establishing equivalent Indian make and Indian Contractor. The same shall be applicable to other consumables too.

1.5.2 PROVISIONS FOR EXPOSURE TO HOT AND HUMID CLIMATE

Outdoor equipment supplied under the specification shall be suitable for service and storage under tropical conditions of high temperature, high humidity, heavy rainfall and environment favourable to



the growth of fungi and mildew. The indoor equipments located in non-air conditioned areas shall also be of same type.

1.6 COLOUR SCHEME AND CODES FOR PIPE SERVICE

The contractor shall propose a colour scheme for those equipment/Items for which the colour scheme has not been specified in the specification for the approval of purchaser. The decision of purchaser shall be final. The scheme shall include:

Finishing colour of Indoor equipment

Finishing colour of Outdoor equipment.

Finish colour of all cubicles.

Finishing colour of various auxiliary system equipment including piping

Finishing colour of various building items.

All steel structures, plates etc. shall be painted with non-corrosive paint on a suitable primer. It may be noted that normally all electrical equipment in switchyard are painted with shade 631 of IS-5. All The indoor cubicles shall be of same colour scheme and for other miscellaneous items, colour scheme will be approved by the purchaser.

1.7 PAINTING

- a) All sheet steel work shall be phosphated in accordance with the following procedure and in accordance with IS: 6005 "Code of practice for Phosphating Iron and Steel".
- b) Oil, grease, dirt and swerve shall be thoroughly removed from emulsion by cleaning.
- c) Rust and scale shall be removed by pickling with dilute acid followed by washing with running water, rinsing with slightly alkaline hot water and drying.
- d) After phosphating, thorough rinsing shall be carried out with clean water followed by final rinsing with dilute bichromate solution and over drying.
- e) The phosphate coating shall be sealed by the application of two coats of ready mixed, stoving type zinc chromate primer. The first coat may be "Flash dried" while the second coat shall be stoved.
- f) After application of the primer, two coats of finishing epoxy paint shall be applied, each coat followed by stoving. The panel shall have colour conforming to shade 631 of IS-5 for outside and inside of the panel with black colour for base frame.
- g) Each coat of primer and finishing paint shall be of a slightly different shade to enable inspection of the painting.



- h) Finished painted appearance of panel shall present an asthetically pleasing appearance free from dents and uneven surface.
- i) A small quantity of finishing paint shall be supplied for minor touching up required at site after the installation of the panels.

1.8 PROTECTION

- a) All coated surfaces shall be protected against abrasion, impact, discoloration and any other damages. All exposed threaded portions shall be suitably protected with either a metallic or a non-metallic protecting device. All ends of all valves, pipings and conduit equipment connections shall be properly sealed with suitable devices to protect them from damage.
- b) All equipment accessories and wiring shall have fungus protection, involving special treatment of insulation and metal against fungus, insects and corrosion.
- c) The parts which are likely to get rusted, due to exposure to weather should also be properly treated and protected in a suitable manner.
- d) Screens of corrosion resistant material shall be furnished on all ventilating louvers to prevent entry of insects.

1.9 FUNGISTATIC VARNISH

Besides the space heaters, special moisture and fungus resistant varnish shall be applied on the parts, which may be subjected or predisposed to the formation of fungi due to the presence or deposit of nutrient substances. The varnish shall not be applied to any surface of part where the treatment will interface with the operation or performance of the equipment. Such surfaces or parts shall be protected against the application to the varnish.

1.10 SURFACE FINISH

All interiors and exteriors of tanks, control cubicles and other metal parts shall be thoroughly cleaned to remove all rust, scales, corrosion, greases or other adhering foreign matter. All steel surfaces in contact with insulating oil as far as accessible shall be painted with not less than two coats of heat resistant, oil insoluble, insulating paints.

All metal surfaces exposed to atmosphere shall be given two primer coats of zinc chromate and two coats of epoxy paint with epoxy base thinner. All metal parts not accessible for painting shall be made of corrosion resisting material. All machine finished or bright surfaces shall be coated with a suitable preventive compound and suitably wrapped or other wise protected. All paints shall be carefully selected to withstand tropical heat and extremes of weather within the limit specified. The paint shall not scale off or wrinkle or be removed by abrasion due to normal handling.



1.11 GALVANIZING

All ferrous parts including all sizes of nuts, bolts, Plain and spring washers, support channels, structures, shall be hot dip galvanised conforming to latest version of IS:2629 or any other equivalent authoritative standard. However, hardware less than M12 size shall be electro-galvanized. Minimum weight of zinc coating shall be 610 gm/sq.mm and minimum thickness of coating shall be 85 microns for all items thicker than 6mm. For items lower than 6 mm thickness, requirement of coating shall be as per relevant ASTM.

1.12 AUXILIARY POWER SUPPLY

1.12.1 A.C power supply for auxiliaries will be available at 240 V, 50 C/s 1-phase, 2 wire and 415V, 50 C/s, 3-phase, 4 wire, neutral solidly earthed with variation in frequency of +/-5% and variation in voltage +/-10%

1.12.2 D.C. power supply at 220 V, 2-wire ungrounded will be available 187 V to 242 V.

1.13 INSPECTION AND TESTING

All tests and inspection of the equipment specified shall be performed to the extent and in the manner as stipulated in the relevant standards and in this specification. All type tests/routine tests/acceptance tests as specified shall be conducted in the presence of purchaser. Wherever equipment similar to the one being offered has already been type tested within 5 years from the date of opening the bid. Type tests done in an independent government laboratory or in the presence of representative of State Electricity Board or other reputed public undertakings, the type test reports of the same shall be submitted for scrutiny /approval. If these are found suitable and technically acceptable, conducting of type tests shall be waived off. Otherwise the subcontractor will have to carry out the type tests without any extra cost and without any delivery implications.

1.14 PACKAGING

Aluminium Tube shall be partially packed with Hessians cloths. Similar items shall be grouped and tied with steel wires/strip for convenient handling during transits.

MARKINGS

The following details are to be clearly indicated in the material forwarding documents:

- a) Name and address of the consignee.
- b) Purchase order number.
- c) Name of supplier/s.
- d) Description of equipment / material.



e) Tare weight.

f) Gross weight.

All the equipments shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage at Site till the time of erection. On request of the purchaser, the Contractor shall also submit packing details/associated drawing for any equipment material under his scope of supply, to facilitate the purchaser to repack any equipment/material at a later date, in case the need arises, while packing all the materials, the limitation from the point of view of availability of Railway wagon sizes in India should be taken account of. The Contractor shall be responsible for any loss or damage during transportation, handling and storage due to improper packing. Any demurrage wagons and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor. Purchaser takes no responsibility of the availability of the wagons.

1.15 HANDLING, STORING AND INSTALLATION

In accordance with the specific installation instructions as shown on manufacturer's drawings or as directed by the purchaser or his representative, the Contractor shall unload, store, erect, install, wire, test and place into commercial use all the equipment included in the contract. Equipment shall be installed in a neat, workmanlike manner so that it is level, plumb, square and properly aligned and oriented. Commercial use of switchyard equipment means completion of all site tests specified and energisation at rated voltage.

Contractor may engage manufacturer's Engineers to supervise the unloading, transportation to site, storing, testing and commissioning of the various equipment being procured by them separately. Contractor shall unload, transport, store, erect, test and commission the equipment as per instructions of the manufacturer's supervisory Engineer(s) and shall extend full cooperation to them.

In case of any doubt/misunderstanding as to the correct interpretation of manufacturer's drawings or instructions, necessary clarifications shall be obtained from the purchaser.

Contractor shall be held responsible for any damage to the equipment consequent to not following manufacturer's drawings/instructions correctly.

Where assemblies are supplied in more than one section, contractor shall make all necessary mechanical and electrical connections between sections including the connection between buses. Contractor shall also do necessary adjustments/alignments necessary for proper operation of circuit breakers, isolators and their operating mechanisms. All components shall be protected against damage during unloading, transportation, storage, installation, testing and commissioning. Any equipment damaged due to negligence or carelessness or otherwise shall be replaced by the contractor at his own expenses.

Contractor shall be responsible for examining all the shipment immediately of any damage, shortage, discrepancy etc. for the purpose of Purchaser's information only. The Contractor shall submit to the



purchaser every week a report detailing all the receipts during the weeks. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and/or in storage and erection of the equipment at Site. Any demurrage, pilferage and other such charges claimed by the transporters, railways etc. shall be to the Contractor's account.

The Contractor shall be fully responsible, for the equipment/material until the same is handed over to the purchaser in an operating condition after commissioning. Contractor shall be responsible for the maintenance to the equipment/material while in storage as well as after erection until taken over by Purchaser, as well as protection of the same against theft, element of such nature, corrosion, damages etc.

The Contractor shall be responsible for making suitable indoor storage facilities, to store all equipments which require indoor storage.

The words erection and installation used in the specification are synonymous. Exposed live parts shall be placed high enough above ground to meet the requirements of electrical and other statutory safety codes.

The minimum phase to earth, phase to phase and section clearance along-with other technical parameters for the various switchyard voltage levels to be maintained shall be strictly as per the approved drawings.

The design and workmanship shall be in accordance with the best engineering practices to ensure satisfactory performance throughout the service life. If at any stage during the execution of the Contract, it is observed that the erected equipment(s) do not meet the above minimum clearances, the Contractor shall immediately proceed to correct the discrepancy at his risks and costs.

1.16 TOOLS AND TACKLES

The Contractor shall supply with the equipment one complete set of all special tools and tackles for the erection, assembly, dis-assembly and maintenance of the equipment. However, these tools and tackles shall be separately, packed and brought on to Site.

1.14 EQUIPMENT BASES

A cast iron or welded steel base-plate shall be provided for all rotating equipment, which is to be installed on a concrete base unless otherwise agreed to by the Purchaser. Each base-plate shall support the unit and its drive assembly, shall be of a neat design with pads for anchoring the units shall have a raised lip all around, and shall have threaded drain connections.

1.15 QUALITY

BHEL quality plan to be followed subject to TBEM / customer's approval.



1.16 DOCUMENTATION

1.16.1 DRAWINGS

All drawings shall be prepared in AutoCAD and ultimate documentation would include drawings/documents on CDs. All dimensions and data shall be in SI metric units.

All items of the equipment should be clearly identified by proper part nos. in the contract drawings. Such parts, which are to be dispatched to site from works in dispatchable units and are reassembled at site, should be marked by proper identification marks at works and indicated in the drawings and quantified. The shipping list should be sent along with the general arrangement drawings for engineer's approval. All the items of the shipping list should be identified in the drawing.

The drawing submitted by the supplier shall be reviewed by the purchaser as far as practicable within two weeks of receipt of drawings and shall be modified by the sub-contractor if any modifications and/or corrections are required by the purchaser. The sub-contractor shall incorporate such modifications and / or corrections and submit the final drawings for approval. Any delay arising out of failure of the subcontractor to rectify the drawings shall not alter the contract completion date.

Further work by the subcontractor shall be in strict accordance with these drawings and no deviation shall be allowed without the written approval of the purchaser.

All manufacturing and fabrication work in connection with the equipment prior to the approval of the drawings shall be at supplier's risk.

Approval of drawing or work by the purchaser/consultant shall not relieve the subcontractor of any of his responsibilities and liabilities under the contract.

In case of any modifications that may be necessary during erection or commissioning of the equipment, the subcontractor shall carry out modifications in the original drawing & submit 'As Built drawings' and required no. of prints thereof.

1.16.2 INSTRUCTION MANUALS

The supplier shall submit to the purchaser, draft instruction manuals for approval within 30 days of placement of order. The final instruction manuals complete in all respects shall be submitted 60 days before the first shipment of the equipment. The instruction manuals shall contain full details and drawings of all the equipment furnished, the erection procedures, testing, operation & maintenance procedures of the equipment.

If after the commissioning and initial operation of the plant, the instruction manuals require any modification/ addition / changes, the same shall be incorporated and the up- dated final instruction manuals shall be submitted as required.



1.16.3 TITLE BLOCK & DRAWING/ DOCUMENT NUMBERING SCHEME

Title block for drawing / document should be followed as per ANNEXURE-3

1.16.4 DOCUMENTATION SCHEDULE AT CONTRACT STAGE

A.	<u>For approval</u>	<u>No of Copies</u>
	Copies of all drawings with project details, dimension, shipping weights, No. of cases & dimensions, fixing details, tolerance etc.	10
	Copies of type test reports.	5
	Copies of works quality plan & field quality plan.	5
	Copies of installation, operation & maintenance manual.	5
	Copies of drawings on floppies/CDs	1 set
B.	<u>After approval and for information / distribution</u>	
	Copies of all drawings	15
	Copies of installation, operation & maintenance manual including Routine test reports	15
	Sets of RTF of drawings	2
	CDs of Drgs and O & M Manuals	4
C.	<u>As Built Drawings</u>	
	Hard copies of Drawings	15
	CDs	4

NOTE:

1. Any revision of drawings / documents shall be submitted in the same no. of copies submitted first time for approval
2. Final drawings / documents shall be submitted in bound volume with customer and project details etc. written on the top.

ANNEXURE – A

NO DEVIATION CERTIFICATE

It is confirmed that there is no deviation and the offer is in full compliance with the specification. It is also confirmed that there are no deviations in any other form such as comments, variations and or exceptions. Further it is confirmed that at all drawings/ data sheets/ QP/ type tests reports shall be submitted to BHEL for organizing approval of ultimate customer. Also, furnishing of all relevant information/ repetition of type tests (if required for meeting the specification requirement) shall be carried out by us at no extra cost to BHEL and without affecting delivery requirements.

Signature of the authorized representative of Bidder

Name _____

Designation_____

Place_____

Date_____

Company Seal

ANNEXURE – B

Technical Pre-Qualifying Requirements

SF6 Circuit Breakers being offered should be from manufacturer who has manufactured and supplied minimum fifteen (15) nos. of SF6 Circuit Breakers of offered voltage class or higher, and which must have been in successful operation for a minimum period of two (2) years as on date of zero date of Yadadri (17.10.2017).

CHECK LIST FOR 420 KV CIRCUIT BREAKERS

Put a tick mark (✓) on 'YES' if the specified requirement is met, or put a tick mark on 'NO', if the specified requirement is not met and give comments in the "Remarks" column.

Sl. No.	Parameters	420 kV	YES/NO	Remarks
1	Type/class of Circuit Breaker	SF6 / C2M2	YES/NO	
2	Manufacturer's type designation			
3	Standard Applicable	IEC 62271 - 100	YES/NO	
4	Rated Voltage (kV rms)	420	YES/NO	
5	Rated Current	3150 A	YES/NO	
6	Max fault level (3 s)	63 kA	YES/NO	
7	Phase to phase spacing	7000 mm		
8	Rated frequency (Hz)	50	YES/NO	
9	Number of poles	3	YES/NO	
10	Whether All The 3 poles ganged electrically or mechanically	Electrically	YES/NO	
11	Whether dead tank or live tank design	Live	YES/NO	
12	No. of break per pole		YES/NO	
13	Rated short circuit breaking current			
	i. Symmetrical component at highest system voltage (kA)	63	YES/NO	
	ii. DC Component (%)	As per IEC	YES/NO	
14	Rated short circuit Making Current (kAp)	157.5	YES/NO	
15	Closing time (ms)	100	YES/NO	
16	First pole to clear factor	1.3	YES/NO	
17	Short time current rating (kA) for 3s	63 kA	YES/NO	
18	Rated operating duty	O-0.3 Sec –CO -3 min – CO	YES/NO	
19	Out of phase breaking current	15.75 kA	YES/NO	

Sl. No.	Parameters	420 kV	YES/NO	Remarks
20	Small fault current breaking capacity (kAp)	As per IEC	YES/NO	
21	Maximum temperature rise for main contacts over design ambient temperature of 50°C	As per IEC	YES/NO	
22	Rated voltage & pick up range for trip coil (V)	220 V DC, Range – 70 % to 120 %	YES/NO	
23	Rated voltage & pick up range for closing coil (V)	220 V DC, Range 85 % to 120 %	YES/NO	
24	Reclosing	Single and three phase high speed auto reclosing	YES/NO	
25	Rated terminal load	As per IEC.	YES/NO	
26	Dielectric withstand of complete Breaker			
a)	One minute dry & wet power frequency withstand voltage			
	i. Between live terminal and ground (kV rms)	520	YES/NO	
	ii. Between terminals with breaker contacts open (kV rms)	610	YES/NO	
b)	1.2/50- micro second impulse withstand test voltage			
	i. Between live terminals and ground (kVp)	±1425	YES/NO	
	ii. Between terminals with breaker contacts open (kVp)	1) ±1425(+240)	YES/NO	
c)	250/2500 micro second switching surge withstand test voltage			
	i. Between live terminals and ground (kVp)	±1050	YES/NO	
	ii. Between terminals with breaker contacts open (kVp)	1) 900(+350)	YES/NO	
d)	Corona extinction voltage (kV rms)	320	YES/NO	
e)	Maximum radio interference voltage for Frequency between 0.5 MHz and 2 MHz	1000 (max) at voltage 266 kV rms.	YES/NO	
f)	Total creepage distance			
	i) To ground (mm)	1) 10500 for 420 kV	YES/NO	

Sl. No.	Parameters	420 kV	YES/NO	Remarks
	ii) Between terminals (mm)	1)10500 mm for 420 kV	YES/NO	
27	Pre-insertion resistor requirement			
	Rating (ohms)			
	Minimum pre-insertion time (ms)			
	opening of PIR contacts			
28	Operating Mechanism			
	a) Type of operating mechanism for			
	i. Closing	Spring	YES/NO	
	ii. Opening	Spring	YES/NO	
29	General			
a)	Whether OGA drawing enclosed		YES/NO	
b)	Filled in GTP furnished		YES/NO	
d)	Interpole cabling included in Scope alongwith required Glands, Lugs etc. (FRLS)		YES	
e)	All Type Test Reports & additional type tests as per section 1 & IEC 62271 – 100, not older than 5 years are available with bidder		YES	
f)	All type tests shall be conducted without cost and delivery implication to BHEL if reports are found technically unacceptable by the customer		YES	
g)	Whether GI support structure included in Supply		YES	
h)	Whether foundation bolts for breakers and cabinets included in scope of supply		YES	
i)	Whether documentation schedule as per attached enclosure agreed by bidder.		YES	
j)	No. of Aux. contacts per pole for purchaser's usage Contact for local position	10 NO + 10 NC 1 NO	YES	

Sl. No.	Parameters	420 kV	YES/NO	Remarks
	Contact for remate position	1 NO		
k)	Min clearance in Air (mm) as per section-3			
	(i) Between Live Parts		YES/NO	
	(ii) Live Part to Earth		YES/NO	
	(iii) Live Part to ground with Support Structure / Stool		YES/NO	
l)	Control Cabinet –			
	Degree of Protection	IP 55 (Min.)	YES/NO	
	Type Tested for IP 55 within last 5 years		YES/NO	
n)	Mandatory spares included in scope of supply as per section 1 of technical specification		YES/NO	
o)	Circuit Breaker accessories included in scope of supply as per section 1 of technical specification		YES/NO	
p)	Supervision of Erection, testing and commissioning included in scope		YES/NO	

Annexure-1

Technical Pre-Qualifying Requirements

SF6 Circuit Breakers being offered should be from manufacturer who has manufactured and supplied minimum fifteen (15) nos. of SF6 Circuit Breakers of offered voltage class or higher, and which must have been in successful operation for a minimum period of two (2) years as on date of zero date of Yadadri (17.10.2017).

En o. - dated / /2021 Pro e t- SGE CO adadari (00 V CB) (ain Su ly)

SL.NO.	ACTIVITY	ACTIVITY TIME IN Days	Remarks
	(A)	(B)	(I)
	PO / Input receipt from BHEL	0	
1	Submission of document necessary for getting manufacturing clearance like drawing, data sheet	21	GTP/Drawings/TTR/QP
2	Re-submission of documents after BHEL/Customer comment	15	
3	Manufacturing Time (After issuance of Manufacturing clearance)		LOT-1 a) 8 Breakers with all accessories and support structure b) Foundation bolts of all circuit breakers (33 nos.) c) 09 CSD d) CSD cables
			LOT-2 a) 8 Breakers with all accessories and support structure b) 05 CSD
			LOT-3 a) 8 Breakers with all accessories and support structure
			LOT-4 a) 9 Breakers with all accessories and support structure.
4	BHEL/Customer Inspection & Dispatch Clearance	14	
5	Dispatch	14	
		64	
*Delay/Preponement if any, shall be adjusted in delivery time.			

En o. 0 G210033 dated 0 /02/2021 Pro e t- SGE CO adadari (00 V CB) (S ares)

SL.NO.	ACTIVITY	ACTIVITY TIME IN Days	Remarks
	(A)	(B)	(I)
	PO / Input receipt from BHEL	0	
1	Submission of document necessary for getting manufacturing clearance like drawing, data sheet	21	GTP/Drawings/TTR/QP
2	Re-submission of documents after BHEL/Customer comment	15	
3	Manufacturing Time (After issuance of Manufacturing clearance)		LOT-1 1. 420 kV PORTABLE TYPE SF6 GAS FILLING AND EVACUATING PLANT (MIN. 300L CAPACITY) 2. 420KV, PORTABLE SF6 VACUUM PUMP WITH PRESSURE GAUGE/ SWITCHES & HOSE PIPES. 3. SF6 GAS LEAKAGE DETECTOR 4. 420KV, CIRCUIT BREAKER OPERATIONAL ANALYZER WITH DCRM AS PER SPECIFICATION 5. 420KV, BASIC TIMER KIT WITH PRINT FACILITY 6. 420KV, CRM METER (100A) 7. 420KV, SF6 GAS (20% EXTRA)
			LOT-2 All spares items
4	BHEL/Customer Inspection & Dispatch Clearance	14	
5	Dispatch	14	
		64	
*Delay/Preponement if any, shall be adjusted in delivery time.			

En o. - dated / /2021 Pro e t- SGE CO adadari (00 V CB) (ain Su ly)

SL.NO.	ACTIVITY	ACTIVITY TIME IN Days	Remarks
	(A)	(B)	(I)
	PO / Input receipt from BHEL	0	
1	Submission of document necessary for getting manufacturing clearance like drawing, data sheet	21	GTP/Drawings/TTR/QP
2	Re-submission of documents after BHEL/Customer comment	15	
3	Manufacturing Time (After issuance of Manufacturing clearance)		LOT-1 a) 8 Breakers with all accessories and support structure b) Foundation bolts of all circuit breakers (33 nos.) c) 09 CSD d) CSD cables
			LOT-2 a) 8 Breakers with all accessories and support structure b) 05 CSD
			LOT-3 a) 8 Breakers with all accessories and support structure
			LOT-4 a) 9 Breakers with all accessories and support structure.
4	BHEL/Customer Inspection & Dispatch Clearance	14	
5	Dispatch	14	
		64	
*Delay/Preponement if any, shall be adjusted in delivery time.			

En o. 0 G210033 dated 0 /02/2021 Pro e t- SGE CO adadari (00 V CB) (S ares)

SL.NO.	ACTIVITY	ACTIVITY TIME IN Days	Remarks
	(A)	(B)	(I)
	PO / Input receipt from BHEL	0	
1	Submission of document necessary for getting manufacturing clearance like drawing, data sheet	21	GTP/Drawings/TTR/QP
2	Re-submission of documents after BHEL/Customer comment	15	
3	Manufacturing Time (After issuance of Manufacturing clearance)		LOT-1 1. 420 kV PORTABLE TYPE SF6 GAS FILLING AND EVACUATING PLANT (MIN. 300L CAPACITY) 2. 420KV, PORTABLE SF6 VACUUM PUMP WITH PRESSURE GAUGE/ SWITCHES & HOSE PIPES. 3. SF6 GAS LEAKAGE DETECTOR 4. 420KV, CIRCUIT BREAKER OPERATIONAL ANALYZER WITH DCRM AS PER SPECIFICATION 5. 420KV, BASIC TIMER KIT WITH PRINT FACILITY 6. 420KV, CRM METER (100A) 7. 420KV, SF6 GAS (20% EXTRA)
			LOT-2 All spares items
4	BHEL/Customer Inspection & Dispatch Clearance	14	
5	Dispatch	14	
		64	
*Delay/Preponement if any, shall be adjusted in delivery time.			

Check List for Supply bills

Name Of the Project							
Package Description							
Invoice No. & Date							
PO No. & date							
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks	Verification by MM	Verification by Fin
					(Y/N/NA)	(Y/N/NA)	(Y/N/NA)
1	Original for Buyer Invoice - GST compliant invoice	1 Original+2 Copy	1. Please ensure GST complaint invoice in original 2. Consignee address : BHEL C/o followed by site address 3. Item description and unit of quantity are matched with PO 4. Buyer address and GSTN No as required (TBG Noida or Nodal 5. PO No and date, LR No and date, Vehicle No and Project name 6. Invoiced quantity are not more than th PO quantity and MICC 7. Ex works unit rate , Taxes and F&I rates are same as per PO 8. Signed and stamped by vendor				
2	Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1Original+2 Copy	1. Consignee address : BHEL C/o followed by Site address 2. In case of material purchased from sub vendor , Consignee address Vendor's name C/o BHEL C/o Site address 3. Vendor's Invoice no and Vehicle No are mentioned 4. No of boxes/No of packages are same as per Packing list 5. In case of and adverse remark on LR (Like shortages/damages/broken etc) , clarification from site/TBMM/TBCM is nedded 6. LR is readable 7. In case of photo copy, LR is verified by TBMM 8. LR date is after the date of MICC/(MDCC if issued) or same date				
3	Packing List - showing number of packages, and gross weight/net Weight (if applicable)	1Original+2 Copy	1. PO No and date, LR No and date, Invoice No and date, Site Name and address, Consignor and consignee address are mentioned 2. Item description and quantity are matched with Invoice and PO 3. Signed and stamped by vendor 4. No of packages/ Item descriptions are matched with MRC and LR				
4	MICC from BHEL	1Original+2C opy	1. BHEL MICC has been issued prior to the date of dispatch or on same date 2. In case where MICC date is after the date of dispatch then MDCC date is same or prior to the date of dispatch 3. Project Name, PO,Po Date, Vendor's name and address is correct 4. Item description, Quantity and unit of quantity are same as per PO 5. All hold point in MICC , if any, have been resolved before submission of bill 6. Signed and stamped by BHEL Executive 7. MICC and MDCC quantity are not less than Invoice quantity and cover all invoiced items.				
5	Guarantee Certificate	1 Original+2 Copy	1. Project Name, PO No., Invoice No , LR No and date are mentioned 2. Guarantee Certificate is strictly matched with PO T&C 3. Signed and stamped by vendor				
6	Bank Guarantee	1 Copy	1. Ensure submission of BG directly from Bank before supply of material so that BG confirmation may be arranged before processing 2. Bill can be processed only after receipt of BG confirmation directly from bank 3. It should be in the name of BHEL , TBG Noida with registered office address Siri Fort, New Delhi 4. It should be in prescribed format. 5. BG value and valdity plus claim period should be minimum as specified in PO / RC. Please check before supply , If BG extension is required please arrange the same 6. Vendor's name address should be same as per PO 7. Po No / RC No and date should be correct				
7	Insurance Certficate	1 Original+2 Copy	1. Invoice No and date, Vendor's Name,Place from Consignor to Consignee are mentioned 2. It has not been issued later than the LR date 3. Insured value is not less than the Invoice value 4. Signed and stamped by Insurance Company 5. In case of Open Insurance Policy, declaration has been submitted to Insurance Company as per declaration clause of Open policy and 6. In case of any discrepancy , consent of TBCM is required for processing the bill and amount will be deducted for invalid Insurance				
8	PVC (If applicable) Invoice is submitted along with the Despatch Invoice	1Original+2C opy	PVC (If applicable) Invoice is submitted along with the Despatch Invoice 1. PVC invoice is attched along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices are as per PO conditions.				
9			1. LR No and date, Invoice No and date, Vehicle No and date , Site Name an address are mentioned 2. Date of receipt of material				

Check List for Supply bills

Name Of the Project							
Package Description							
Invoice No. & Date							
PO No. & date							
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks	Verification by MM	Verification by Fin
					(Y/N/NA)	(Y/N/NA)	(Y/N/NA)
	Material receipt Certificate		3. Item description and quantity are same as per Invoice / Packing List				
			4. It is signed and stamped by Site executive				
			5. In case of any shortages / damages / adverse remark , clarification is needed				
10	Other Documents		To be seen as per specific requirement of PO.				
To be filled by BHEL (MM) only							
10	Date Of Submission of Last Billing Document		Date to be mentioned		Not to be filled by vendor		
11	LD Calculation, if applicable, as per PO.		Calculation Sheet of LD due to delay in delivery is attached				
12	Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1 Copy	Damages if any mentioned in the Receipted LR have been accounted for. Withhel amount if any _____				
13	Packing List - showing number of packages and gross weight & net Weight (If applicable)	1 Original	If Packing list does not match with Purchase order (with ref to sl 4 above), Engg/MM acceptance as to the completeness is enclosed.				
14	PO copy	1 Copy	PO copy with original seal and signature is attached along with amendment if any				
15	Dan	1 copy	Relevant DANs are attached duly signed by TBMM representative.				
Note*	Every Field to be ticked. If some document is not applicable, same should be mentioned, All Pages to be numbered upward from the bottom Page						
	Invoice control No				Vendor Signature	MM Signature	Finance Signature
					Date:	Date:	Date:

Check List for Freight(Exclusive as per Transportation contract)							
Name Of the Project							
Package Description							
Invoice No. & Date							
PO No. & date							
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks	Verification by MM	Verification by Fin
					(Y/N/NA)	(Y/N/NA)	(Y/N/NA)
1	Invoice	1 Original	Freight Invoice Invoice for the Main Supply submitted				
2	Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes	1 Copy	1. Consignee address : BHEL C/o followed by Site address				
			2. In case of material purchased from sub vendor , Consignee address Vendor's name C/o BHEL C/o Site address				
			3. Vendor's Invoice no and Vehicle No are mentioned				
			4. No of boxes/No of packages are same as per Packing list				
			5. In case of and adverse remark on LR (Like shortages/damages/broken etc) , clarification from site/TBMM/TBCM is needed				
			6. LR is readable				
			7. In case of photo copy, LR is verified by TBMM				
			8. LR date is after the date of MICC/(MDCC if issued) or same date				
3	Transporter's document indicating the freight amount. Original money receipt to be submitted if required as per SCC	1 Original	As per Rate Contract (if any)/ WO.				
4	PVC (If applicable) Invoice is submitted along with the Despatch Invoice		1. PVC invoice is attached along with supply Invoice 2. Calculation sheet and applicable PVC indices are also enclosed 3. If delay in delivery, then PVC indices are as per PO conditions.				
5	LD Calculation, if applicable		Calculation Sheet of LD due to delay in delivery is attached				
6	MRC		1. LR No and date, Invoice No and date, Vehicle No and date , Site Name an address are mentioned 2. Date of receipt of material 3. Item description and quantity are same as per Invoice / Packing List of supply 4. It is signed and stamped by Site executive 5. In case of any shortages / damages / adverse remark , clarification is needed				
	Invoice control No				Vendor Signature	MM Signature	Finance Signature
					Date:	Date:	Date:

			Applicable check list for MRC Bills:					
Name Of the Project								
Package Description								
Invoice No. & Date								
PO No. & date								
Sr. No	Documents Required	Copies	Check Points	Page no.	Vendor Remarks	Verification by MM	Verification by Fin	
					(Y/N/NA)	(Y/N/NA)	(Y/N/NA)	
1	Invoice	1 Original	MRC Bill enclosed					
2	Material Receipt Certificate	1 Copy	1. LR No and date, Invoice No and date, Vehicle No and date , Site Name an address are mentioned					
			2. Date of receipt of material					
			3. Item description and quantity are same as per Invoice / Packing List of supply					
			4. It is signed and stamped by Site executive					
			5. In case of any shortages / damages / adverse remark , clarification from site/MM/CM is needed					
3	Submission of all final documents for the packages as detailed in Anx-10 of GCC rev 00, duly certified by Engg. Deptt. of purchaser or As per PO	1 Copy	Certificate as per PO requirement is attached					
Note*	Every Field to be ticked. If some documents is not applicable, same should be mentioned, All Pages to be numbered starting from the Last Page.							
	Invoice control No				Vendor Signature	MM Signature	Finance Signature	
					Date:	Date:	Date:	

(A) CONCILIATION (MODEL CONCILIATION CLAUSE FOR CONDUCTING CONCILIATION PROCEEDINGS UNDER THE BHEL CONCILIATION SCHEME, 2018)

The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract or the Memorandum of Understanding (whichever is inapplicable), which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in **Annexure-A to this GCC (Enclosed)**.

The Annexure-A together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in these GCC.”

(B) ARBITRATION (WITH SOLE ARBITRATOR)

- 1.1. Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute 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, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the Sole Arbitrator and such Arbitrator appointed by Head of the BHEL Unit/Region/Division issuing the Contract.
- 1.2. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.
- 1.3. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) and amended in 2015 and further amendment passed in 2019 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 New Delhi. The language of arbitration shall be English and the documents shall be submitted in English.

- 1.4. The cost of arbitration shall initially be borne equally by the Parties subject to the final apportionment of the cost of the arbitration in the award of the Arbitrator.
- 1.5. Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

1.6. **SETTLEMENT OF COMMERCIAL DISPUTES BETWEEN CPSES INTER SE AND CPSE(S) AND GOVERNMENT DEPARTMENT(S)/ ORGANISATION(S) – ADMINISTRATIVE MECHANISM FOR RESOLUTION OF CPSES DISPUTES (AMRCD) – REGARDING**

Vide Dept. of Public Enterprises OM No. F. No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22.05.2018 it has been conveyed that *"To make the mechanism more effective and binding on the disputing parties, a new mechanism namely Administrative Mechanism for resolution of CPSEs Disputes (AMRCD) having two level (tier) structure has been evolved in consultation with various stakeholders to replace the existing PMA mechanism which stands wound up from the date of issue of this OM."* Accordingly, the existing Permanent Machinery of Arbitration (PMA) stands wound up with effect from 22.05.2018 and cases relating to disputes or differences relating to the interpretation and application of the provisions of commercial contract(s) between CPSEs / Port Trust / Central or State Government Department / Organisations (excluding disputes concerning Railways, Income Tax, Customs and Excise Departments) shall be taken up by either party for its resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD).

(C) JURISDICTION AND GOVERNING LAWS

The Courts at New Delhi shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract. This Contract shall be construed as per and be governed by the Laws of India.

**ANNEXURE TO MODEL CONCILIATION CLAUSE FOR CONDUCT OF
CONCILIATION UNDER THE BHEL CONCILIATION SCHEME, 2018**

BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within

15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.

8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.

14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall

however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
22. The proceedings of Conciliation under this Scheme may be terminated as follows:
- On the date of signing of the Settlement agreement by the Parties; or,
 - By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
 - By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
 - On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.
23. The Conciliator(s) shall be entitled to following fees and facilities:

Sl No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator)

Sl No	Particulars	Amount
		In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator) In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator) Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.
3	Secretarial expenses	Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC. Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC
4	Travel and transportation and stay at outstation i) Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL.

Sl No	Particulars	Amount
		Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

24. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
25. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
26. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
27. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.

28. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
29. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/regulatory body, as the case may be.
30. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
- a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b. admissions made by the other party in the course of the Conciliator proceedings;
 - c. proposals made by the Conciliator;
 - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
31. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
32. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
33. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue

notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.

34. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

Format 2 to BHEL Conciliation Scheme, 2018

**FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES TO
CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

**Sub: Resolution of the Disputes through conciliation by Independent
Expert Committee (IEC).**

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated_____ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

Representative of BHEL

Format 3 to BHEL Conciliation Scheme, 2018
FORMAT FOR GIVING CONSENT BY
CONTRACTOR/VENDOR/CUSTOMER/COLLABORATOR/CONSORTIUM PARTNERS FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC

To,

BHEL

.....

Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).

Ref: Contract/MoU/Agreement/LOI/LOA No & date ____

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

(Signature with stamp)

Authorized Representative of Contractor

Name, with designation

Date

Format 5 to BHEL Conciliation Scheme, 2018
STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO
THE IEC BY BOTH THE PARTIES

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Claim(s)/Counter Claim(s):

Sl. No.	Description of claim(s)/Counter Claim	Amount (in INR)Or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

Note– *The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.*

Item/Package Name :	
Enquiry No.:	
Project:	
Type of project	
Percentage of Local Content	<i>(Bidder to enter the applicable % of local content)</i>

Self-certification to be submitted in INR 100/- non judicial stamp paper

Format of Self certification regarding Local Content in line with PPP-MII order, 2017 & its revision dated 04.06.2020.

Date:.....

I _____ S/o, D/o, W/o, _____ Resident of _____ hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Order, 2017 (*hereinafter PPP-MII order*) of Government of India issued vide Notification No: P-45021/2/2017-BE-II dated 15/06/2017, its revision dated 04/06/2020 and any subsequent modifications/ Amendments, if any.

That the information furnished hereinafter is correct to the best of my knowledge and belief and I undertake to produce relevant records before the procuring entity/ BHEL or any other Government authority for the purpose of assessing the local content of goods/services/works supplied by me for *(Enter the name of the Equipment/Item for Project)*.

That the local content for all inputs which constitute the said goods/services/works has been verified by me and I am responsible for the correctness of the claims made therein.

That the goods/services/works supplied by me for *(Enter the name of the Equipment/Item for Project)* **contains.....%** *(mention the Local content in %age)* Local Content.

That the value addition for the purpose of meeting the 'Minimum Local Content' has been made by me at *(Enter the details of the location(s) at which value addition is made)*.

That in the event of the local content of the goods/services/works mentioned herein is found to be incorrect and not meeting the prescribed supplier class categorization criteria as per said order, based on the assessment of procuring agency (ies)/ BHEL/ Government Authorities for the purpose of assessing the local content, action shall be taken against me in line with the PPP-MII order and provisions of the Integrity pact/ Bidding Documents.

I agree to maintain the following information in the Company's record for a period of 8 years and shall make this available for verification to any statutory authority.

- i Name and details of the Local Supplier
(Registered Office, Manufacturing unit location, nature of legal entity)
- ii Date on which this certificate is issued

Item/Package Name :	
Enquiry No.:	
Project:	
Type of project	
Percentage of Local Content	<i>(Bidder to enter the applicable % of local content)</i>

Self-certification to be submitted in INR 100/- non judicial stamp paper

- iii. Goods/services/works for which the certificate is produced
- iv. Procuring entity to whom the certificate is furnished
- v. Percentage of local content claimed and whether it meets the Minimum Local Content prescribed
- vi. Name and contact details of the unit of the Local Supplier (s)
- vii. Sale Price of the product
- viii. Ex-Factory Price of the product
- ix. Freight, insurance and handling
- x. Total Bill of Material
- xi. List and total cost value of input used to manufacture the Goods/to provide services/in construction of works
- xii. List and total cost of input which are domestically sourced. Value addition certificates from suppliers, if the input is not in-house to be attached
- xiii. List and cost of inputs which are imported, directly or indirectly

For and on behalf of..... (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

Clause regarding regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not failing in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means:
 - a. An entity Incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity Incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entitles incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country, or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation-
 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of Individuals;
 4. Where no natural person is Identified under (1) or (2) or (3) above the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another or to represent another in dealings with third person.

Clause regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017 as per Government of India order OM No.6/18/2019-PPD dated 23.07.2020

VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

** The above clause is not applicable to the bidders from those countries (even if sharing a land border with India) to which the GoI has extended lines of credit or in which the GoI is engaged in development projects.*

* List of countries to which lines of credit have been extended or in which development projects are undertaken are available on the Ministry of External affairs website (<https://www.mea.gov.in/>)

Compliance to be submitted in INR 100/- non judicial stamp paper

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Sl No.	Description	Bidder's confirmation
<i>1</i>	<i>We, M/s_____ have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; We hereby certify that we are not from such a country.</i>	<i>Agreed</i>

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

Bidder's authorized signatory with stamp & seal

Compliance to be submitted in INR 100/- non judicial stamp paper

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

SI No.	Description	Bidder's confirmation
1	<i>We, M/s_____ have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. We are from such a country which shares a land border with India & have been registered with the Competent Authority as specified in above said order. We hereby certify that we fulfil all requirements in this regard and are eligible to be considered.</i> <i>Evidence of valid registration by the Competent Authority is attached.</i>	Agreed

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by BHEL)

Bidder's authorized signatory with stamp & seal

No.25-111612018-PG
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi • — 110001
Tele Fax: 011-23730264

Dated 02/07/2020

ORDER

Power Supply System is a sensitive and critical infrastructure that supports not only our national defence, vital emergency services including health, disaster response, critical national infrastructure including classified data & communication services, defence installations and manufacturing establishments, logistics services but also the entire economy and the day-to-day life of the citizens of the country. Any danger or threat to Power Supply System can have catastrophic effects and has the potential to cripple the entire country. Therefore, the Power Sector is a strategic and critical sector.

The vulnerabilities in the Power Supply System & Network mainly arise out of the possibilities of cyber attacks through malware / Trojans etc. embedded in imported equipment. Hence, to protect the security, integrity and reliability of the strategically important and critical Power Supply System & Network in the country, the following directions are hereby issued:-

1. All equipment, components, and parts imported for use in the Power Supply System and Network shall be tested in the country to check for any kind of embedded malware/trojans/cyber threat and for adherence to Indian Standards.
2. All such testings shall be done in certified laboratories that will be designated by the Ministry of Power (MOP).
3. Any import of equipment/components/parts from "prior reference" countries as specified or by persons owned by, controlled by, or subject to the jurisdiction or the directions of these "prior reference" countries will require prior permission of the Government of India
4. Where the equipment/components/parts are imported from "prior reference" countries, with special permission, the protocol for testing in certified and designated laboratories shall be approved by the Ministry of Power (MOP).

This order shall apply to any item imported for end use or to be used as a component, or as a part in manufacturing, assembling of any equipment or to be used in power supply system or any activity directly or indirectly related to power supply system.

This issues with the approval of Hon'ble Minister of State for Power and New & Renewable Energy (Independent Charge).



(Goutam Ghosh)

Director Tel: 011-23716674 To:

1. All Ministries/Departments of Government of India (As per list)
2. Secretary (Coordination), Cabinet Secretariat
3. Vice Chairman, NITI Aayog

सेवा भवन, आर. के. पुरम-I, नई दिल्ली-110066 टेली: 011-26732257 ईमेल: ce-rndcea@nic.in वेबसाइट:
www.cea.nic.in

Sewa Bhawan, R.K Puram-I, New Delhi-110066 Tele: 011-26732257 Email: ce-rndcea@nic.in Website: www.cea.nic.in

Vendor Co llian e for at in idder letter ead

In view of by order No. 25-111612018-PG, Dated 02.07.2020 of Ministry of Power, GOI

**En uiry o
Pro e t
a e of ite s/Pa age**

Sl o	es ri tion	Bidder onfir ation
1	The vendor should supply all items in strict compliance to directions issued by Ministry of Power, Govt. of India vide order No. 25-111612018-PG dated 02.07.2020.	Agreed / Disagreed / Not Applicable
2	Vendor shall be responsible for conducting all necessary testing in accordance with testing protocol in line with MoP order.	Agreed / Disagreed / Not Applicable
3	All necessary permissions and approvals from Govt of India for import of equipment/ parts/ components shall be submitted, if equipment/ parts/ components are sourced from prior reference countries.	Agreed / Disagreed / Not Applicable

ote on- o llian e of oP Order and its su se uent a end ent (if any) y any idder(s) s all lead for o er ial re e tion of t eir ids y BHEL

**Bidder's authorized signatory
it sta & seal**

Annexure-XI

INTEGRITY PACT:

Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.

(a) IP is a tool to ensure that activities and transactions between the company and its bidders/contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitor (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Details of IEM for this tender is furnished below

Name: Shri Arun Chandra Verma, IPS (Retd.)

Email: acverma1@gmail.com

Name: Shri Virendra Bahadur Singh, IPS (Retd.)

E-mail: ybsinghips@gmail.com

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-1, in case of Two/three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this pact would be a preliminary qualification.

(c) Please refer section -8 of the IP for Role and responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEM shall be done through e-mail only.

Note: No routine correspondence shall be addressed to the IEM (Phone/post/email) regarding the clarification, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/issues shall be addressed directly to the tender issuing (procurement) department's officials as mentioned on Point 2 & 3.

INTEGRITY PACT**Between**

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

and

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

Preamble

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

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

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

Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions:

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

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and will await their decision in the matter.

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

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

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to

demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 - Previous Transgression

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

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

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

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

Section 8 - Independent External Monitor(s)

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

- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organisation.
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/ Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidders 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

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

For & On behalf of the Principal

(Office Seal)

Place-----

Date-----

Witness:_____

(Name & Address) _____

For & On behalf of the Bidder/
Contractor

(Office Seal)

Witness:_____

(Name & Address) _____

RISK PURCHASE

1.1. In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to the extent not cancelled under the provisions of this clause.

1.2. Risk & Cost Clause, in line with Conditions of Contract may be invoked in any of the following cases:

- i) Contractor/ supplier's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor/ supplier including unexecuted portion of work/ supply does not appear to be executable within balance available period considering its performance of execution.
- ii) Withdrawal from or abandonment of the work by contractor/supplier before completion as per contract.
- iii) Non completion of work/ Non-supply by the Contractor/ supplier within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor/ supplier.
- iv) Termination of Contract on account of any other reason(s) attributable to Contractor/ Supplier.
- v) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vi) Non-compliance to any contractual condition or any other default attributable to Contractor/ Supplier.

1.3. Risk and Cost amount against Balance Work :

In case Risk & Cost is invoked, the amount of Risk & Cost against balance work shall be calculated as under:

$$\text{Risk \& Cost Amount} = (A-B) + (A \times H/100)$$

Where,

A= Value of Balance scope of Work/ Supply (*) as per rates of new contract

B= Value of Balance scope of Works/ Supply (*) as per rates of old contract being paid to the contractor/ supplier at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5 (five)

In case (A-B) is less than 0 (zero) value of (A-B) shall be taken as 0 (zero).

(Balance scope of work / supply)

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work / Supply for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

On the termination of contract, quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/supply' for calculating Risk & Cost amount.

1. . LD against delay in executed Work /Supply in case of termination of Contract

LD against delay in executed Work /Supply shall be calculated in line with LD clause of the contract for the delay attributable to contractor/ supplier. For this purpose, contract value shall be taken as Executed Value of work/supply for the purpose of limiting maximum LD value.

Method for calculation of “LD against delay in executed Work/ supply” is given below:

- i) Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor/ supplier= T1
- ii) Let the value of executed work/ supply till the time of termination of contract= X
- iii) Let the Total Executable Value of work/ supply for which inputs/fronts were made available to contractor/ supplier and were planned for execution till termination of contract = Y
- iv) Delay in executed work/ supply attributable to contractor/supplier i.e. $T2 = (1 - \frac{X}{Y}) \times T1$
- v) LD shall be calculated in line with LD clause of the Contract for the delay attributable to contractor/ supplier taking “X” as Contract Value and “T2” as delay attributable to contractor/ supplier.

Note In case portion of service/supply is withdrawn no LD shall be a liability for portion of service/supply withdrawn.

1. . Recovery from Supplier

Recoveries from contractor/ supplier on whom risk & cost has been invoked shall be as per Clause No. 23 of GTC.

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹ (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 at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____ ² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, .

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

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto 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 contractors/supplier shall have no claim against us for making such payment.

We thebank 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 and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said 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 Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said 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 Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

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

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷we shall be discharged from all liabilities under this guarantee thereafter.

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

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹
- c) Unless the Bank is served a written claim or demand on or before¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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

For and on behalf of
(Name of the Bank)

Dated.....
Place of Issue.....

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

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

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). 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). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

No. P-45021/2/2017-PP (BE-II)
Government of India
Ministry of Commerce and Industry
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:

1. 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.

.....Contd. p/2

'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'.

✓ 3. **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.

.....Contd. p/3

(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:

- i. 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:

- i. 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.

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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.
6. **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.
9. **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.
- e. 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 9h below.
- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
 - i. 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 operation of this Order.

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: The 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
- b. reduce the margin of purchase preference below 20%; or

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- 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 with this Order.

- 16. **Standing Committee:** A standing committee is hereby constituted with the following membership:

- 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.
 - b. 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.



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