

Ref. Enquiry No.: PE/PG/BHU/E-6505/2020, Dated 25.08.2020

DUE DATE
05 Sep 2020
BY 02:00 PM

Dear Sir/ Ma'am

Subject: Open tender Enquiry for "OIL FILLED SERVICE TRANSFORMERS" for 1 x 660 MW BHUSAWAL TPS Project as per Technical Specification No. PE-TS-415-302-E001 REV 00.

BHEL invites your offers for Design, Manufacture, Inspection and testing at Manufacturer's works, proper packing, alongwith supply of mandatory spares, special tools/tackles, Type Tests & SHORT CIRCUIT TEST and Frequency response analysis test after installation at site etc. to site for **1 x 660 MW BHUSAWAL Thermal Power Project Unit-6** as specified/ defined as per tender technical specification PE-TS-415-302-E001 Rev00, amendment & agreements till placement of order for **OIL FILLED SERVICE TRANSFORMER for 1 X 660 MW BHUSAWAL TPS.**

Your offer shall be submitted in two parts strictly as per Clause-2.0 of the "Instructions to Bidders" of GCC Rev. 07, in sealed cover for the below mentioned equipment/system.

Item Description – OIL FILLED SERVICE TRANSFORMER			
Sl. No.	Project	TECHNICAL SPECIFICATIONS REF.	Delivery completion schedule
1	1 x 660 MW BHUSAWAL TPS	PE-TS-415-302-E001	As per annexure – II to NIT

Your best quotation/offer for the above requirement, in line with tender terms and conditions, should be submitted **online via e-procurement system**. It shall be the responsibility of the bidder to ensure that the tender is submitted **on or before the due date by 02:00 PM**. Part-I bids shall be opened at **03:00 PM**. on the due date.

Note: 1. Detailed tender documents have been uploaded on following websites: -

<https://bhel.abcprocure.com>, www.bhel.com, www.bhelpem.com and www.eprocure.gov.in

Bidders are requested to upload their best offer on <https://bhel.abcprocure.com> only.

2. In case bidders are not interested to quote, please send us the regret by e-mail or letter.

ENQUIRY TERMS AND CONDITIONS:

1. Offers should be submitted/uploaded separately in two parts **online through e-procurement system** as follows:

Part-I: TECHNO-COMMERCIAL BID

Part-II: PRICE BID

For detailed instructions, please refer GCC Rev 07- Instructions to Bidders.

2. Bidders shall submit their offers meeting the requirements of the following tender documents indicated in BHEL PEM GCC Rev- 07 and other Terms and Conditions included in this Enquiry Letter. Weblink of GCC Rev 07 shall be as below, **bidders may download the GCC Rev 07 from the given weblink and go through the same before quoting: -**
<https://www.bhelpem.com/Documents/GCC/GCCRev07.pdf>
3. Bidders to note that following form the part of tender documents:
- General Conditions of Contract (GCC) Rev 07 comprising of: Instructions to Bidders and General Commercial Terms & Conditions
 - Technical Specifications
 - Technical PQR
 - Special Conditions of Contract (SCC Rev 01) of Bhusawal Project.
 - Enquiry terms & conditions (NIT)
 - Annexures I –III

GAURAV JAIN
Digitally signed by GAURAV JAIN
DN: c=IN, o=BHARAT HEAVY
ELECTRICALS LIMITED, ou=BHEL / PS-
PEM- Noida, postalCode=201301,
st=Uttar Pradesh,
2.5.4.20=7e7557779717703346ee38e
60b1e569d908c8082bd022c51 d63b7
6315194832, cn=GAURAV JAIN
Date: 2020.08.25 12:25:26 +05'30'

Gaurav Jain/Sr. MGR/PGIII
PS-Project Engineering Management,
Power Project Engineering Institute,
Plot no. 25, Sector – 16A, Noida (UP) 201301, INDIA
(OFF) +91-120-4368835, (MOB.) +91 8800990290

Regd. Office
BHEL House Siri Fort
New Delhi-110049

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4. Any hidden conditions/deviations mentioned elsewhere in offer and standard pre-printed terms & conditions of the tenderers shall not be considered valid.
5. Tenders shall be submitted strictly in accordance with the requirements of the above-mentioned tender documents. Deviations (Technical as well as Commercial), if any, shall be listed out separately in Annexure-II of GCC Rev-07 along with reasons for taking such deviations in the bidding format in E-Procurement portal. Any deviations (Technical as well as Commercial) not mentioned in the Annexure-II shall not be considered. Bidders to note all the points mentioned in "Notes" of Annexure-II of GCC Rev.07.
6. If any bidder has mentioned the term "Not Applicable" / "not required" / "not quoted" in BHEL price format, the same to be substantiated by the bidder. If such item is required to be supplied for system completion in future, same will be supplied free of cost by the successful bidder.
7. Purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any/all tender(s) in part or full without assigning any reason whatsoever.
8. Tenderers must enclose the Quality Plan in the prescribed format, for approval. Equipment will be dispatched only after Purchaser's/Owner's inspection of the hold points specified in the approved Quality Plan and issue of Material Dispatch Clearance Certificate (MDCC).
9. Offers should be submitted separately in two parts **online through e-procurement system only**, however, all correspondence thereof, shall be addressed to the undersigned by name & designation and sent at the following address:

Mr. Mohit Kumar Dy. Engineer, PG-III E-mail: mohitgupta@bhel.in Ph. +91-120-4368832; Mob: 7503530406	Mr. Rahul Bhatnagar Sr. Engineer, PG-III E-Mail: rahulbhatnagar@bhel.in Ph. No. +91-120-4368727; Mob: 9654499303	Mr. Gaurav Jain Sr. Manager, PG-III E-Mail: gjain@bhel.in Ph. No. +91-120-4368835; Mob: 8800990290
M/s. Bharat Heavy Electricals Ltd., Project Engineering Management, PPEI Building, Plot No 25, Sector-16A, Noida-201301, U.P., INDIA		

10. Evaluation will be done on L1 (Total cost to BHEL excluding GST) basis.
11. **MODE OF EVALUATION FOR FINALISATION OF PRICES (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."
12. **MAKE IN INDIA Clause: -** "For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/ Non Local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT of Govt. of India. 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".
 - The local supplier at the time of tender, bidding, solicitation, shall be required to provide self-certification that the item offered meets the minimum local content as per above mentioned orders and shall give details of location(s) at which the local value addition is made as per enclosed **annexure –III to NIT/** revised formats which may be asked later.
 - Subject package is **non-divisible** in nature.
13. Bidder to note that this is a conditional Open Tender enquiry and the price bid (Part-II) opening/RA participation shall be subject to following condition: -

Gaurav Jain/Sr. MGR/PGIII
 PS-Project Engineering Management,
 Power Project Engineering Institute,
 Plot no. 25, Sector – 16A, Noida (UP) 201301, INDIA
 (OFF) +91-120-4368835, (MOB.) +91 8800990290

Regd. Office
 BHEL House Siri Fort
 New Delhi-110049

GAURAV JAIN
 Digitally signed by GAURAV JAIN
 DN: c=IN, o=BHARAT HEAVY
 ELECTRICALS LIMITED, ou=BHEL /
 PS-PEM, Noida,
 postalCode=201301, st=Uttar
 Pradesh,
 2.5.4.20=7c7557779f7f703346ee
 38e60b8e569d908c8082b022c5
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 JAIN
 Date: 2020.08.25 12:25:51 +05'30'

Ref. Enquiry No.: PE/PG/BHU/E-6505/2020, Dated 25.08.2020

- A) Meeting of Technical PQR
- B) Techno-commercial qualification/recommendation of bidder by the BHEL-PEM.
- C) Approval of Vendor from end Customer (MAHAGENCO). Same shall be taken up by BHEL-PEM with customer based on the credentials/reference list/experience list furnished by bidders. Bidders to submit the credentials as per MAHAGENCO sub vendor format for approval.

14. Delivery Completion schedule:

Refer Annexure-II for delivery completion schedule.

15. Payment terms: -

- a) **For Main supply:** - As per clause no. 9.1 of General Commercial Terms and conditions of GCC Rev 07.
- b) **For Mandatory Spares:** - As per clause no. 9.1 of General Commercial Terms and conditions of GCC Rev 07.
- c) **For Type Test Charges, Short circuit test* & Frequency response analysis test after installation at site:** As per clause no. 9.5 of General Commercial Terms and conditions of GCC Rev 07.

*In line with note no.-03 of BOQ, "CHARGES FOR CARRYING OUT SHORT CIRCUIT TEST (ON 1 NO. 10 MVA 11/3.45 KV TRANSFORMER) SHALL BE PAYABLE BASED ON ACTUAL INVOICE FROM DESIGNATED LABORATORIES (CPRI BHOPAL/ CPRI BANGLORE / ERDA VADODARA) WITH AN ADDITIONAL LUMP-SUM AMOUNT OF 5% OF Ex-Works Prices of TRANSFORMER BEING TESTED TO COVER HANDLING COSTS (TRANSPORTATION, INSURANCE ETC.)." These charges shall not be considered for evaluation, however shall be reimbursable to vendor as above.

16. Liquidated Damages: - As per clause no. 16 of General Commercial Terms and conditions of GCC Rev 07.

17. Prices shall remain firm till completion of contract.

18. The Variation on overall package value due to changes in the scope shall be +/-5% of contract value (Ex- works) which will prevail over the quantity variation clause no.6.0 indicated in the GCTC of GCC rev 07.

19. Compliance of model clauses as provided in Annexure-III of Ministry of Finance Order (Public Procurement No. 1), F.no.6/18/2019-PPD issued on 23.07.2020 (Restrictions under Rule 144 (xi) of the GFR,2017) shall be applicable for subject tender. Model Certificates provided in same Annexure-III shall also be complied. Further, relevant clause of order no. 25-11/6/2018-PG dated 02.07.20 issued by MoP shall also be complied.

20. Bidders to ensure that Third party/Customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and E-mail Id etc. In case the same is found not available, BHEL has the right to reject such document from evaluation.

21. Freight: - Bidders are required to quote freight mandatorily. Average of percentage of freight quoted by techno commercial accepted bidders in subject tender shall be used to calculate freight factor at the time of reverse auction /price bid opening for evaluation purpose.

22. For bidders (who are not registered with BHEL-PEM) -Online Registration Portal is operational in BHEL. Non-registered Vendors, who wish to apply for registration with BHEL-PEM, can apply through Online Registration Portal available at www.bhelpem.com → vendor section → Online Supplier Registration. All credentials and/or documents duly signed and stamped related to registration may be uploaded on the website and submit the application for registration. However, registration of suppliers with BHEL-PEM is not mandatory in case of open tender.

23. All corrigenda, addenda, amendments, time extensions, clarifications etc. to the tender will be hosted on BHEL websites only (www.bhelpem.com., www.bhel.com & <https://bhel.abcpocure.com>) under subject tender reference. Bidders are requested to visit our websites from time to time to keep themselves updated. Bidders may go through the Sellers' manual & Help documents provided on E-Procurement Portal website & obtain required

Ref. Enquiry No.: PE/PG/BHU/E-6505/2020, Dated 25.08.2020

Digital Signature Certificate for participating in the subject Tender. For Bidders' convenience, the Helpdesk Nos. of E-Procurement Portal are also listed below:

Name	Contact Nos.	e-mail ID	Role	Location
Mukunthan	+91 6353215001	Trichy.bhel@eptl.in	Support Executive	Trichy
Tej Singh	+91 6353215002	Bhopal.bhel@eptl.in	Support Executive	Bhopal
Sanjeev Kumar	+91 6353215003	Jhansi.bhel@eptl.in	Support Executive	Jhansi
Gaurav Panwar	+91 6353215004	Haridwar.bhel@eptl.in	Support Executive	Haridwar
Mallikarjun	+91 6353215005	Bengaluru.bhel@eptl.in	Support Executive	Bangalore
Avinash Govu	+91 6353215007	Hyderabad.bhel@eptl.in	Support Executive	Hyderabad
Swapnil Hamilton	+91 7940270549	swapnil.h@eptl.in	Support Executive	HO- Ahmedabad
Hardik Oza	+91 7940270560	Hardik.oza@eptl.in	Support Executive	HO- Ahmedabad
Ankur Bhatt	+91 7940270590	ankur.bhatt@eptl.in	Support Executive	HO- Ahmedabad
Prashant Rajyaguru	+91 7940270545	prashant@eptl.in	AM-Implementation & Support	HO- Ahmedabad
Dharam Rathod	+91 7940270596	dharam@eptl.in	Mgr – Implementation & Support	HO- Ahmedabad
Pradip Parmar	+91 7940270532	pradip@eptl.in	SM – Implementation & Support	HO- Ahmedabad
Devang Patel	+91 7940270576	devang@eptl.in	SM – Implementation & Support	HO- Ahmedabad

24. If any bidder uploads price bid in the unpriced section (techno-commercial attachment page) of the tender in e-procurement, in that case bidder(s) shall only be responsible for such mistake and any consequences thereof. Hence all bidders are requested to be more careful at the time of uploading the Unpriced and Price Bid for Part-I and Part-II respectively to avoid mismatch.

25. Bidders to note that "This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipments etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start-up /MSME".

26. Prices of Frequency Response Analysis Test after installation at site: -

Bidder to ensure that the prices of the Frequency Response Analysis Test after installation at site should be exactly 1% of the Ex-works prices of respective Transformer. In case, it is found in price bid that the same is not exactly 1%, BHEL shall evaluate the offer on the basis of quoted prices, however, during ordering, shall adjust the same as 1% of Ex-works prices of respective Transformer.

27. All other terms and conditions of SCC (Rev 01) of project, NIT & GCC (Rev 07) shall be applicable for the subject package.

28. Detailed offers are to be uploaded including the following along with the Price schedule as per BHEL format enclosed with NIT: -

- Acceptance of BHEL-PEM GCC Rev-07
- Acceptance of Special Conditions of Contract (SCC Rev 01) for the project.
- Technical & Commercial Deviations, if any along with Cost of withdrawal in bidding form
- Along with your offer, please submit a copy of this letter duly signed & stamped on each page as token of acceptance of terms & instructions conveyed.
- Un-Priced price format duly filled in 'Quoted' or 'Q' in each column/row in bidding form
- Filled Format of Certification regarding Local content (annexure –III)

Gaurav Jain/Sr. MGR/PGIII
PS-Project Engineering Management,
Power Project Engineering Institute,
Plot no. 25, Sector – 16A, Noida (UP) 201301, INDIA
(OFF) +91-120-4368835, (MOB.) +91 8800990290

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BHEL House Siri Fort
New Delhi-110049

GAURAV JAIN
Digitally signed by GAURAV JAIN
DN: c=IN, o=BHARAT HEAVY ELECTRICALS LIMITED, ou=BHEL / PS-PEM, postalCode=201301, st=Uttar Pradesh, 2.5.4.20=7e755777907703346, email=gaaurav.jain@bhel.co.in, cn=GAURAV JAIN
Date: 2020.08.25 12:26:33 +05'30'

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All the above Tender Documents shall automatically become a part of the Order/Contract after its finalisation.
Thanking You

Yours faithfully,
For and on behalf of BHEL-PEM

GAURAV JAIN

Digitally signed by GAURAV JAIN
DN: cn=IN, o=BHARAT HEAVY ELECTRICALS LIMITED,
ou=BHEL / PS-PEM- Noida, postalCode=201301,
st=Uttar Pradesh,
2.5.4.20a7e7f55779f77703346ee38e60bbe569d908c8
082bd022c51d63b763f5194832, cn=GAURAV JAIN
Date: 2020.08.25 12:27:00 +05'30'

Gaurav Jain
(Sr. Manager/PG-III/BHEL-PEM)

Enclosures:

1. Technical Specification No. PE-TS-415-302-E001, Rev00
2. Technical PQR
3. SCC Rev 01
4. BOQ - Annexure –I
5. Delivery completion cum Drawings/documents submission Schedule (Annexure –II)
6. Format of Certification reg. Local content (annexure –III)
7. Performa for End customer approval

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DUE DATE
05 Sep 2020
BY 02:00 PM

Dear Sir/ Ma'am

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BHEL invites your offers for Design, Manufacture, Inspection and testing at Manufacturer's works, proper packing, alongwith supply of mandatory spares, special tools/tackles, Type Tests & SHORT CIRCUIT TEST and Frequency response analysis test after installation at site etc. to site for **1 x 660 MW BHUSAWAL Thermal Power Project Unit-6** as specified/ defined as per tender technical specification PE-TS-415-302-E001 Rev00, amendment & agreements till placement of order for **OIL FILLED SERVICE TRANSFORMER for 1 X 660 MW BHUSAWAL TPS.**

Your offer shall be submitted in two parts strictly as per Clause-2.0 of the "Instructions to Bidders" of GCC Rev. 07, in sealed cover for the below mentioned equipment/system.

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Sl. No.	Project	TECHNICAL SPECIFICATIONS REF.	Delivery completion schedule
1	1 x 660 MW BHUSAWAL TPS	PE-TS-415-302-E001	As per annexure – II to NIT

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Mr. Mohit Kumar Dy. Engineer, PG-III E-mail: mohitgupta@bhel.in Ph. +91-120-4368832; Mob: 7503530406	Mr. Rahul Bhatnagar Sr. Engineer, PG-III E-Mail: rahulbhatnagar@bhel.in Ph. No. +91-120-4368727; Mob: 9654499303	Mr. Gaurav Jain Sr. Manager, PG-III E-Mail: gjain@bhel.in Ph. No. +91-120-4368835; Mob: 8800990290
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14. **Delivery Completion schedule:**
Refer Annexure-II for delivery completion schedule.

15. **Payment terms: -**

- a) **For Main supply:** - As per clause no. 9.1 of General Commercial Terms and conditions of GCC Rev 07.
- b) **For Mandatory Spares:** - As per clause no. 9.1 of General Commercial Terms and conditions of GCC Rev 07.
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*In line with note no.-03 of BOQ, "CHARGES FOR CARRYING OUT SHORT CIRCUIT TEST (ON 1 NO. 10 MVA 11/3.45 kV TRANSFORMER) SHALL BE PAYABLE BASED ON ACTUAL INVOICE FROM DESIGNATED LABORATORIES (CPRI BHOPAL/ CPRI BANGLORE / ERDA VADODARA) WITH AN ADDITIONAL LUMP-SUM AMOUNT OF 5% OF Ex-Works Prices of TRANSFORMER BEING TESTED TO COVER HANDLING COSTS (TRANSPORTATION, INSURANCE ETC.)." These charges shall not be considered for evaluation, however shall be reimbursable to vendor as above.

16. **Liquidated Damages:** - As per clause no. 16 of General Commercial Terms and conditions of GCC Rev 07.

17. **Prices** shall remain firm till completion of contract.

18. The Variation on overall package value due to changes in the scope shall be +/-5% of contract value (Ex- works) which will prevail over the quantity variation clause no.6.0 indicated in the GCTC of GCC rev 07.

19. Compliance of model clauses as provided in Annexure-III of Ministry of Finance Order (Public Procurement No. 1), F.no.6/18/2019-PPD issued on 23.07.2020 (Restrictions under Rule 144 (xi) of the GFR,2017) shall be applicable for subject tender. Model Certificates provided in same Annexure-III shall also be complied. Further, relevant clause of order no. 25-11/6/2018-PG dated 02.07.20 issued by MoP shall also be complied.

20. Bidders to ensure that Third party/Customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and E-mail Id etc. In case the same is found not available, BHEL has the right to reject such document from evaluation.

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Name	Contact Nos.	e-mail ID	Role	Location
Mukunthan	+91 6353215001	Trichy.bhel@eptl.in	Support Executive	Trichy
Tej Singh	+91 6353215002	Bhopal.bhel@eptl.in	Support Executive	Bhopal
Sanjeev Kumar	+91 6353215003	Jhansi.bhel@eptl.in	Support Executive	Jhansi
Gaurav Panwar	+91 6353215004	Haridwar.bhel@eptl.in	Support Executive	Haridwar
Mallikarjun	+91 6353215005	Bengaluru.bhel@eptl.in	Support Executive	Bangalore
Avinash Govu	+91 6353215007	Hyderabad.bhel@eptl.in	Support Executive	Hyderabad
Swapnil Hamilton	+91 7940270549	swapnil.h@eptl.in	Support Executive	HO- Ahmedabad
Hardik Oza	+91 7940270560	Hardik.oza@eptl.in	Support Executive	HO- Ahmedabad
Ankur Bhatt	+91 7940270590	ankur.bhatt@eptl.in	Support Executive	HO- Ahmedabad
Prashant Rajyaguru	+91 7940270545	prashant@eptl.in	AM-Implementation & Support	HO- Ahmedabad
Dharam Rathod	+91 7940270596	dharam@eptl.in	Mgr – Implementation & Support	HO- Ahmedabad
Pradip Parmar	+91 7940270532	pradip@eptl.in	SM – Implementation & Support	HO- Ahmedabad
Devang Patel	+91 7940270576	devang@eptl.in	SM – Implementation & Support	HO- Ahmedabad

24. If any bidder uploads price bid in the unpriced section (techno-commercial attachment page) of the tender in e-procurement, in that case bidder(s) shall only be responsible for such mistake and any consequences thereof. Hence all bidders are requested to be more careful at the time of uploading the Unpriced and Price Bid for Part-I and Part-II respectively to avoid mismatch.

25. Bidders to note that "This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipments etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start-up /MSME".

26. Prices of Frequency Response Analysis Test after installation at site: -

Bidder to ensure that the prices of the Frequency Response Analysis Test after installation at site should be exactly 1% of the Ex-works prices of respective Transformer. In case, it is found in price bid that the same is not exactly 1%, BHEL shall evaluate the offer on the basis of quoted prices, however, during ordering, shall adjust the same as 1% of Ex-works prices of respective Transformer.

27. All other terms and conditions of SCC (Rev 01) of project, NIT & GCC (Rev 07) shall be applicable for the subject package.

28. Detailed offers are to be uploaded including the following along with the Price schedule as per BHEL format enclosed with NIT: -

- Acceptance of BHEL-PEM GCC Rev-07
- Acceptance of Special Conditions of Contract (SCC Rev 01) for the project.
- Technical & Commercial Deviations, if any along with Cost of withdrawal in bidding form
- Along with your offer, please submit a copy of this letter duly signed & stamped on each page as token of acceptance of terms & instructions conveyed.
- Un-Priced price format duly filled in 'Quoted' or 'Q' in each column/row in bidding form
- Filled Format of Certification regarding Local content (annexure –III)

Ref. Enquiry No.: PE/PG/BHU/E-6505/2020, Dated 25.08.2020

All the above Tender Documents shall automatically become a part of the Order/Contract after its finalisation.
Thanking You

Yours faithfully,
For and on behalf of BHEL-PEM

Gaurav Jain
(Sr. Manager/PG-III/BHEL-PEM)

Enclosures:

1. Technical Specification No. PE-TS-415-302-E001, Rev00
2. Technical PQR
3. SCC Rev 01
4. BOQ - Annexure –I
5. Delivery completion cum Drawings/documents submission Schedule (Annexure –II)
6. Format of Certification reg. Local content (annexure –III)
7. Performa for End customer approval

Project: 1 x 660 MW BHUSAWAL TPS

Technical Specifications Ref.: PE-TS-415-302-E001

ANNEXURE-I

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MAIN SUPPLY ITEMS)

S. No.	Item code	Item description	Unit	QUANTITY	REMARKS
MAIN SUPPLY ITEMS:					
(A)		OIL FILLED SERVICE TRANSFORMERS as below:			
A.1	302-11068-A	10000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=9.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)	NOS.	2	REFER NOTE-2
A.2	302-11067-A	7500 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=8.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)	NOS.	2	
A.3	302-11066-A	6300 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=8.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)	NOS.	2	
A.4	302-11928-A	2000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=6.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)	NOS.	4	
A.5	302-11065-A	1000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=6.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)	NOS.	2	
A.6	302-11039-A	630 kVA, 6.6 kV/433 V, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z=6.0%, Dyn11, OFF CIRCUIT TAP CHANGER ±5% IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND LV TERMINATION)	NOS.	2	
(B)	302-11045-A	10 % EXTRA TRANSFORMER OIL IN SEALED NON RETURNABLE STANDARD DRUMS			REFER NOTE-4 & 5
B.1		10 % EXTRA TRANSFORMER OIL FOR 10000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
B.2		10 % EXTRA TRANSFORMER OIL FOR 7500 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
B.3		10 % EXTRA TRANSFORMER OIL FOR 6300 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
B.4		10 % EXTRA TRANSFORMER OIL FOR 2000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
B.5		10 % EXTRA TRANSFORMER OIL FOR 1000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
B.6		10 % EXTRA TRANSFORMER OIL FOR 630 kVA, 6.6kV/433 V, 3 PHASE, 2 WINDING TRANSFORMER	LOT	1	
MANDATORY SPARES ITEMS:					
C	302-11000-B	MANDATORY SPARE (DETAILS AS PER ANNEXURE-B)	SET	1	REFER ANNEXURE-B
MISC. ITEMS:					

Project: 1 x 660 MW BHUSAWAL TPS**Technical Specifications Ref.: PE-TS-415-302-E001****ANNEXURE-A****BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MAIN SUPPLY ITEMS)**

S. No.	Item code	Item description	Unit	QUANTITY	REMARKS
D	302-11055-A	MISCELLANEOUS ITEMS			
D.1		SPECIAL TOOLS AND TACKLES	LOT	1	BIDDER TO FURNISH THE LIST
D.2		FREQUENCY RESPONSE ANALYSIS TEST AFTER INSTALLATION AT SITE:			REFER NOTE -6 & 8
D.2.a		FOR 10000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	2	REFER NOTE -6 & 8
D.2.b		FOR 7500 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	2	REFER NOTE -6 & 8
D.2.c		FOR 6300 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	2	REFER NOTE -6 & 8
D.2.d		FOR 2000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	4	REFER NOTE -6 & 8
D.2.e		FOR 1000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	2	REFER NOTE -6 & 8
D.2.f		FOR 630 kVA, 6.6kV/433 V, 3 PHASE, 2 WINDING TRANSFORMER	NOS.	2	REFER NOTE -6 & 8
E	302-11051-A	TYPE TEST (DETAILS AS PER ANNEXURE-C)	LOT	1	REFER ANNEXURE-C

Notes:

1	BIDDER TO NOTE THAT THE COST OF TRANSFORMER SHALL INCLUDE THE COST OF ROUTINE TESTS (MENTIONED AT CLAUSE 5.1 OF ANNEXURE-III, SEC-I OF TECHNICAL SPECIFICATION). ROUTINE TESTS SHALL BE CARRIED OUT ON ALL TRANSFORMERS WITHOUT ANY ADDITIONAL COST. BIDDER SHALL QUOTE ACCORDINGLY. BIDDER TO SUBMIT THE ROUTINE TEST REPORTS FOR APPROVAL.
2	SPECIAL / TYPE TESTS AS PER IS/IEC AND CLAUSE 5.2 OF ANNEXURE-III, SEC-I OF TECHNICAL SPECIFICATION SHALL BE CONDUCTED ON 1 NO. 10 MVA, 11/3.45 kV TRANSFORMER AT THIRD PARTY LAB/ BIDDER WORKS IN PRESENCE OF BHEL/ CUSTOMER'S REPRESENTATIVE. BIDDER SHALL QUOTE COST OF TYPE TEST(EXCEPT SHORT CIRCUIT TEST DETAILS OF WHICH IS MENTIONED IN SL. NO. 3 BELOW) FOR 1 NO. 10 MVA 11/3.45 kV TRANSFORMER AS PER ANNEXURE-C. BIDDER TO SUBMIT THE TYPE TEST REPORTS FOR APPROVAL
3	CHARGES FOR CARRYING OUT SHORT CIRCUIT TEST (ON 1 NO. 10 MVA 11/3.45 kV TRANSFORMER) SHALL BE PAYABLE BASED ON ACTUAL INVOICE FROM DESIGNATED LABORATORIES (CPRI BHOPAL/ CPRI BANGLORE / ERDA VADODARA) WITH AN ADDITIONAL LUMP SUM AMOUNT OF 5% OF EX-WORKS PRICE OF TRANSFORMER BEING TESTED TO COVER HANDLING COSTS (TRANSPORTATION, INSURANCE ETC.).
4	QUANTITY OF 10% EXTRA OIL (CONSIDERED AS 1 LOT FOR EACH RATING AND TOTAL NOS. OF TRANSFORMER OF PARTICULAR RATING MENTIONED UNDER SL. NO. 1 TO 6) SHALL BE SUBJECT TO APPROVAL DURING DETAIL ENGINEERING AS PER QUANTITY OF OIL FINALISED FOR EACH RATING OF TRANSFORMER.
5	BIDDER SHALL QUOTE THE COST OF 10% EXTRA OIL IN THE LINE ITEMS MENTIONED ABOVE AND NOT TO BE COMBINED/INCLUSIVE WITH COST OF TRANSFORMER.
6	BIDDER TO CARRY OUT FREQUENCY RESPONSE ANALYSIS TEST (MENTIONED IN ANNEXURE-III, CL. NO. 5.1.6) ON ALL TRANSFORMER AFTER INSTALLATION AT SITE. ANY EQUIPMENT/ INSTRUMENT INCLUDING FREQUENCY RESPONSE ANALYSER FOR TESTING AT SITE SHALL BE ARRANGED BY BIDDER. NO OTHER CHARGES SHALL BE PAYABLE BY BHEL
7	BOQ-CUM-PRICE SCHEDULE MAIN ITEMS (ANNEXURE-A), MANDATORY SPARES (ANNEXURE-B) AND TYPE TEST (ANNEXURE-C) WILL BE TEST CONSIDERED FOR PRICE EVALUATION PURPOSE

Project: 1 x 660 MW BHUSAWAL TPS

Technical Specifications Ref.: PE-TS-415-302-E001

ANNEXURE-A

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MAIN SUPPLY ITEMS)

S. No.	Item code	Item description	Unit	QUANTITY	REMARKS
8		Bidder to ensure that the prices of the "Frequency Response Analysis Test after installation at site" in D.2.a to D.2.f above should be exactly 1% of the Ex-works prices of respective Transformer above at A.1 to A.6. In case, it is found in price bid that the same is not exactly 1%, BHEL shall evaluate the offer on the basis of quoted prices, however, during ordering, shall adjust the same as 1% of Ex-works prices of respective Transformer.			

Project: 1 x 660 MW BHUSAVAL TPS

Technical Specifications Ref.: PE-TS-415-302-E001

ANNEXURE-B

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MANDATORY SPARES ITEMS) [item C of MAIN BOQ Annexure-A]

S. NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	ORDERED QUANTITY	REMARKS
A		FOR 10 MVA AND 2 MVA 11/3.45 kV TRANSFORMERS			
	302-11000-B	MANDATORY SPARES FOR EACH TYPE AND RATING OF TRANSFORMER			
1		HV BUSHING WITH METAL PARTS AND GASKETS 12KV (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	3	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	3	
2		LV BUSHING WITH METAL PARTS AND GASKETS 3.6KV (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	3	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	3	
3		WTI WITH CONTACTS (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
4		OTI WITH CONTACTS (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
5		REMOTE WTI (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 2000 kVA	NOS.	1	
6		REMOTE OTI (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 2000 kVA	NOS.	1	
7		PRESSURE RELIEF DEVICE (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
8		MOG (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
9		BUCHOLZ RELAY COMPLETE (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MANDATORY SPARES ITEMS) [item C of MAIN BOQ Annexure-A]

S. NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	ORDERED QUANTITY	REMARKS
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
10		SET OF GASKETS (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
11		SET OF VALVES (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
12		AIR CELL FOR CONSERVATOR (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
13		SET OF TAP CHANGE CONTACTS (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
14		SUDDEN PRESSURE RELAY (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
15		LV NEUTRAL BUSHING (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	2	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	2	
16		SILICA GEL BREATHER (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
17		COMPLETE CABLE CUM BUS DUCT LV 1 NO. TERMINAL (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 10000 kVA	SETS	1	
b)		FOR 11/3.45 kV, 2000 kVA	SETS	1	
B		FOR 7.5 MVA, 6.3 MVA, 1 MVA 11/3.45 kV AND 630 kVA 6.6/0.433 kV TRANSFORMERS			
	302-11000-B	MANDATORY SPARES FOR EACH TYPE AND RATING OF TRANSFORMER			
1		HV, LV AND LV NEUTRAL BUSHING (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	SETS	1	

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MANDATORY SPARES ITEMS) [item C of MAIN BOQ Annexure-A]

S. NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	ORDERED QUANTITY	REMARKS
b)		FOR 11/3.45 kV, 6300 kVA	SETS	1	
c)		FOR 11/3.45 kV, 1000 kVA	SETS	1	
d)		FOR 6.6/0.433 kV, 630 kVA	SETS	1	
2		WTI WITH CONTACTS (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
3		TAP CHANGER CONTACTS (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	SETS	1	
b)		FOR 11/3.45 kV, 6300 kVA	SETS	1	
c)		FOR 11/3.45 kV, 1000 kVA	SETS	1	
d)		FOR 6.6/0.433 kV, 630 kVA	SETS	1	
4		MAGNETIC OIL GAUGE / OIL LEVEL INDICATOR WITH CONTACTS (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MANDATORY SPARES ITEMS) [item C of MAIN BOQ Annexure-A]

S. NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	ORDERED QUANTITY	REMARKS
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
5		OTI WITH CONTACTS (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
6		BUCHOLZ RELAY (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
7		FLOAT WITH CONTACTS FOR BUCHOLZ REALY (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
8		SET OF GASKETS (OTHER THAN THAT WITH BUSHING) OF EACH TYPE & RATING			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
9		SET OF VALVES (OF EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	SETS	1	
b)		FOR 11/3.45 kV, 6300 kVA	SETS	1	
c)		FOR 11/3.45 kV, 1000 kVA	SETS	1	
d)		FOR 6.6/0.433 kV, 630 kVA	SETS	1	
10		PRESSURE RELIEF DEVICE (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	NOS.	1	
b)		FOR 11/3.45 kV, 6300 kVA	NOS.	1	
c)		FOR 11/3.45 kV, 1000 kVA	NOS.	1	

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (MANDATORY SPARES ITEMS) [item C of MAIN BOQ Annexure-A]

S. NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	ORDERED QUANTITY	REMARKS
d)		FOR 6.6/0.433 kV, 630 kVA	NOS.	1	
11		SILICA GEL BREATHER (FOR EACH TYPE & RATING)			
a)		FOR 11/3.45 kV, 7500 kVA	SETS	1	
b)		FOR 11/3.45 kV, 6300 kVA	SETS	1	
c)		FOR 11/3.45 kV, 1000 kVA	SETS	1	
d)		FOR 6.6/0.433 kV, 630 kVA	SETS	1	
C		FOR OIL FILLED SERVICE TRANSFORMER			
1		TEMPERATURE INDICATOR / GAUGE FOR 11kV/3.45kV TRANSFORMERS	NOS.	2	
2		TEMPERATURE SCANNER FOR 11kV/3.45kV TRANSFORMERS	NOS.	2	
<u>Notes:</u>					
1	1 SET CONSISTS OF QUANTITIES REQUIRED FOR 1 COMPLETE RATING OF TRANSFORMER				

Project: 1 x 660 MW BHUSAVAL TPS

Technical Specifications Ref.: PE-TS-415-302-E001

ANNEXURE-C

BOQ FOR "OIL FILLED SERVICE TRANSFORMERS" (TYPE TESTS) [item E of MAIN BOQ Annexure-A]

Sr. No.	Description of Type Test	Unit	Quantity	REMARKS
	FOR 1 NO. 10000 KVA, 11/3.45 kV, 3 PHASE, 2 WINDING, OUTDOOR, ONAN, Z= 9.0%, Dyn11, OFF CIRCUIT TAP CHANGER $\pm 5\%$ IN STEPS OF 2.5% (WITH CABLE BOX TYPE HV AND WITH BUS-DUCT TYPE LV TERMINATION)			
A	Dielectric Type test (IEC60076-3) & Special Test			
1	Dielectric test as per method 2 of IS 2026 part III	NO.	1	
2	Separate source voltage withstand test for 1 min HV-38kVrms, LV-50kVrms	NO.	1	
3	Full wave lightning impulse test on HV terminal at 75 kVp	NO.	1	
4	Full wave lightning impulse test on LV terminal at 45 kVp	NO.	1	
5	Switching impulse test on HV terminal at rated 75kVp	NO.	1	
6	Repeat no load loss and excitation current measurement after dielectric test at 100% rated voltage and rated frequency	NO.	1	
7	Determination of transient voltage transfer characteristic	NO.	1	
8	Measurement of transferred surge on LV winding due to HV lightning impulse	NO.	1	
B	Measurement of zero-sequence impedance of three-phase transformers	NO.	1	
C	Short circuit test ** (Refer Notes-1)	NO.	1	AS PER NOTE 1
D	Measurement of acoustic noise-level	NO.	1	
E	Measurement of the harmonics in the No-load current	NO.	1	
F	Vacuum withstand test (full vacuum)	NO.	1	
Total				

NOTES

1	**CHARGES FOR CARRYING OUT SHORT CIRCUIT TEST SHALL BE PAYABLE BASED ON ACTUAL INVOICE FROM DESIGNATED LABORATORIES (CPRI BHOPAL/ CPRI BANGLORE / ERDA VADODARA) WITH AN ADDITIONAL LUMP SUM AMOUNT OF 5% OF EX-WORKS PRICE OF TRANSFORMER BEING TESTED TO COVER HANDLING COSTS (TRANSPORTATION, INSURANCE ETC.)
2	IN CASE ANY OF THE TYPE AND SPECIAL TESTS ARE REQUIRED TO BE REPEATED THE SAME SHALL BE CARRIED OUT BY THE BIDDER WITHOUT ANY COMMERCIAL / DELIVERY IMPLICATION TO BHEL
3	BIDDER TO QUOTE FOR EACH TEST.

ANNEXURE -II

DELIVERY COMPLETION SCHEDULE FOR BHUSAWAL- OIL FILLED SERVICE TRANSFORMERS PACKAGE**ENQUIRY No.-PW/PE/PG/BHU/E-6505/2020 Dtd. 24.08.2020**

Sl. No.	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Schedule for Vendors	Delivery completion schedule
1	PE-V0-415-302-E016	1000 KVA TRANSFORMER (11/3.45 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary	R-0 within five(5) weeks from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	Main Supply:- Within Nine (09) months from date of CAT-1 approval of Primary drawing/documents, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/documents, then same shall be reduced from the given delivery period. Delay in BHEL's comments/approval beyond 18 days shall also be considered for delay analysis. Mandatory Spares:- - Four (04) months from the date of BHEL clearance. Separate manufacturing clearance shall be given for mandatory spares. Delivery schedule for Frequency response analysis test after installation at site:- - Vendor to depute its service engineer for respective site activity within 15 days from BHEL's intimation, in line with BOQ cum Price schedule items and notes and relevant extract of technical specifications.
2	PE-V0-415-302-E116	2000 KVA TRANSFORMER (11/3.45 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary		
3	PE-V0-415-302-E216	6300 KVA TRANSFORMER (11/3.45 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary		
4	PE-V0-415-302-E316	7500 KVA TRANSFORMER (11/3.45 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary		
5	PE-V0-415-302-E516	630 KVA TRANSFORMER (6.6/0.433 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary		
6	PE-V0-415-302-E416	10000 KVA TRANSFORMER (11/3.45 KV) GA BUSHING DRG/(HV, LV & NEUTRAL)	Primary		
7	PE-V0-415-302-E011	1000 KVA SERVICE TRANSFORMER (11/3.45 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
8	PE-V0-415-302-E111	2000 KVA SERVICE TRANSFORMER (11/3.45 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
9	PE-V0-415-302-E211	6300 KVA SERVICE TRANSFORMER (11/3.45 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
10	PE-V0-415-302-E311	7500 KVA SERVICE TRANSFORMER (11/3.45 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
11	PE-V0-415-302-E511	630 KVA SERVICE TRANSFORMER (6.6/0.433 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
12	PE-V0-415-302-E411	10000 KVA SERVICE TRANSFORMER (11/3.45 KV) OUTLINE GENERAL ARRANGEMENT DRAWING (OGA) AND LIST OF FITTINGS/ACCESSORIES	Primary		
13	PE-V0-415-302-E014	1000 KVA TRANSFORMER (11/3.45 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
14	PE-V0-415-302-E114	2000 KVA TRANSFORMER (11/3.45 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
15	PE-V0-415-302-E214	6300 KVA TRANSFORMER (11/3.45 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
16	PE-V0-415-302-E314	7500 KVA TRANSFORMER (11/3.45 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
17	PE-V0-415-302-E414	10000 KVA TRANSFORMER (11/3.45 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
18	PE-V0-415-302-E514	630 KVA TRANSFORMER (6.6/0.433 KV) HV CABLE BOX & LV BUSDUCT/CABLE TERMINATION ARRANGEMENT DRAWING	Primary		
19	PE-V0-415-302-E013	1000 KVA, 11/3.45 KV TWIN BIDIRECTIONAL ROLLER	Primary		
20	PE-V0-415-302-E113	2000 KVA, 11/3.45 KV TWIN BIDIRECTIONAL ROLLER	Primary		
21	PE-V0-415-302-E213	6300 KVA, 11/3.45 KV TWIN BIDIRECTIONAL ROLLER	Primary		
22	PE-V0-415-302-E313	7500 KVA, 11/3.45 KV TWIN BIDIRECTIONAL ROLLER	Primary		
23	PE-V0-415-302-E413	10000 KVA, 11/3.45 KV TWIN BIDIRECTIONAL ROLLER	Primary		
24	PE-V0-415-302-E513	630 KVA, 6.6/0.433 KV TWIN BIDIRECTIONAL ROLLER	Primary		
25	PE-V0-415-302-E020	1000 KVA SERVICE TRANSFORMER (11/3.45 KV) VALVE SCHEDULE PLATE	Primary		
26	PE-V0-415-302-E120	2000 KVA SERVICE TRANSFORMER (11/3.45 KV) VALVE SCHEDULE PLATE	Primary		
27	PE-V0-415-302-E220	6300 KVA SERVICE TRANSFORMER (11/3.45 KV) VALVE SCHEDULE PLATE	Primary		
28	PE-V0-415-302-E320	7500 KVA SERVICE TRANSFORMER (11/3.45 KV) VALVE SCHEDULE PLATE	Primary		
29	PE-V0-415-302-E420	10000 KVA SERVICE TRANSFORMER (11/3.45 KV) VALVE SCHEDULE PLATE	Primary		
30	PE-V0-415-302-E520	630 KVA SERVICE TRANSFORMER (6.6/0.433 KV) VALVE SCHEDULE PLATE	Primary		
31	PE-V0-415-302-E015	1000 KVA SERVICE TRANSFORMER (11/3.45 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
32	PE-V0-415-302-E115	2000 KVA SERVICE TRANSFORMER (11/3.45 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
33	PE-V0-415-302-E215	6300 KVA SERVICE TRANSFORMER (11/3.45 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
34	PE-V0-415-302-E315	7500 KVA SERVICE TRANSFORMER (11/3.45 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
35	PE-V0-415-302-E415	10000 KVA SERVICE TRANSFORMER (11/3.45 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
36	PE-V0-415-302-E515	630 KVA SERVICE TRANSFORMER (6.6/0.433 KV) BILINGUAL RATING & DIAGRAM PLATE	Primary		
37	PE-V0-415-302-E017	1000 KVA TRANSFORMER (11/3.45 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		

Sl. No.	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Schedule for Vendors	Delivery completion schedule
38	PE-V0-415-302-E117	2000 KVA TRANSFORMER (11/3.45 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		
39	PE-V0-415-302-E217	6300 KVA TRANSFORMER (11/3.45 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		
40	PE-V0-415-302-E317	7500 KVA TRANSFORMER (11/3.45 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		
41	PE-V0-415-302-E417	10000 KVA TRANSFORMER (11/3.45 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		
42	PE-V0-415-302-E517	630 KVA TRANSFORMER (6.6/0.433 KV) GENERAL ARRANGEMENT AND WIRING DIAGRAM OF MARSHALLING BOX	Primary		
43	PE-V0-415-302-E019	1000 KVA SERVICE TRANSFORMER (11/3.45 KV) TECHNICAL DATA SHEET	Primary		
44	PE-V0-415-302-E119	2000 KVA SERVICE TRANSFORMER (11/3.45 KV) TECHNICAL DATA SHEET	Primary		
45	PE-V0-415-302-E219	6300 KVA SERVICE TRANSFORMER (11/3.45 KV) TECHNICAL DATA SHEET	Primary		
46	PE-V0-415-302-E319	7500 KVA SERVICE TRANSFORMER (11/3.45 KV) TECHNICAL DATA SHEET	Primary		
47	PE-V0-415-302-E419	10000 KVA SERVICE TRANSFORMER (11/3.45 KV) TECHNICAL DATA SHEET	Primary		
48	PE-V0-415-302-E519	630 KVA SERVICE TRANSFORMER (6.6/0.433 KV) TECHNICAL DATA SHEET	Primary	R0 within five(5) weeks from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	
49	PE-V0-415-302-E901	MQP FOR OIL FILLED SERVICE TRANSFORMERS	Primary		
50	PE-V0-415-302-E021	1000KVA TRANSFORMER (11/3.45 KV) TYPE TEST REPORT (Earlier conducted*)	Secondary		
51	PE-V0-415-302-E121	2000 KVA TRANSFORMER (11/3.45 KV) TYPE TEST REPORT (Earlier conducted*)	Secondary		
52	PE-V0-415-302-E221	6300 KVA TRANSFORMER (11/3.45 KV) TYPE TEST REPORT (Earlier conducted*)	Secondary		
53	PE-V0-415-302-E321	7500 KVA TRANSFORMER (11/3.45 KV) TYPE TEST REPORT (Earlier conducted*)	Secondary	R0 within one(1) week after conduction of type tests & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	
54	PE-V0-415-302-E521	630 KVA TRANSFORMER (6.6/0.433 KV) TYPE TEST REPORT (Earlier conducted*)	Secondary		
55	PE-V0-415-302-E421	10000 KVA TRANSFORMER (11/3.45 KV) TYPE TEST REPORT	Secondary	R-0 within five(5) weeks from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	
56	PE-V0-415-302-E018	1000 KVA TRANSFORMER (11/3.45 KV) FOUNDATION DRAWING	Secondary		
57	PE-V0-415-302-E118	2000 KVA TRANSFORMER (11/3.45 KV) FOUNDATION DRAWING	Secondary		
58	PE-V0-415-302-E218	6300 KVA TRANSFORMER (11/3.45 KV) FOUNDATION DRAWING	Secondary		
59	PE-V0-415-302-E318	7500 KVA TRANSFORMER (11/3.45 KV) FOUNDATION DRAWING	Secondary		
60	PE-V0-415-302-E418	10000 KVA TRANSFORMER (11/3.45 KV) FOUNDATION DRAWING	Secondary		
61	PE-V0-415-302-E518	630 KVA TRANSFORMER (6.6/0.433 KV) FOUNDATION DRAWING	Secondary	R-0 within five(5) weeks from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	
62	PE-V0-415-302-E422	DESIGN CALCULATIONS FOR SHORT CIRCUIT CAPABILITY OF 6300, 7500, 2000, 1000 & 630KVA TRANSFORMER	Primary		
63	PE-V0-415-302-E012	1000 KVA, 11/3.45 KV TRANSPORTATION DRG	Secondary		
64	PE-V0-415-302-E112	2000 KVA, 11/3.45 KV TRANSPORTATION DRG	Secondary		
65	PE-V0-415-302-E212	6300 KVA, 11/3.45 KV TRANSPORTATION DRG	Secondary		
66	PE-V0-415-302-E312	7500 KVA, 11/3.45 KV TRANSPORTATION DRG	Secondary		
67	PE-V0-415-302-E412	10000 KVA, 11/3.45 KV TRANSPORTATION DRG	Secondary		
68	PE-V0-415-302-E512	630 KVA, 6.6/0.433 KV TRANSPORTATION DRG	Secondary	Within 30 days of issuance of MDCC	
69	PE-V0-415-302-E902	O&M MANUAL/FQP FOR OIL FILLED SERVICE TRANSFORMERS	Secondary		
70	PE-V0-415-302-E903	BOM (BILL OF MATERIAL) FOR OIL FILLED TRANSFORMERS	Secondary	R-0 within five(5) weeks from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	

Sl. No.	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Schedule for Vendors	Delivery completion schedule
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NOTE:- Following shall be made part of NIT.

- The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- Non-applicable drawings shall be decided during execution of the package.
- Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.
- Drawing/ document nos. provided are tentative & may change, there shall be no commercial/ delivery implication to BHEL on this account.
- Vendor shall submit the dates for drawing/document submission/BHEL comments/resubmission after approval of documents

Note (*): as per clause no. 5.2 and 10 of Annexure-III of Technical specification(Page 21, 26 of 91).Conductance of Type Tests for 10 MVA (including any Special Test as per specification) & other rating (if required) and Type Test report approval shall be with in overall delivery period

Letter head of Company (<Rs. 10 Cr value)

Ref.....

Date.....

To,

Bharat Heavy Electricals Limited

PEM, PPEI Building, Plot No 25,

Sector -16A, Noida (U.P)-201301

Subject: - Certification regarding local content

Reference: Tender Enquiry No-.....

Name of Package:

Dear Sir,

We hereby certify that items offered by us of(package name).....for.....(Project Name/Rate contract)..... meets the requirement of minimum local content in line with Cl. No..... of NIT No..... dated..... and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019.

We further confirms that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company

Maharashtra State Power Generation Company Limited			
Bhusawal Project (1x660MW)			
Proforma of Vendor Approval			
Sr. No.	Information/ Particulars required	Details furnished along with documents thereof	Remarks if any
1	Name of System /Package/Item:		
2	Name of agency on whom order for the main work is placed		
3	Approval for (Name of construction material)		
4	Name of the vendors specified in contract document for this material		
5	Name of the proposed Sub Contractor(Vendor)		
6	Reasons for asking new vendor		
7	Details of supporting documents in lieu of above reasons		
8	Specific requirement of material in terms of dia, size, quantity etc.		
9	When the material is required & for which structure		
10	Whether vendor is Partnership/ Pvt./Public Ltd. Company		
11	Particular of registration with Government		
	i) GST registration No.		
	ii) Company registration No. & Incorporation Certificate		
	iii) PF & ESIC Certificate.		
	iv) Pan No.		
12	Address of vendor's factory		
13	Contact No. of vendor's representative for additional information		
14	Production Business Area		
16	Average annual turnover for last three years as per CA's Certificate		
17	Name of Companies where the vendor is registered		
18	Details of orders completed last 3 years (Quantity & amount)		
19	Details of orders in hand (Quantity & amount)		
20	Maximum value & quantity of work executed during last 3 years		
21	Name of the reputed, well known clients to whom the vendor has supplied the material		
22	End users Performance Certificate (Name & documents) along with the relevant PO.		
23	Any additional information		
24	Recommendation		

M/s BHEL

Sub-Contractor