



NOTICE INVITING TENDER

TENDER REF NO : INS ENGG/ POWER ARC TESTING -01/ 10-11

GENERAL TERMS AND CONDITIONS OF TENDER

BHEL EPD (A GOVT. OF INDIA ENTERPRISE) DESIRES TO CONDUCT POWER ARC TEST ON 400 KV STRINGS WITH 120 KN & 160 KN ANTIFOG DISC INSULATORS AS PER THE DETAILS MENTIONED IN Pages 1 to 19 .

Sealed Bids are invited from eligible TESTING LABORATORIES for conducting POWER ARC Test on 400 kV Strings under TWO PART Bids:

- 1) Techno-Commercial Bid**
- 2) Price Bid**

The Tender Document may be obtained from Sr.DGM/ Insl. Engg BHEL EPD Bangalore-12 and also may be downloaded from BHEL website <http://bhelceramics.com> or <http://www.bhel.com>

Interested and eligible TESTING LABORATORIES may study the Tender document carefully and offer their bids as Techno-Commercial bid and Price bid in two separate sealed covers duly subscribing the tender name, tender ref. no & due date. Please write 'Techno-Commercial bid' & 'Price Bid' on the respective covers.

If the offer is found in open condition, the same will be liable for rejection.

The PRICE BID of the parties who qualify TECHNO COMMERCIALY shall be opened and net cost will be computed. The exchange rate of SBI on the date of Techno Commercial bid opening shall be taken for currency conversion.

The salient features of the Tender Document are as follows:

- 1) Format of Techno Commercial Bid – Annexure APage No. 1
- 2) General requirements, scope of work, Technical details... .Page No. 2 to 5
- 3) Price Bid Format - Annexure BPage No. 6 & 7
- 4) Technical Specification , Scope of work of BHEL
& Testing LaboratoryPage No. 8 to 11
- 5) 400 kV String drawingsPage No. 12 to 17
- 6) 120 kN & 160 kN Insulator drawingsPage No. 18 to 19

Sr.DGM/ Insl Engg

**TECHNO COMMERCIAL BID – ANNEXUIRE A****TENDER REF NO : INS ENGG/ POWER ARC TESTING -01/ 10-11****TENDER NAME: POWER ARC TEST ON 400 KV STRINGS WITH 120 KN & 160 KN ANTIFOG DISC INULATORS****DATE OF ISSUE: 05.08.2010****LAST DATE FOR RECEIPT OF TENDER : 20.08.2010 BY 2: 00 PM (IST)****OPENING OF TECHNO COMMERCIAL BID : 20.08.2010 BY 2:30 PM****ESSENTIAL QUALIFICATIONS OF TECHNO COMMERCIAL OFFER :****ADDRESS OF TEST LABORATORY:**

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SL. No	PARAMETER	BHEL SPEC REQUIREMENT	LAB OFFER
1	Name of Contact Person	To be mentioned	
2	Email ID	To be mentioned	
3	Mobile No.	To be mentioned	
4	Land Line No.	To be mentioned	
5	Fax No.	To be mentioned	
6	Payment Terms	Through Letter of Credit as per Cl.9 of general terms & conditions	
7	Lead Time for testing	From order date	
8	Tentative Test dates	September 2010	
9	Offer Validity	90 days from tender opening	
10	Tax & duty structure	Service Tax, Duty %	
11	Any other charges		

Note: FILLED FORMS TO BE SUBMITTED ALONG WITH TECHNO COMMERCIAL BID SEALED IN A SEPARATE COVER DULY ADDRESSED TO Sr.DGM / INSL ENGG ALONG WITH TENDER NAME, TENDER REF.NO. AND DATE .TENDER BOX AVAILABLE AT BHEL EPD PREMISES (MAIN GATE RECEPTION) OR SENT THROUGH E MAIL TO

powerarctender@bhelepd.com

SIGNATURE OF TENDERER



GENERAL TERMS AND CONDITIONS OF TENDER

TENDER REF NO : INS ENGG/ POWER ARC TESTING -01/ 10-11

TENDER NAME: POWER ARC TEST ON 400 KV STRINGS WITH 120 KN & 160 KN ANTIFOG DISC INULATORS

1. The Techno-Commercial Bid and the Price Bid offer shall be put in two separate sealed covers and the covers should have corresponding TECHNO-COMMERCIAL BID, PRICE BID, TENDER NAME , TENDER REF NO. AND DUE DATE WRITTEN ON IT.The sealed covers should be addressed to :

**Sr.DGM / INSULATOR ENGINEERING DEPT.
BHARAT HEAVY ELECTRICAL LS TD.,
ELECTROPORCELAINS DIVISION
P.B No. 1245 , SCIENCE INSTITUTE POST
Bangalore – 560012 INDIA.**

so as to reach within 2:00 pm on the due date and the tenders will be opened at 2:30 pm on the same date in presence of Vendors or their authorised representatives who wish to attend the opening of Techno Commercial bids.

The offer sent through email is also acceptable.The email should be addressed to powerarctender@bhelepd.com

If the offer is found in open condition, the same will be liable for rejection. The Techno-Commercial offer will be opened on the due date . The Tenders meeting our techno-commercial requirements will be considered for opening the price bid at a later stage and the eligible Testing laboratory will be intimated about the date and place of Price Bid opening. BHEL will decide on placing order based on overall L1 (net testing cost).

1. **Scope of Work** : There can be some changes in the string configurations on which the test is required based on our Customers' approval. The same shall be intimated to all the test labs who qualify the technical requirements. Time shall be allotted for clarifications on the same before opening the price bid. Revised price bid shall be requested in such case.
2. **Validity** : The rates finalized for contract shall be valid for ONE YEAR from the release of work order for Testing.
3. **Price Evaluation** : The rates quoted shall be on Ex-works of testing laboratory basis, it shall be inclusive of unloading charges but exclusive of freight and insurance. Duties and Taxes on the date shall be explicitly mentioned. The taxes and duties will be paid extra as applicable on the date of dispatch of material from BHEL EPD Bangalore. Disc insulators will be packed in crates and the crates shall be palletized suitable to air/ ship transport. Unloading of insulators will be Testing laboratory's scope. Testing dates indicated in work orders shall be adhered unless and otherwise changes are made and communicated to BHEL by the Testing laboratory 30 days in advance.
4. **Testing laboratory Capability & Process Requirement:**

The Testing Laboratory shall have adequate facility for testing. All equipments and measuring instruments used shall be duly calibrated. The laboratory shall have personnel / process qualification and shall maintain a valid record of the same. The Lab should have sufficient trained crew to ensure smooth flow of work in addition to requisite handling facilities.
5. **Handling Capacity** : The testing Laboratory should have minimum handling facilities for handling and mounting Suspension and Tension Disc Insulator strings.
6. **Lead Time** : offers shall indicate minimum and maximum lead time required to execute the orders for the tests indicated.
7. **The order will be placed on the testing laboratory depending on their position in comparative statement of the original offer and subject to their acceptance.**



8. **Price Comparison:** Prices shall be considered on TOTAL COST BASIS (COST TO BHEL) .Total cost shall be worked out on price quoted including freight, excise duty, sales tax after taking out CENVAT and VAT benefits as applicable. The comparative statement prepared on the reference date shall remain firm throughout the execution period.

The Foreign Exchange rate taken for reference shall be of Reserve Bank of India on the date of Techno Commercial Bid Opening.

- A) The lowest price received against BHEL Tender need not be the commercially lowest price (L1) and BHEL reserves the right to NEGOTIATE the same.
- B) BHEL reserves the right/opinion to REFLOAT the tender if L1 price is not the lowest acceptable price to BHEL.
9. **Ranking Price :** For ranking the vendor L1, L2, L3 etc the basis will be lowest tender value arrived at with quoted price as the basis. As far as possible overall L1 price will be considered for award of contract.
10. **Payments terms :** BHEL shall open an irrevocable Letter of Credit in the name of the concerned Lab. The L/C will be opened before commencement of testing. After the completion of tests, the representative of BHEL witnessing the tests shall certify the same and 100% amount shall be payable after the submission of 3 sets of original reports in English Language.
11. **Selection Criteria :** The lowest bidder meeting all the technical and commercial requirements shall be awarded the contracts. The bidder shall also send the details of the testing facilities including the rating of test equipments.
12. **Risk Purchase Clause :** If the testing Laboratory is not able to carry out the tests as per terms of contract, BHEL has the option to terminate the contract and get the tests done in different lab at the risk and cost of the awarded Testing laboratory.



13. Arbitration : Settlement of disputes, if any arises, at any time between BHEL and Testing laboratory upon or in relation to or in connection with the Testing laboratory, the same shall be referred to the HEAD of BHEL unit or to a person appointed by him. The award of the arbiter shall be final and binding on both BHEL and the testing Laboratory.

14. Legal Jurisdiction : In case of any proceedings, area of Jurisdiction shall be Bangalore Court only.

15. The Tender not meeting any of the above conditions may not be entertained.

16. Clarification sought by BHEL during Technical & Commercial Evaluation

In case BHEL asks for any clarification, the Testing Laboratory has to submit the same within specified date otherwise the offer will be evaluated considering the clarifications, if any received as on specified date. No grace period or late submission is allowed.

17. Contact Person for Information :

General Contract Related queries: Name: Designation: Tel. Nos.: Email ID: Mbl:	Y.BABU RAO Sr.DGM / INSULATOR ENGG 91 080-22182322 / 91 080 23568973 baburao@bhelepd.com +919449003936
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ALL TESTING LABORATORIES SHOULD QUOTE FOR TOTAL COST ONLY AS PER ENCLOSED FORMAT IN PAGE NO 6 .

**PRICE BID – ANNEXUIRE B****TENDER REF NO : INS ENGG/ POWER ARC TESTING -01/ 10-11****TENDER NAME: POWER ARC TEST ON 400 KV STRINGS WITH 120 KN & 160 KN ANTIFOG DISC INULATORS**

GUIDELINES TO CALCULATE COST TO BHEL EPD BANGALORE			
SL NO	DESCRIPTION	RATE/STRING	
		IN FUGURES	IN WORDS
A)	POWER ARC TEST ON 400 KV SINGLE 'I' SUSPENSION STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR .		
B)	POWER ARC TEST ON 400 KV SINGLE 'I' SUSPENSION PILOT STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR .		
C)	POWER ARC TEST ON 400 KV DOUBLE TENSION STRING WITH 2 X 23 UNITS OF 160 KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR .		
D)	POWER ARC TEST ON 400 KV SINGLE 'I' SUSPENSION PILOT STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR .		
E)	POWER ARC TEST ON 400 KV DOUBLE 'I' SUSPENSION STRING WITH 2 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR .		
F)	POWER ARC TEST ON 400 KV QUAD TENSION STRING WITH 4 X 23 UNITS OF 160 KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR .		
G)	TAXES IF ANY		
	TOTAL COST		



NOTE: FILLED FORMS TO BE SUBMITTED ALONG WITH TECHNO COMMERCIAL BID SEALED IN A SEPARATE COVER DULY ADDRESSED TO Sr.DGM / INSL ENGG.THE COVER MAY BE PUT IN TENDER BOX AVAILABLE AT BHEL OR SENT THROUGH E-MAIL TO powerarctender@bhelepd.com

SIGNATURE WITH COMPANY SEAL :

NAME :

DESIGNATION WITHIN COMPANY / ORGANISATION :

ADDRESS OF COMPANY / ORGANIZATION :



TENDER REF NO : INS ENGG/ POWER ARC TESTING -01/ 10-11

TENDER NAME: POWER ARC TEST ON 400 KV STRINGS WITH 120 KN & 160 KN ANTIFOG DISC INSULATORS

TECHNICAL SPECIFICATION

SPECIFICATION FOR CARRYING OUT POWER ARC TEST ON 400 KV DISC INSULATOR STRINGS

1. TEST OBJECT:

DISC INSULATOR STRINGS FOR 400 KV TRANSMISSION LINE.

2. STRING CONFIGURATION:

- 2.1 400 KV SINGLE 'I' SUSPENSION STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR.**

Insulator drawing number EL DG 3 980 22 00400 / A1

Assembly drawing number ASS - 602 E

Approximate weight of the string (Insulator +fittings) – 300 kgs

- 2.2 400 KV SINGLE 'I' SUSPENSION PILOT STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR.**

Insulator drawing number EL DG 3 980 22 00400 / A1

Assembly drawing number ASS-602P/A/E

Approximate weight of the string (Insulator +fittings) – 300 kgs

- 2.3 400 KV DOUBLE TENSION STRING WITH 2 X 23 UNITS OF 160KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR TWIN MOOSE ACSR CONDUCTOR.**

Insulator drawing number EL DG 3 980 33 00200 / A1

Assembly drawing number ADT-606 / A

Approximate weight of the string (Insulator +fittings) – 500 kgs

2.4 400 KV SINGLE 'I' SUSPENSION PILOT STRING WITH 1 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR.

Insulator drawing number EL DG 3 980 22 00400 / A1

Assembly drawing number ASS - 602P - Q

Approximate weight of the string (Insulator +fittings) – 320 kgs

2.5 400 KV DOUBLE 'I' SUSPENSION STRING WITH 2 X 23 UNITS OF 120KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR.

Insulator drawing number EL DG 3 980 22 00400 / A1

Assembly drawing number ADS-603Q / E

Approximate weight of the string (Insulator +fittings) – 450 kgs

2.6 400 KV QUAD TENSION STRING WITH 4 X 23 UNITS OF 160KN ANTIFOG DISC INSULATORS AND HARDWARE FITTINGS SUITABLE FOR QUAD MOOSE ACSR CONDUCTOR.

Insulator drawing number EL DG 3 980 33 00200 / A1

Assembly drawing number AQT-608 / A

Approximate weight of the string (Insulator +fittings) – 1000 kgs

3. TESTS:

3.1 POWER ARC TEST

The test shall be performed on the complete string in accordance with IEC 61467 / 2008 .

Test Circuit – Type B

Short Circuit Current : 40 k Amps

Test sequence : 0.2 s , 0.2 s , 0.5 s - One sequence of 3 shots on the sample.



4. TEST REPORT:

The report of test carried out shall include details of the test object, test procedure, test results including photographs etc. The report shall be in English language.

5. TEST SCHEDULE :

It is required to commence the above tests during September- October 2010. The laboratory shall inform BHEL in advance regarding the following.

- Latest date for delivery of Test objects at the test laboratory.
- Date of Preparation of test samples.
- Date of commencement of testing.
- Date of completion of all the tests.
- Date of submission of test report.

6. OTHER SCOPE OF WORK :

The test lab shall arrange the following:

- i. Opening the packing and assembling insulators & hardware in accordance with the drawings submitted by BHEL.
- ii. Installation of strings in the test hall & carrying out tests in accordance with the specification.
- iii. Dismantling the tested objects & repacking them in case the samples are re imported.
- iv. Submission of test report
Assistance for obtaining Visa for our engineers witnessing the te-sts.

Note : The Mechanical Strength Test on the strings after the Power Arc Test is not under the scope of the Test Laboratory and shall be done by BHEL EPD themselves.



7. DISPOSAL :

The samples may have to be re imported after the completion of testing. In case re importation is not required, the laboratory shall issue a certificate of destruction for closing the customs formalities in India.

8. BHEL's SCOPE:

BHEL will arrange to dispatch the required number of test samples & deliver the same at the test laboratory before the commencement of testing at our cost. We will also arrange to Re Import the samples, if required, at our cost.