



Open Tender for Procurement of OPTICAL FIBRE CABLE ref: 4250337E dt 09.06.15

DUE ON 15.07.15, 14.00 Hrs from Indigenous manufacturers only.

ITEMS DESCRIPTION AND TENDER QUANTITY

SL. No	Item Description	Tender Quantity in SQ Mtr / NOs	Tender Unit	Required Delivery date
1)	Optical Fibre cable as per Technical Specification ref: TEP:616: OFC CABLE Rev 00 dt 02.07.15. (A/c Neyveli R550 & R551). Delivery destination:BHEL Stores Ranipet.	500	Mtr	24.12.2015
		500	Mtr	24.12.2015
2)	10/100MBPS Media converter and its accessories as per Technical Specification ref: TEP:615:MEDIA CONV. Rev 00 (A/c Neyveli R550 & R551) Delivery destination:BHEL Stores Ranipet.	1	SET	24.12.2015
		1	SET	24.12.2015
3)	Optical Fibre cable as per Technical Specification ref: TEP:616: OFC CABLE Rev 00. (A/c Tuticorin-R4L2) Delivery destination:BHEL Stores Ranipet.	700	Mtr	One Month from PO date
4)	10/100MBPS Media converter and its accessories as per Technical Specification ref: TEP:615:MEDIA CONV. Rev 00 (A/c Tuticorin-R4L2) Delivery destination:BHEL Stores Ranipet.	1	SET	One Month from PO date
5)	Optical Fibre cable as per Technical Specification ref: TEP:616: OFC CABLE Rev 00. (A/c Suratgarh R654 & R655). Delivery destination:BHEL Stores Ranipet.	800	Mtr	24.10.2015
		800	Mtr	24.10.2015
6)	10/100MBPS Media converter and its accessories as per Technical Specification ref: TEP:615:MEDIA CONV. Rev 00 (A/c Suratgarh R654 & R655) Delivery destination:BHEL Stores Ranipet.	1	SET	24.10.2015
		1	SET	24.10.2015

BIDDERS SHALL CAREFULLY READ THE FOLLOWING ANNEXURES/NOTES AND SHALL QUOTE THEIR BEST COMPETITIVE PRICE.

- **PLEASE REFER ANNEXURE-A FOR STANDARD TERMS & CONDITIONS,**
 - **ANNEXURE-B FOR ESSENTIAL COMMERCIAL TERMS AND CONDITIONS [BIDDERS SHALL SUBMIT THE DULY FILLED ANNEXURE-B ALONG WITH TECHNICAL BID (COVER-I)].**
- TENDER SHALL BE SUBMITTED IN TWO PARTS AS REFERRED IN ANNEXURE-A.
- ANY REVISED OFFER(S) SENT BY VENDORS ON THEIR OWN, AFTER THE TENDER OPENING, WILL BE TREATED AS "UNSOLICITED OFFER". SUCH OFFERS WILL NOT BE CONSIDERED AND NECESSARY ACTION AS DEEMED FIT WILL BE TAKEN BY BHEL ON THOSE VENDORS. HENCE COMPETITIVE OFFER TO BE GIVEN IN THE ORIGINAL QUOTE ITSELF.

IMPORTANT NOTE :

TENDER SHOULD BE SENT IN DUPLICATE IN A SEALED COVER. INNER COVER SEALED WITH TENDERER'S DISTINCTIVE SEAL AND SUPERSCRIBED WITH CORRECT TENDER NO., ITEM OF SUPPLY, DUE DATE OF OPENING AND VALIDITY OF THE OFFER ADDRESSED BY DESIGNATION TO Sr. MANAGER / PURCHASE, BHARAT HEAVY ELECTRICALS LIMITED, BOILER AUXILIARIES PLANT, INDIRA GANDHI INDUSTRIAL COMPLEX, RANIPET, VELLORE DISTRICT-632406.

- 01) OFFERERS ARE REQUESTED TO CAREFULLY READ THE FOLLOWING CONDITIONS AND GIVE THEIR SPECIFIC CONFIRMATION OF ACCEPTANCE IN TOTO.
- 2A) TIME IS THE ESSENCE OF CONTRACT.
- 2B) IN THE EVENT OF DELAY ON THE CONTRACT DELIVERY, LIQUIDATED DAMAGES (LD) WILL BE LEVIED.
- 2C) LD WILL BE LEVIED AT THE RATE OF 0.5 % PER WEEK OR PART THEREOF ON THE CONTRACT VALUE.
- 2D) THE LD CEILING WILL BE 10 %.



2E) LD WILL BE A MANDATORY CONDITION IN THE PURCHASE ORDER. **IF ANY BIDDER ACCEPTS ONLY PART LD , THE UNACCEPTED PORTION OF LD WILL BE LOADED ON THE OFFERS OF SUCH BIDDERS.**

3) IF NO CONFIRMATION OR COMMENTS ARE INCLUDED IN THE INITIAL OFFER BY THE TENDERER, IN THE EVENT OF PLACEMENT OF ORDER, THE ORDER WILL BE RELEASED WITH THE STANDARD LD CONDITION GIVEN ABOVE.

4) THE CONDITION WILL BE INCLUDED IN THE ORDER WITHOUT ANY FURTHER REFERENCE TO THE OFFERER AND NO CHANGES WILL BE PERMISSIBLE, POST ORDER RELEASE.

MSME STATUS

AS PER THE PUBLIC PROCUREMENT POLICY NOTIFIED BY THE CENTRAL GOVERNMENT, MICRO AND SMALL ENTERPRISES QUOTING WITHIN THE PRICE BAND OF L1+15% SHALL BE ALLOWED TO SUPPLY A PORTION OF THE REQUIREMENT UP TO 20% OF THE TENDER VALUE SUBJECT TO CONDITION THAT SUCH ENTERPRISES BRING DOWN THEIR PRICE TO L1 PRICE WHERE L1 PRICE IS FROM OTHER THAN A MICRO AND SMALL ENTERPRISE. IF L1 OFFER IS FROM A MICRO / SMALL ENTERPRISE, THIS PROVISION WILL NOT BE APPLICABLE. IN CASE MORE THAN ONE MICRO AND SMALL ENTERPRISE IS THERE WITHIN THIS SPAN, THE SUPPLY SHALL BE SHARED PROPORTIONATE TO THE TENDER QUANTITY. (70:30 OR 50:30:20 OF THE ELIGIBLE QUANTITY)

NOTE: SPECIAL PROVISION FOR MICRO AND SMALL ENTERPRISES OWNED BY SC OR ST: - SUB TARGET OF 20% (I.E. 4% OUT OF 20%) WOULD BE EARMARKED FOR PROCUREMENT FROM MICRO AND SMALL ENTERPRISES OWNED BY THE SCHEDULED CASTE OR SCHEDULED TRIBE ENTREPRENEURS PROVIDED THAT IN EVENT OF FAILURE OF SUCH MICRO AND SMALL ENTERPRISES TO PARTICIPATE IN THE TENDER PROCESS OR MEET THE TENDER REQUIREMENTS AND THE L1 PRICE, THE 4% SUB-TARGET FOR PROCUREMENT EAR-MARKED MSE OWNED BY SCHEDULED CASTE OR SCHEDULED TRIBE ENTREPRENEURS SHALL BE MET FROM OTHER MSE ENTERPRISES/S. THE MSE CONCESSION IS SUBJECT TO CONDITION THAT LATEST VALID CERTIFICATE FOR MSE AND OWNERSHIP IS SUBMITTED ALONG WITH THE OFFER. OFFER/S RECEIVED WITHOUT THESE DOCUMENTS WILL BE TREATED AS NON-MSE AND ORDER FINALIZATION WILL BE DONE BASED ON THIS PREMISE. DOCUMENTS SUBMITTED AFTER BID-OPENING WILL NOT BE CONSIDERED IN THE TENDER.

THIS PROVISION FOR MSE WILL APPLY SUBJECT TO THE CONDITION THAT THE PARTICIPATING MSE MEETS THE TENDER REQUIREMENTS.

TO AVAIL MSE CONCESSION, THOSE MSE BIDDERS SHALL SUBMIT LATEST VALID CERTIFICATE FOR MSE AND CERTIFICATE OF CHARTERED ACCOUNTANT IN THE ATTACHED FORMAT.

VALUE ADDED TAX

PLEASE INDICATE YOUR TIN (TAXPAYER IDENTIFICATION) NUMBER, COMMODITY CODE FOR EACH ITEM, DESPATCHING PLACE AND STATE, WHILE SUBMITTING YOUR OFFER.

E - PAYMENT

BHEL IS MAKING PAYMENTS THROUGH E-MODE. SUPPLIERS, WHO HAVE NOT AVAILED THEMSELVES OF THIS FACILITY, CAN E-MAIL TO PURCHASE EXECUTIVES TO OBTAIN NECESSARY FORMATS.



ANNEXURE – A to TENDER: 4250337E dt 09.06.15 DUE ON 15.07.15, 14.00 Hrs
STANDARD TERMS & CONDITIONS (FOR GUIDANCE TO THE SUPPLIERS)

A. Submission of Offer:

Sealed tenders super-scribed with Tender Number, Due Date, Item Name & Supplier's Name and Validity of the Offer shall be addressed to Sr Manager / Purchase (ESP), Bharat Heavy Electricals Limited, Ranipet – 632 406, Tamilnadu, INDIA, so as to reach him **on or before the due date (15.07.2015) and time (14.00 Hrs)** specified in the tender. It shall contain two sealed covers in one envelope.

Pre Qualification Requirement:

The bidder / vendor should have supplied the Optical Fibre cable for quantity (minimum) of 1000 Mtrs along with applicable Media converter in the past one year to any customer to bid against this tender.

Sealed envelope super-scribed “Cover I - Qualifying Requirements and Techno-commercial bid”, with Tender Number, Item Name, Tender Due Date & Supplier's Name, shall contain the following:

I: Techno-Commercial and Un-priced Bid

a) **Complete technical Offer** with details, catalogues, as applicable.

b) **Un-priced bid** (i.e. Bid without the Price),

c) **Filled-in tender annexure - C** for Procurement of **Optical Fibre cable** & Media Converter enclosed with the Tender Document,

d) **All relevant enclosures** such as invoice copy of old supply. **The Bidder shall submit the invoice copy (without price) of supplies made, inspection report & Test certificate as proof to meet the pre qualification requirement.**

f) **Clientele list** with their full address including detail of contact person with phone no., fax no. & e-mail ID (if any) to whom the same / similar item is supplied in the past one year.

g) **Bidders shall apply with their details in BHEL web site: www.bhel.com to register their firm and after online registration the print out of the registered application, shall be submitted along with Technical Bid in a separate cover compulsorily. The Techno-commercially accepted vendors after evaluation of offers will be evaluated based on submitted SRF of the bidder in order to include in vendor directory of BAP for supply of Optical Fiber cable.**

h) **BHEL registered Vendors:** Vendors registered with any unit of BHEL, shall give details of their registration (vendor code, PO/Enquiry copy) along with the category registered for.

i) **BHEL Order Reference:** If same or similar material has been supplied to any other Unit of BHEL, the Purchase Order details (reference number and date) should be enclosed.

J) Indigenous manufacturers only can submit their offer.

k) **Deviation summary** shall be submitted along with Technical Bid in two parts – giving the summary of technical deviations separately and the commercial deviations separately, if any and

Note:

(i) The materials offered shall conform to the specification Ref and scope attached in the tender.

(ii) In case the offered materials are not conforming to the Enquiry material Specification or such that the offered materials do not match the enquiry, such offers would not be considered for evaluation and would be rejected. Where equivalent specifications and materials are offered considering such offers will be at the sole discretion of BHEL. Wherever alternative standards / specifications are offered by Bidder, the Bidder shall provide sufficient documentary evidence to ensure equivalence to the designated standards / specifications, failing which the offer would be considered as not technically acceptable and hence shall stand rejected.



(iii) All taxes and duties payable as extra on the quoted price should be specifically stated in both technical bid and price bid offer. Offer shall be submitted along with CST & TIN No. / Excise Tariff No. etc, failing which the purchaser will not be liable for payment of such taxes and duties. Our CST Registration No. 1141686, TIN Number (under TNVAT) 33024364741, BHEL ECC No. AAACB4146PXM008.

(iv) **The un-priced bid is to be used to indicate relevant commercial implications without indicating price.**

(v) **Commercial terms are to be indicated clearly in the offer.**

(vi) **No changes shall be entertained once the bid is opened unless otherwise specifically agreed to in writing by BHEL.**

(vii) Money values (except applicable Taxes, Duties, freight and insurance) shall not be indicated anywhere in the un-priced bid.

(viii) Time required for inspection (at Supplier's works), should be clearly given in terms of numbers of working days

(ix) It is advised that all the pages and annexure to the Techno-Commercial bid should be serially numbered, including indicating the total number of pages.

Sealed envelope super-scribed Cover – II (Price bid), with Tender Number, Item Name, Tender Due Date & Name of the Supplier and Validity, containing:

II. Sealed Cover super scribed "Cover II –Price Bid" shall contain the following:

Price Bid (i.e. Un-priced bid but with Price duly filled-in) in conformance with the commercial terms as per Cover- I.

Rates shall be quoted on enquiry unit only. **The ex works basic price of cable and media converter shall be quoted uniform for various Enq. Sl. no's (various projects).** The Prices shall be indicated in both figures and words.

Wherever there is a discrepancy between the figures and the words, the value as indicated by words shall be taken as the "Price" by the Purchaser. Similarly if there is a discrepancy between the Unit Price and the Value on account of arithmetical error in the computation of the Value (Price x Quantity), only the Unit Price would be taken by the Purchaser for consideration. No corrections would be permitted after the submission of the bids. Error statements should be completely erased / struck out and fresh values given in the offer, which should be initialled and attested by the tender submitting authority. Offers without the above may become liable for rejection.

Note:

(i) The price break-up should be in line with technical specification / scope of the tender. **(Cost of material, packing charges, forwarding charges, freight and insurance charges shall be shown appropriately, as applicable).**

(ii) **Price Shall be firm and no Price Variation Clause will be entertained and No advance payment will be made by BHEL.**

(iii) In case, there is a discrepancy in the commercial terms quoted between techno-commercial bid and price bid, the term as per the techno-commercial bid (Cover I) shall hold good and the commercial term quoted in the Price Bid (Cover II) shall not be considered.

(iv) In their own interest, all Tenderers are advised to double check their prices, applicable duties and taxes. If octroi is applicable, the same shall be on vendors account only. Since destination has been given in the tender, vendor has to ascertain the applicability of octroi.

(v) The quotation should be valid at least for a period of 90 days from the tender opening date.



(vi) The offers should invariably contain Signature (in blue color) & Office Stamp of the Supplier. Any corrections / erasures in the offers should be initialled and stamped.

(vii) Bidders shall quote on FOR destination: BHEL Ranipet basis only as indicated in the tender.

B. Opening of Offers:

a) **Tenders shall be submitted to us on or before the due date by 14.00Hrs and offers will be opened on the due date at 1430 Hours . Tenders received after 1400 Hours of due date would not be opened. The time indicated are Indian Standard Time (IST). Tenders received after 14:00 Hrs of due date would be designated as "Late Offer" and would be returned back to the Bidder unopened.**

b) **Supplier shall submit three covers (Cover-I: Techno-commercial bid, Cover-II: Price bid in one envelope & Cover-III: Supplier Registration form.** If one cover containing all the bids techno-commercial bid & price bid together, the **bid is liable for rejection.** The decision to accept such bids shall be the sole discretion of BHEL.

Suppliers shall register in online in BHEL website: www.bhel.com and shall submit the downloaded supplier registration form immediately after registration but before tender due date to SM/Purchase, BHEL-Ranipet-632406.

c) Such of those Tenderers who wish to participate in the Tender Opening may have to depute their representatives. The representatives would be allowed to participate in the Tender opening only on submission of a signed and stamped authorization letter issued by the Supplier. Representatives without the Authorization Letter would not be allowed to participate in the Tender Opening. Representatives who turn up after the Tender opening time / start of the Tender opening would not be allowed to participate. After tender opening the details would not be given to such suppliers who choose to be absent at the time of Tender opening.

d) Details such as the Technical Specification, Delivery Terms, and Delivery Period and the Price details in the event of the sealed price bid opening, alone would be read out by the Tender Opening Officer. No other data will be read out.

e) In exceptional cases, at the discretion of BHEL, in the event of the named representative (named in the Tender Document) is unable to come due to unavoidable circumstances, then an alternative representative would be allowed, where the alternative representative should carry a revised original authorization certificate. Suppliers are advised to avoid such situations to avoid embarrassments on both sides

f) If so required, BHEL reserves the right to open the Price-Bids, '*in-camera*'. Intimation to this effect would be given to the Supplier by BHEL, before the opening of the Price-Bids.

Note:

(i) Bids including all enclosures and supporting documents like catalogues, pamphlets, etc., shall be provided in ENGLISH language only.

(ii) At its option, BHEL may consider extending the due date/s for the tender openings. Sufficient notice would be given by BHEL for such extensions.

(iii) Specifications are the basic essence of the "Item" and all deviations shall be summarized and provided in a "Deviation Statement", by listing the deviation point by point against each point, and

(iv) At its option BHEL may choose to resort to opening of Price-Bids in conventional sealed bid opening mode or by conducting Reverse Auction (RA). If BHEL decides to open the price bid in conventional sealed bid opening mode, **Bidders would not be allowed to revise their prices due to change in mode of price bid opening.**



(vi) The decision of the type of price bid opening would be notified to all successful bidders before the Price Bid opening.

(vii) BHEL reserves the right to increase or decrease the tendered quantity and would order on respective L1 (on set basis) vendor at the lowest acceptable price to BHEL.

(viii) Offers for part quantities are not acceptable to BHEL. While tenderers can quote for some or all the tendered items, **no supplier shall quote for partial quantity. Such partial offer would not be considered in the enquiry for that item.**

C. Evaluation of Offers:

a) The price bids of the technically acceptable offers alone, contained in Cover II shall be opened in case of conventional sealed price bid opening mode.

b) Offer with any pre-conditions (like conditional discounts) for price are liable to be rejected / not considered. For evaluation, such conditions would be removed and only the base offer would be considered for evaluation and comparison.

d) Optical Fiber Cable and Media Converter required for a particular project shall be procured from a single source / bidder and price bids will be evaluated on set basis (Set means Optical Fiber Cable and Media Converter required for a particular project).

e) Offer will be evaluated on final landed cost to BHEL at the destination basis.

f) In the event of any change in scope / quantity arising out of the discussions, offerers would be given a chance to submit their revised offer. The revised offer shall contain only the price addition / deletion for such change in the scope / quantities, on the original price quoted. The original price quoted shall not be changed by bidders on account of the technical discussions.

g) BHEL reserves the right to reject without assigning any reasons / load any offer with factors other than already specified for such offers having deviations to BHEL Specifications, Standard Terms & Conditions at its discretion. The decision of BHEL in this regard shall be final.

h) BHEL reserves the right to reject an offer due to unsatisfactory past performance during tender finalisation / execution of a contract at any of BHEL projects / units or if unsatisfactory performance report is received from the party/s referenced by the supplier at any time during tender finalisation.

i) BHEL reserves the right to operate Purchase / Price preference to Government of India Undertakings, which shall be given as per the guide lines of Government of India given from time to time and / or relax the Terms and Conditions of the tender.

j) BHEL reserves the right to conduct negotiations on the "Price" and "Other Commercial Terms and Conditions" with the lowest ranked offerer at any time after the bid opening but before the release of the Purchase Order and

k) If so required by BHEL, Supplier may have to share their cost data / costing sheet with BHEL.

D. Execution of the Order:

a) BHEL will have the option to pre-inspect the materials at Supplier's works by BHEL's own inspector or by third party agency appointed by BHEL or BHEL's end customer/s but this does not absolve the Supplier from giving the specifications as agreed upon.

b) Deviations, if any pointed out by the visiting Inspection team of BHEL shall be rectified by the vendor and the items as per specification shall be dispatched on or before the contract delivery date.

c) The final inspection for acceptance will, however, be carried out at the final destination.

d) The contract delivery date is the date of delivery at destination as per tender.



- e) Travel & other local stay cost for the Inspectors sent by BHEL will be to BHEL account, but other Inspection Charges, if any shall be to the account of the Seller only.
- f) Suppliers shall dispatch on free delivery (door-delivery) at destination basis only. Unloading the materials at BHEL Stores would be to the account of BHEL only.
- g) In the event of any short supply, it shall be the responsibility of the supplier to deliver such short supplied/ missing items on Free-of-Cost basis at destination.
- h) Materials shall be dispatched only after getting the dispatch clearance from BHEL (Dispatch clearance would either be faxed / e-mailed as a scanned document / couriered.) and
- i) Any incidence of tax like Income tax, Service Tax and any other similar tax / duties / levies imposed by the Government of India, or the State Government, where the BHEL Unit is located, deductible at Source, during the tenure of the Order shall be deducted by BHEL and necessary certification of the deduction (Tax deduction at Source) would be given.
- j) The Guarantee period shall start from the "Date of receipt and acceptance of the materials at destinations given in the enquiry".

E. Documents to be sent directly to the Purchaser prior to shipment:

- a) Manufacturer's Original Internal Inspection report / Test certificate in triplicate.
- b) Manufacturer's Original Guarantee certificate as per Purchase Order. The material shall be guaranteed for a period of 12 months from the date of acceptance of the materials at final destination or 18 months from the date of dispatch whichever is earlier. The acceptance would be evidenced by material receipt at final destination.
- c) Inspection / Test Certificate issued by BHEL / Inspection agency specified in the Purchase Order. In the event that Inspection prior to dispatch is not carried out by the Engineers of BHEL, the Inspection certificate of the third party so authorized by BHEL and
- d) Any other documentation as specified in the Purchase Order.

F. Conditions for transportation:

- a) All shipping documents shall show the Purchase Order Number & Date, project name.
- b) **Transshipment is to be avoided.**
- c) The transport document must contain all the conditions of carriage on the original document.
- d) Suppliers shall dispatch the materials, freight prepaid, on door-delivery basis (FOR Destination – Destination: Respective Sites) preferably through any one of the approved carriers of BHEL only.

G. Liquidated Damages Clause:

BHEL will levy penalty as Liquidated Damages (LD), for delay in delivery. The penalty shall be at the rate of ½% per week or part thereof subject to a maximum of 10%. Delivery for purpose of L.D, will be reckoned as the date of the ex-works dispatch of the materials by the Supplier. Applicable LD will be deducted from suppliers bills for the delayed portion. The LD would apply on the undelivered portion only. In case of reasons attributable to BHEL for the delay in delivery (for e.g. delay in arranging the pre-inspection) then the delivery time would be reset to the extent of the time delay attributable to BHEL, with waiver of the LD. Delivery being the essence of BHEL's contract requirements, **In the event that a Supplier does not accept the LD condition above, the offer would be loaded to the extent of the shortfall with respect to upper limit specified above. Offers which do not accept for any LD would stand rejected.**

The offer/s of such of those bidders who do not accept for levy of any liquidated damages (LD) for delay in delivery is likely to be summarisely rejected. No correspondence would be entertained by BHEL in this regard, on this subject. BHEL specifically draws the need of this mandatory requirement to the notice of all Bidders. The Price Bid of such of those bidders failing to meet this requirement, would not be considered for the Price-Bid Opening.



H. Force Majeure:

If at any time during the currency of this contract, the performance in whole or in part, by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events), then provided notice of happening of any such events is given by either party to other within ten days from the date of occurrence thereof, neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

I. Cancellation of Order:

In the event of non-performance of the contract by the Supplier, BHEL reserves the right to cancel the order with issue of a written notice. BHEL would provide a curing period of 30 days, for the Supplier to rectify the situation. If the Supplier fails to rectify the reason/s that led to the issue of cancellation notice by BHEL, then the cancellation order would be issued automatically by BHEL, without further recourse to the Seller. BHEL will not pay any cancellation charges or any other charges / damages to the Supplier, arising out such cancellation. In the event of the non-performance of the supply contract, by the Supplier, the rights of BHEL include, in addition to canceling the order, to take alternate purchase action at the cost and risk of the supplier. The additional expenditure to be incurred by BHEL in such alternate purchase would be to the account of the supplier. (Risk Purchase). This remedy would be in addition to the invoking of the CEBG on grounds of failure of the Supplier in executing the Contract and any other legal remedies."

J. Others:

- a) In case of any contradiction in the terms and conditions given here and elsewhere in the other documents of the tender, it shall be the responsibility of the tenderer to get it clarified from BHEL. The officer authorized to provide such clarifications is the Sr Manager / Purchase-ESP, e-mail ID: nsmohan@bhelrpt.co.in
- b) Alterations to the conditions of the Tender can be done only by the authorized officer, at any time before the date and time of tender opening. Such changes, if any, would be communicated in writing and / or hosted in the web-page.
- c) If any Supplier attempts to bribe, or pay commission, gift or any advantage or bring in undue influence either by himself or on his behalf any one including a stranger to the tender, in addition to instituting legal proceedings as per the extant laws prevailing, will disqualify the supplier from this tender and all future tenders of BHEL. Decision of the Purchaser would be final in this matter.
- d) The laws governing this transaction shall be the laws in India.
- e) In the event of an order, Supplier shall agree to settlement of disputes or differences, if any, by way of arbitration, in accordance with the "Rule of Arbitration" of the Indian Council of Arbitration.

The language in the tender documents downloaded by the Bidders shall at no point of time be changed, altered or modified in any manner by the Tenderer. If such changes are made by any tenderer, it shall be considered as tampering with BHEL's terms and the offer shall be summarily rejected, whenever it is noticed by BHEL. Such Bidders would be disqualified from the Bidding Process and their offers would be forfeited / Bank Guarantees invoked. They would also not be allowed to participate in future tenders of BHEL.

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**ANNEXURE – B to TENDER: 4250337E dt 09.06.15**

**Essential Commercial Terms & Conditions (FORMAT TO BE FILLED BY THE SUPPLIER)**

| S. No | TERMS & CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Bidders confirmation/Details |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 1)    | <b>Price (shall be firm till supply completion)</b><br>a) FOR / Destination incl. Freight & Insurance<br>b) FOR / Destination - freight & Insurance (breakup shall be given against Point No: 7& 8).                                                                                                                                                                                                                                                                                                                                                          |                              |
| 2)    | <b>ED in %</b> (Excise Invoice to be given for Cenvat benefit)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              |
| 3)    | <b>ST in %</b> (CST against form 'C' / VAT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                              |
| 4)    | <b>Octroi charges</b> if any to be included in bidders' scope.<br>(Since enquiry destination has been given, vendor has to ascertain the applicability of octroi. If any bidder does not accept octroi in their account, their offer will be liable for rejection)                                                                                                                                                                                                                                                                                            | Suppliers Account only       |
| 5)    | <b>Packing &amp; forwarding:</b> included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                              |
| 6)    | <b>Freight %</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                              |
| 7)    | <b>Insurance %</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                              |
| 8)    | <b>Delivery Term:</b> FOR DESTINATION<br><b>Delivery Place:</b> BHEL Stores Ranipet.<br><br><b>FREIGHT AND INSURANCE SHALL BE INDICATED SEPARATELY</b>                                                                                                                                                                                                                                                                                                                                                                                                        |                              |
| 9)    | Specific compliance to our Technical specification ref: TEP:616: OFC CABLE Rev 00 & TEP:615:MEDIA CONV. Rev 00 (Please confirm after completely reading the specification)<br><br>Bidders shall submit the signed copy of above Technical specifications.                                                                                                                                                                                                                                                                                                     |                              |
| 10)   | <b>Delivery period of product from the date of PO/LOI:</b> (delivery period shall be quoted clearly for supply of total tender quantity from the date of manufacturing clearance)                                                                                                                                                                                                                                                                                                                                                                             |                              |
| 11)   | <b>L.D. Clause:</b> Standard L.D Clause will be @ 0.5% per week or part there of subject to a Maximum of 10% for the undelivered PO portion.<br><br><b>IF ANY BIDDER ACCEPTS ONLY PART LD , THE UNACCEPTED PORTION OF LD WILL BE LOADED ON THE OFFERS OF SUCH BIDDERS.</b><br><br><i>The offer/s of such of those bidders who do not accept for levy of any liquidated damages (LD) for delay in delivery is likely to be summarisely rejected.</i>                                                                                                           |                              |
| 12)   | Terms of Payment:<br>(A) In case of NON-MSE vendors,100% payment within 90 days of receipt and acceptance of materials at our stores / Receipt of materials at BHEL site (In case of DTS items).<br>(B) In case of registered MSE vendors, 100% payment within 45 days of receipt and acceptance of materials at our stores / Receipt of materials at BHEL site (In case of DTS items).<br>(C) No other payment term will be accepted.If any bidder deviates this standard payment term, their offer will be rejected.<br>No advance payment will be given. . |                              |



| S. No | TERMS & CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                     | Bidders confirmation/Details |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 13)   | <p><b>Offer Validity:</b> The Validity shall be 90 days from the date of Technical Bid opening. Any offer with validity of less than 90 days, is liable for rejection.</p> <p>In case, price bids are opened through Reverse Auction, the offered price in Reverse Auction shall be valid for 45 days from the date of Reverse Auction.</p>                                                                                                                                                                                                                                                       |                                                                                                                                                                                     |                              |
| 14)   | INSPECTION BEFORE DESPATCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Will be done at Vendor's Works before Dispatch by BHEL / BHEL's customer / BHEL's authorized Inspection agency                                                                      |                              |
| 15)   | TEST CERTIFICATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Required                                                                                                                                                                            |                              |
| 16)   | <p><b>BHEL Standard Guarantee Clause:</b> Your confirmation to our standard Guarantee clause that the materials are to be guaranteed for satisfactory performance for a period of twelve months from the date of commissioning / putting into use (or) eighteen months from the dispatch which ever is earlier and if any defect is noticed during the above period, the same shall be rectified/replaced free of cost on Ranipet / Destination basis within a reasonable time. To this effect a Guarantee certificate should be sent along with the dispatch documents in the event an order</p> |                                                                                                                                                                                     |                              |
| 17)   | <p><b>Risk Purchase Clause:</b> The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the seller has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute thereof. The seller shall be liable for all losses and extra expenditure which the purchaser may sustain by reason of such risk purchases in addition to penalty at the rates of LD clause agreed.</p>  |                                                                                                                                                                                     |                              |
| 18)   | Issue of Material Dispatch clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Test certificates, Test reports along with BHEL/BHEL AUTHORISED AGENCY inspection reports shall be submitted by the bidders after inspection of material, in the event of ordering. |                              |
| 19)   | The required no of sheets applicable for each project, based on vendors offer, will be confirmed by BHEL-RANIPET, after technical evaluation of offer and drawing of supplier.                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                     |                              |
| 20)   | Reverse Auction (R/A) / Bidding through Internet: Supplier confirmation required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                     | CONFIRMED                    |
| 21)   | Place of manufacturing (Complete address)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                     |                              |

THE ABOVE FORMAT SHALL BE COMPLETELY FILLED AND DEVIATION IF ANY SHALL BE CLEARLY SPELT OUT. NO COLUMN SHOULD BE LEFT BLANK WITHOUT FILLING UP WHICH MAY LEAD TO REJECTION OF OFFER. **IF THERE IS ANY CONTRADICTION BETWEEN THE OFFER AND THIS CONFIRMATION ANNEXURE, THE ADVANTAGEOUS POINT TO BHEL WILL BE CONSIDERED.**

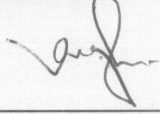
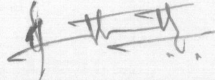
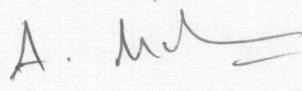
VENDOR'S SIGN & SEAL



TEP:616:OFC cable. Rev.:00

Date: 02-07-2015

## TECHNICAL SPECIFICATION FOR BOUGHT OUT ITEMS

| Reference No.            | Rev No.                                                                                                                                                                                                                                                                                                                                                                  | Effective Date                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| TEP:616:OFC Cable        | 01                                                                                                                                                                                                                                                                                                                                                                       | 02-07-2015                                                                          |
| Title                    | TECHNICAL SPECIFICATION FOR OPTICAL FIBER CABLE                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| PROJECT                  | GENERAL & NTPC                                                                                                                                                                                                                                                                                                                                                           |                                                                                     |
| Prepared by              | Varghese Paul                                                                                                                                                                                                                                                                                                                                                            |  |
| Reviewed by              | S.Parthasarathy                                                                                                                                                                                                                                                                                                                                                          |  |
| Approved by              | A.Marimuthu                                                                                                                                                                                                                                                                                                                                                              |  |
| Issued and Controlled by | Electronic Shop<br>EDC / Embedded Systems<br>BAP/BHEL/Ranipet-632 406                                                                                                                                                                                                                                                                                                    |                                                                                     |
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| Issued to:               | Control Copy No:                                                                                                                                                                                                                                                                                                                                                         |                                                                                     |



TEP:616:OFC cable. Rev.:00

Date: 02-07-2015

| <b>TECHNICAL SPECIFICATION FOR OPTICAL FIBER CABLE</b> |                       |                              |
|--------------------------------------------------------|-----------------------|------------------------------|
| <b>Reference No.</b>                                   | <b>Rev No.</b>        | <b>Effective Date</b>        |
| TEP:616:OFC cable                                      | 01                    | 02-07-2015                   |
| <b>Record of Revision</b>                              |                       |                              |
| <b>Rev. No.</b>                                        | <b>Effective Date</b> | <b>Remarks</b>               |
| 00                                                     | 26-05-2015            | Initial Release              |
| 01                                                     | 02-07-2015            | Some more cable makes added. |



## 1.0 SCOPE OF SUPPLY

The scope of supply includes manufacture, testing, packing and delivery of the Optical Fiber Cable OFC and its accessories as per the following list and technical data.

## 2.0 List of items required:

The following materials to be supplied shall be of Industrial grade

1. 6 core Single mode OS2 9.3/125 armored Fiber Optical Cable

## 3.0 General Specification OFC cables:

The fiber optic cable shall be of AkshOptifiber/Birla Ericsson/Terracom/HFCL/Belden/Digi-Link/Molex/Finolex makes, Advance cables, polycab, or any other equivalent make as per detailed Technical specifications given below

### b. Installation:

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| i. Min Bend Radius              | 20 X outer diameter                   |
| ii. Outer Diameter of the cable | $\geq 10.5$ mm                        |
| iii. Max Tensile Load           | $\geq 2000$ N                         |
| iv. Location                    | Lashed, Aerial, direct burial or duct |
| v. Pulling                      | Ordinary cable grips                  |

c. **Stripping ability:** All Layers easily removable with commercially available tools.

d. **Fiber Identification:** All the fibers in the loose tube shall be color coded in the following order for identification purpose with UV curable inks i.e., Blue, Orange, Green and Natural. The tube color will be Natural.

e. **Marking:** The cables should have identification marking at regular intervals of 1 meter, which will be of permanent nature. The accuracy of the sequential marking will be within  $\pm 0.5\%$ .

f. **Immunity:** The cable shall be immune to corrosive element found naturally in the ground.

g. **Cable Ends:** Running end shall be provided with pulling eye & the other end shall be sealed with thermal shrink cap.

## 3.1 Technical Specification of Fiber Optic Cable (Single Mode):

Four-fiber in jelly filled multi-tube construction with CST Armor provided with Steel rod strength members and outer HDPE jacket with sequential length marking suitable for direct burial cable or installation in duct with following specifications as per the Table given below.



| SL NO. | PARAMETER                                            | SPECIFICATION                                           |
|--------|------------------------------------------------------|---------------------------------------------------------|
| 1.     | Fiber type                                           | Graded/Matched clad index single mode fiber             |
| 2.     | Core Diameter                                        | 9.3 ± 0.5 μm at 1310 nm                                 |
| 3.     | Cladding Diameter                                    | 125.0 ± 1.0 μm                                          |
| 4.     | Core / Cladding non-Circularity                      | ≤ 0.5 μm                                                |
| 5.     | Coated Fiber Diameter                                | 245 ± 5.0 μm                                            |
| 6.     | Coating / Cladding non-Circularity                   | ≤ 12 μm                                                 |
| 7.     | Coating / cladding concentricity error               | ≤ 12 μm                                                 |
| 8.     | Minimum Proof Strength Strain                        | 0.70 (100 kpsi) GPa 1%                                  |
| 9.     | Fiber Curl                                           | > 4 mtrs                                                |
| 10.    | Zero-Dispersion Wavelength                           | 1300 to 1322nm                                          |
| 11.    | Zero-Dispersion Slope                                | ≤ 0.090 ps/nm <sup>2</sup> -km                          |
| 12.    | Maximum Dispersion 1270-1340<br>1285-1330<br>1550 nm | ≤ 5.3 ps/nm-km<br>≤ 3.5 ps/nm-km<br>≤ 18 ps/nm-km       |
| 13.    | Polarization Mode: Dispersion Coefficient            | ≤ 0.5 ps/ Sq.km @ 1310 nm & 1510 nm                     |
| 14.    | Fiber Cut-off Wavelength                             | < 1260 nm                                               |
| 15.    | Fiber Macro bend: (100 turns. 60 mm dia.)            | ≤ 0.05 dB @ 1310 nm<br>≤ 0.10 dB @ 1550 nm              |
| 16.    | Fiber Macro bend: (1 turn @ 32 mm dia.)              | ≤ 0.5 dB @ 1550 nm                                      |
| 17.    | Coating Strip Force                                  | Dry:0.6lbs(3N), Wet:14days room temp.:06lbs             |
| 18.    | Dynamic Tensile Strength                             | Unaged:>550 kpsi (3.8 GPa)<br>Aged :>440 kpsi (3.0 GPa) |
| 19.    | Dynamic Fatigue                                      | ≥ 20                                                    |
| 20.    | Static Fatigue                                       | ≥ 20                                                    |
| 21.    | Attenuation                                          | 0.34 dB/Km at 1310nm ; 0.22 dB/km at 1550 nm            |

**Note :** For all other parameters refer to the General Specifications.

#### 4.0 INSPECTION AND TESTING:

4.1.0 The items shall be tested and inspected by BHEL/BHEL's authorized inspector at supplier's works before dispatch. Only after getting clearance from BHEL, the item shall be dispatched.

#### 4.0 PACKING:

- The OFC shall be wound on Non-returnable in drum in length of 500mts +/- 5% and packed. The packing shall be suitable for keep it in outside which shall withstand heavy rain and dusty environments. The remaining length shall be supplied in a single drum. Cut bits are not acceptable. Overall quantity tolerance against each size shall be +%, -2%.
- The wooden drum shall be provided as per IS 10418.



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- The ends of the cable shall be properly sealed with heat shrinkable PVC/rubber cap so as to eliminate ingress of water during transportation, storage and erection.
- Non-hygroscopic PVC polyethylene sheet shall be provided on the surface of the barrel of the drum and over outer most layer of the cable.
- Wood preservative anti termite treatment shall be applied to the entire drum.
- Each drum shall carry manufacturer/vendor name name, purchaser name, address, item serial number as per Purchase order, contact number of the vendor, type, size & length of the cable and net/gross weight stenciled on both the side of the drum. A tag contains same information shall be attached to the leading end of the cable. An arrow and suitable accompanying wording shall be marked on the one end of the reel indicating the direction in which it should be rolled.



TEP:615:Media Conv. Rev.:00

Date: 19-05-2015

## TECHNICAL SPECIFICATION FOR BOUGHT OUT ITEMS

| Reference No.            | Rev No.                                                                                                                                                                                                                                                                                                                                                                  | Effective Date |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| TEP:615:Media Conv       | 00                                                                                                                                                                                                                                                                                                                                                                       | 19-05-2015     |
| Title                    | TECHNICAL SPECIFICATION FOR MEDIA CONVERTER AND ITS ACCESSORIES                                                                                                                                                                                                                                                                                                          |                |
| PROJECT                  | GENERAL & NTPC                                                                                                                                                                                                                                                                                                                                                           |                |
| Prepared by              | Varghese Paul                                                                                                                                                                                                                                                                                                                                                            |                |
| Reviewed by              | S.Parthasarathy                                                                                                                                                                                                                                                                                                                                                          |                |
| Approved by              | A.Marimuthu                                                                                                                                                                                                                                                                                                                                                              |                |
| Issued and Controlled by | Electronic Shop<br>EDC / Embedded Systems<br>BAP/BHEL/Ranipet-632 406                                                                                                                                                                                                                                                                                                    |                |
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TEP:615:Media Conv. Rev.:00

Date: 19-05-2015

**TECHNICAL SPECIFICATION FOR MEDIA CONVERTOR AND  
ITS ACCESSORIES**

| Reference No.      | Rev No.        | Effective Date  |
|--------------------|----------------|-----------------|
| TEP:615:Media Conv | 00             | 19-05-2015      |
| Record of Revision |                |                 |
| Rev. No.           | Effective Date | Remarks         |
| 00                 | 19-05-2015     | Initial Release |



## **1.0 SCOPE OF SUPPLY**

The scope of supply includes manufacture, testing, packing and delivery of the MEDIA CONVERTER and its accessories as per the following list and technical data.

## **2.0 List of items required along with media convertor.**

The following materials to be supplied shall be of Industrial grade

1. Single mode 10/100Mbps media converter – 02 Nos.
2. 8 Port Wall mount fully loaded Line Interface Unit (LIU) - 02 nos.
3. SC-SC Duplex SM patch cords of 3 mts length – 04 nos.
4. SC connectors SM – 08 nos.

Price for each item given above shall be offered separately.

## **3.0 TECHNICAL SPECIFICATION FOR INDIVIDUAL COMPONENTS.:**

### **1. Single mode 10/100Mbps media converter.**

Ethernet UTP-Fiber media Converter, twisted pair, Ethernet 10/100 base-Tx UTP RJ45 copper to 100 base –FX single mode SC fiber converter with 100-240 V AC to DC external power supply adaptor. The make of the media converter shall be of D-link, AMP, Avaya, Tyco, Molex.

### **2. 8 Port wall mount fully loaded Line Interface Unit**

LIU shall be a wall mountable and lockable, made of durable epoxy powder coated steel body/CSR.

It shall accommodate 8 ports for SC Coupler with a provision of labeling for port identification. LIU shall be provided with SC Single mode couplers/Adapters with ROHS compliant.

Preferable makes shall be Molex/Panduit/Schneider (DIGILINK)/Commscope (Systimax)/TE(AMP)/ Tyco/D-Link

### **3. SC-SC Duplex SM patch cords of 3 mts length**

Single Mode SC-SC Duplex patch cord of a standard length (3 mtrs) shall be provided.

The Patch cord shall be factory polished and tested 100%, and shall not attenuate  $\geq 0.4\text{dB/Km}$  over 1310nm to 1625nm.

Insertion loss shall be less than 0.35dB per connector.

Preferable makes shall be Molex/Panduit/Schneider (DIGILINK)/Commscope (Systimax)/TE(AMP)

Jacket color yellow or as per standard.

### **4. SC connectors SM**

SC (Standard Connector) shall be supplied suitable for Single Mode Patch cord. It shall be 100% factory polished and tested.



Preferable makes shall be Molex/Panduit/Schneider (DIGILINK)/Commscope (Systemax)/TE(AMP)/ D-Link/AMP/Avaya/Tyco.

**4.0 INSPECTION AND TESTING:**

**4.1.0** The items shall be tested and inspected by BHEL/BHEL's authorized inspector at supplier's works before dispatch. Only after getting clearance from BHEL, the item shall be dispatched.

**4.0 PACKING:**

- Each Item and its accessories shall be packed neatly to avoid moisture ingress.
- The equipment shall be properly packed so as to prevent them from damage during transit storage. The packing shall be weather proof and suitable for outdoor storage. Necessary provisions / marks for handling shall be provided. Each packing shall contain a packing slip showing all components, instruction manual, name of the supplier, brief equipment description purchase order number, relevant test certificate, serial number of the equipment and destination address.