

Project Engineering
Management

BHARAT HEAVY ELECTRICALS LTD.
(A Govt. Of India Undertaking)
PURCHASE ENQUIRY



REF :	PE-LPE/216
REF. DATE	23/10/2015
DUE DATE	13/11/2015

To,
Open Tender

Dear Madam/Sir,

Subject: A Redundant 100 Mbps Radio Link connectivity between two offices of BHEL-PEM,Noida

Quotations are Invited in sealed cover with Enquiry No., Enquiry Date, Quotation Due Date & Time, Name/ Address of the Organisation submitting the offer legibly super- scribed on it, for the above- mentioned item so as to reach the Tender Room before **10:00 AM** on or before the above mentioned Due Date.

SCOPE:

Scope includes supply, installation and maintenance of A redundant 100 Mbps Radio Link connectivity between two offices of BHEL-PEM,Noida for a period of 2 years w.e.f. the acceptance or till 05-11-2017 whichever is earlier. The details technical specification is enclosed at Annexure-1

PAYMENT TERMS

Payment shall be released on quarterly basis (at the end of each quarter) after the successful completion of Acceptance Test Procedure [ATP] subject to compensations as per clause no.8.3.3. of the Technical specifications PE888S-1503, Rev00-At Annexure-1 [Taxes and duties on actual basis shall be paid as applicable at the time of billings]

Please quote the total F.O.R. destination BHEL /PEM, NOIDA inclusive of all taxes, freight, handling packaging, charges, transit insurance etc and shall remain firm without any variation till completion of the contract.

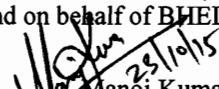
BID SUBMISSION:

In two parts : EMD value: Rs.10,000
[part 1- Techno Commercial ; part 2 - Price Bid]

Due date and time of submission of bids: 13-11-2015 , 10:00AM

Enclosure: Instruction to bidders, Technical specification, Commercial terms and conditions, Price format & technical PQR, No Deviation certificate, Declaration certificate.

Thanking You,

Yours faithfully,
For and on behalf of BHEL

Manoj Kumar
BHEL PEM, Noida

Please reply to:
Power Project Engineering Institute
HRD & ESI Complex, Plot No 25, Sector 16 A
Phone:
Fax No:

Regd. Office:
BHEL House
Siri Fort



SUBMISSION OF OFFER

Dated: -

From:

M/S -----

To

SDGM (IT)/ Dy.Manager-CMM/ Engineer (IT)

**Bharat Heavy Electricals Limited
Power Sector- Project Engineering Management
PPEI Building, HRDI & ESI Complex
Plot No. 25. Sector-16A
NOIDA – 201301, Uttar Pradesh.**

Subject: -Tender in response to your invitation for “A redundant 100 Mbps Radio link between two offices of BHEL-PEM, Noida for a period of two years w.e.f. acceptance of system or till 05-11-2017, whichever is earlier. This shall be extendable on mutually agreed terms and conditions”

Dear Sir,

We hereby submit our techno commercial offer (two bid system) in full compliance with the terms and conditions of the tender enquiry. Therefore, we offer you the most competitive rate for these services. Earnest Money Deposit in the form of DD/Pay order payable to Bharat Heavy Electricals Ltd. for an amount of ₹ 10,000/- (Rupees ten Thousand Only) is enclosed. Our offer shall remain valid for acceptance for a period of 6 months from due date .

Very Truly Yours,

(Signature of Tenderer with Rubber Stamp)

Full Name: -----

Designation: -----



TENDER DOCUMENT

FOR

“A redundant 100 Mbps link between two offices of BHEL-PEM, Noida for a period of two years w.e.f. acceptance of system or till 05-11-2017, whichever is earlier. This shall be extendable on mutually agreed terms and conditions”

Tender Ref. No. : PE-LPE/216
Dated : 23-10-2015

Last Submission date of tender enquiry: - 10:00 hrs. on **13.11.2015**
Due date for opening of bid on : - 11:30 hrs. on **13.11.2015**

Contact Persons:

1. Mr. Rajiv Hajela, SDGM (IT)
E-mail: rhajela@bhelpem.co.in Telephone: 0120-436-8836
2. Mr. Manoj Kumar, Dy. Manager (CMM)
E-mail: manojkumar@bhelpem.co.in Telephone: 0120-436-8700
3. Mr. Sanjay Singh Engineer (IT)
E-mail: sanjaysingh@bhelpem.co.in Telephone: 0120-436-

8697

Address: Bharat Heavy Electricals Ltd.
Project Engineering Management
PPEI Building, HRDI & ESI Complex
Plot No. 25, Sector 16A
NOIDA – 201 301. Uttar Pradesh (INDIA).

Last date of Submission: 13.11.2015 (10:00 AM)

Subject: -Tender in response to your invitation for “A redundant 100 Mbps Radio link between two offices of BHEL-PEM, Noida for a period of two years w.e.f. acceptance of system or till 05-11-2017, whichever is earlier. This shall be extendable on mutually agreed terms and conditions”

Dear Sirs,

We are pleased to invite your tenders, in sealed covers for the subject service. The terms & conditions of the tender are mentioned below:-

Seal and Signature of Bidder



INSTRUCTIONS TO BIDDERS

Annexure-3

1.0 INTRODUCTION

M/s **Bharat Heavy Electricals Limited** (A Govt. of India Undertaking) incorporated under the Companies Act 1956 acting through its **Projects Engineering Management Division (PEM)**, PPEI Building, HRDI & ESI Complex, Plot No. 25, Sector 16A, NOIDA – 201 301 (hereinafter referred to as “**Purchaser**”, which expression shall include its successors and assigns), invites offers for the requirements as detailed in the Enquiry letter and other tender documents.

2.0 TENDERER TO INFORM HIMSELF FULLY

- 2.1 The tenderer shall closely peruse all the clauses, specifications and drawings etc., indicated in the tender documents, before quoting. Should the tenderer have any doubt about the meaning of any portion of the tender specifications or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarifications on any of the technical aspect, scope of work etc. he shall at once contact the official inviting the tenders, for clarifications, before submission of the tender.
- 2.2 Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. The specifications and terms and conditions shall be deemed to have been accepted unless otherwise specifically commented upon by the tenderer in his offer. Non-compliance with any of the requirements and instructions of the Tender Enquiry may result in the rejection of the tender.

3.0 PROCEDURE FOR SUBMISSION & OPENING OF TENDERS

- 3.1 Tenders shall be accepted by the official inviting the tenders, in **two parts** as described below on or before the due date indicated in the Enquiry letter, by 10:00 AM.

PART-I: TECHNO-COMMERCIAL BID

Containing Technical offer, Commercial Terms & Conditions, Technical Specification and Un-priced Copy of the Price Bid. The un-priced copy of the Price bid shall be the same as the Price bid but without the Prices, with all the quoted Prices/discounts/values being replaced with the word ‘QUOTED’ or ‘Q’.



Bidder should sign and stamp each page of all the documents enclosed with the enquiry as a token of acceptance of BHEL's terms and conditions.

PART-II: PRICE BID

Containing **PRICES** only (to be furnished in the enclosed Price format only). Prices shall be quoted in Indian Rupees only.

Price Bid should not contain any technical details and/or Commercial Terms & Conditions. Any technical details and/or Commercial Terms & Conditions, if found in this part shall be ignored as the same are supposed to be contained in PART-I only so that the same can be evaluated before opening of Price Bid(s).

3.2 MARKING ON ENVELOPE

Part-I and Part-II offers shall be submitted in two separate sealed envelopes with bidder's distinctive SEAL and each envelope super-scribed with the following:

PART-I:

1. TENDER ENQUIRY NO. AND ITEM DESCRIPTION
2. DUE DATE OF OPENING
3. "TECHNO-COMMERCIAL BID".

PART II:

1. TENDER ENQUIRY NO AND ITEM DESCRIPTION
2. DUE DATE OF OPENING
3. "PRICE BID".

Un-sealed envelopes or envelopes not super-scribed as above may not be accepted/considered.

3.3 BID SUBMISSION

3.3.1 The tenders shall be addressed to the official inviting Tender(s) by name and designation and sent at the following address:

Tender Box
Bharat Heavy Electricals Ltd.
Project Engineering Management
PPEI Building, HRDI & ESI Complex
Plot No. 25, Sector 16A
NOIDA – 201 301. Uttar Pradesh (INDIA).



Kind Attn.: 1. Mr. Rajiv Hajela, SDGM (IT) +91 120- 436-8836
2. Mr. Sanjay Singh, Engineer (IT) +91 120-436-8697

3.3.2 Tenders can also be delivered in person to the official inviting the Tenders.

3.3.3 Tenders submitted by post shall be sent by "**REGISTERED POST ACKNOWLEDGEMENT DUE**" and shall be posted with due allowance for any postal delay. The tenders received after the **Due Date** and **Time** of opening are liable to be rejected.

3.4 BID OPENING

3.4.1 The offers may be opened on the due date and time as specified in the **Enquiry Letter**, in the presence of those tenderers who wish to attend.

3.4.2 Not more than two representatives will be permitted to be present for the tender opening.

4.0 Late tenders are liable to be rejected.

5.0 Incomplete offers are liable to be rejected.

6.0 VALIDITY OF OFFER

Offer shall be kept valid for **six months** from the due date, for Purchaser's acceptance.

7.0 No correspondence shall be entertained from the tenderers after the opening of Price bid(s).

8.0 Unsolicited tenders shall not be entertained. Unsolicited revised Price Bids also, shall not be entertained at any stage of the tendering process.

9.0 Purchaser reserves the right to negotiate the tender, if the quoted rates/terms are found in the unacceptable range or unreasonable.

10.0 LANGUAGE & CORRECTIONS

10.1 The tenderer shall quote the rates in English/Hindi language and international numerals only. The metric system of units shall be used, for the purpose of tender.



- 10.2 All entries in the tender shall either be typed or written legibly in ink. Erasure and over-writings are not permitted and may render such tenders liable for rejection. However, all cancellations, corrections and insertions shall be duly attested by the tenderer.**
- 11.0** Standard pre-printed conditions of the tenderer attached to the offer will not be accepted and only those mentioned in the body of his offer will be considered.
- 12.0** Taxes and duties payable should be indicated separately, otherwise it will be presumed that the prices quoted are inclusive of all taxes, duty, octroi etc., if any and the Purchaser in such cases shall not pay any tax, duty, octroi etc.
- 13.0** Manufacturer's name, trade Mark or Patent No., if any, should be specified.
- 14.0 The acceptance of tender will rest with the purchaser and does not bind him to accept the lowest or any other tender and reserves to itself full rights for the following without assigning any reasons, whatsoever:**
- a) to reject any or all the tenders.
 - b) to split up the work amongst two or more tenderers.
 - c) to award the work in part.

15.0 DELIVERY/COMPLETION PERIOD

The ATP for the project should be successfully completed within 6 weeks of placement of the LOI/PO.

16.0 SALES CONDITIONS

With tenderer's acceptance of the terms and conditions, it will be deemed that he has waived and confirmed as cancelled any of his general sales conditions attached with the offer.



17.0 TENDER EVALUATION

Non-compliance with any of the requirements and instructions of the Tender Enquiry may result in the rejection of the tender.

17.1 PRICE DISCREPANCY

Totals/Gross Total of Prices should be indicated both in words as well as in figures. If there is a discrepancy between unit price, total price quoted in words and figures, the Arithmetical errors will be rectified on the following basis.

- (a) If, in the price structure quoted for the required goods/services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
- (d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

17.1.2 Though, higher warranty/configuration/rating will be acceptable, than what is required as per tender specifications, no weightage or preference will be given for the same.

17.1.3 Tenders will be evaluated taking into consideration all available financial advantages, including taxation/depreciation benefits, if any. Service tax paid by the seller/contractor to the Govt. Authorities directly shall be reimbursed at actual only (subject to against requisite documentary evidence).



18.0 BANNED FIRMS

The offers of the bidders who are on the banned list as also offer of the bidder who engage the service of banned firms, shall be rejected. The list of banned firms can be found on website www.bhel.com.

19.0 CHANGE OF PRICE BIDS

The bidder to note that in case there is no change in technical specification or commercial terms, the bidder is not allowed to change his price bid within validity of his period.



COMMERCIAL TERMS AND CONDITIONS Annexure-4

- 1.0 GENERAL:** The words incorporating singular shall include plural and vice-versa, in the words importing masculine gender shall include feminine and vice-versa and the words importing persons shall include bodies; corporate, limited liability companies, partnership and other legal entities.
- 2.0 BANK CHARGES:** Unless otherwise specified, the Bank charges, if any, shall be to the account of Seller/Contractor.
- 3.0 PRICES:** Prices are net F.O.R. destination inclusive of freight, handling, packing charges, transit insurance etc. and shall remain FIRM without any variation till completion of the contract.
- 4.0 QUALITY:** All Systems/goods/services supplied/rendered shall be brand new and conform to the contract technical specifications and/or be strictly in accordance with approved samples/drawings. Where there is no specifications, sample or drawings, Systems/goods/services shall be of the best quality.
- 5.0 CHANGE OF ORDER:** No changes to this order/contract are permitted unless authorised in writing and signed by competent authority of this office.
- 6.0 PACKING AND MARKING:** Seller/Contractor shall arrange for sound packing and marking the goods to avoid any loss or damage during transit.
- 7.0 LOCATION & CONSIGNEE:** Complete Systems/goods will be consigned to DH (PEM – IT), PPEI Building, HRDI&ESI Complex, Plot No. 25, Sector 16A, NOIDA – 201 301, who will co-ordinate the installation and commissioning activities.
- 8.0 Payment terms:** Payment shall be released on a quarterly basis at the end of each quarter after the successful completion of Acceptance Test Procedure (ATP) subject to compensations as per clause no. 8.3.3. of the Technical Specifications PE888S-1105, Rev00 (enclosed).
- 9.0 MODE OF PAYMENT :** Payment will be made by way of Electronic Fund Transfer.
- 10.0 INTEREST:** No interest, whatsoever, shall be payable by the purchaser on any amount due to the Seller/Contractor by the purchaser.
- 11.0 PROJECT COMPLETION**

The ATP for the project should be successfully completed within 6 weeks of placement of the LOI .



12.0 **INDEMNITY:**

Seller/Contractor shall fully indemnify and keep indemnified the Purchaser against all claims, viz.

- a) Which may be made in respect of the use of System/Item(s)/services supplied/rendered by the Seller/Contractor, for infringement of any rights protected by patent, registration of designs or trademarks.
- b) any other claims of whatsoever nature arising during the course and out of the execution of this Order/Contract

In the event of any such claims being made against the purchaser, Purchaser will inform the Seller/Contractor who shall at his own risk and cost either settle any such dispute or conduct any litigation that may arise there from.

13.0 CONFIDENTIALITY : Seller/Contractor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents, etc. belonging to the purchaser and also of the Systems, procedures, reports, input documents, manuals, results and any other company documents discussed and/or finalised during the course of execution of the order/contract.

14.0 LIQUIDATED DAMAGES: The parties hereto agree that timely delivery is the essence of the order/contract. If the Seller/Contractor fails to complete the projects within the time period stipulated in the order/contract or within any extension of time granted by the purchaser, purchaser shall be under no obligation to accept the goods. However, if accepted, liquidated Damages at the rate of half percent per week of delay or part thereof shall be levied on the value of goods delayed limited to ten percent of the total order/contract value excluding elements of taxes and duties, without prejudice to any other relief or compensation due to the purchaser under any other condition of the order/contract.

15.0 FORCE MAJEURE : Seller/Contractor shall not be responsible for delay in delivery resulting from acts/events beyond his control provided notice of the happening of any such act/event is given by the Seller/Contractor to the purchaser within 15 days from the date of its occurrence. Such acts/events shall include but not be limited to acts of God, war, floods, earthquakes, strikes, lockouts, epidemics, riots, fire or Governmental regulations superimposed after the date of order/contract.



16.0 TERMINATION OF THE ORDER/CONTRACT

17.1 The purchaser reserves the right to terminate the order/contract, either wholly or in part, in case he is obliged to do so on account of any decline, diminution, curtailment or stoppage of his business and in that event, the Seller/Contractor shall have no claim for compensation against the purchaser on account of such cancellation.

17.2 Purchaser reserves the right to terminate the order/contract, either wholly or in part, upon situations arising due to non-compliance of stipulations of the Order/contract, by the Seller/Contractor, at the risk and cost of the Seller/Contractor.

18.0 PATENTS & TRADEMARKS : Seller/Contractor shall at all times indemnify the Purchaser against all claims which may be made in respect of the Systems/goods/Software supplied by the Seller/Contractor, for infringement of any right protected by patent, registration of designs or trademarks and legality of usage of Software. In the event of any such claims being made against the Purchaser, Purchaser will inform the Seller/Contractor who shall at his own cost either settle any such dispute or conduct any litigation that may arise there from.

20.0 SUB-CONTRACTING: Order/contract or any part thereof shall not be sub-contracted, assigned or otherwise transferred without prior written consent of the purchaser.

21.0 SETTLEMENT OF DISPUTES

21.1 Except as otherwise specifically provided in the Order/Contract, all disputes concerning questions of the facts arising under the Order/Contract, shall be decided by the purchaser, subject to written appeal by the Seller/Contractor to the purchaser, whose decision shall be final to the parties hereto.

21.2 Any disputes or differences shall be to the extent possible settled amicably between the parties hereto, failing which the disputed issues shall be settled through arbitration.

21.3 However, the Seller/Contractor shall continue to perform the Order/Contract, pending settlement of dispute(s).



22.0 ARBITRATION

In the event of any dispute or difference arising out of the execution of the order/contract or the respective rights and liabilities of the parties, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred to the arbitration of the person appointed by the competent authority of the Purchaser.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act, 1996 (India) or statutory modifications or re-enactments thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. The venue of arbitration shall be NCR Region, India.

23.0 LAWS GOVERNING THE CONTRACT: The Order/Contract shall be executed and governed by the laws of India and the courts of India alone shall have jurisdiction in respect of any matter arising under or in connection with the Order/Contract.

24.0 JURISDICTION OF COURT: The jurisdiction to decide any disputes in the Contract shall be at New Delhi under any circumstances.

25.0 SUBMISSION OF INVOICE : All Invoices shall be submitted along with specified documents **in triplicate** to IT Department, BHEL-PEM, PPEI Building, HRDI & ESI Complex, Plot No. 25, Sector 16A, NOIDA – 201 301.

26.0 ACCEPTANCE: Letter of Seller/Contractor's acceptance of the LOI/Order/Contract shall be sent to IT DEPARTMENT, BHEL-PEM, PPEI BUILDING, HRDI & ESI COMPLEX, PLOT NO. 25, SECTOR 16A, NOIDA – 201 301, within ten days from the date of LOI/Order/Contract. Purchaser shall reserve the right to cancel the LOI/Order/Contract in case the letter of acceptance is not received within ten days. Purchaser will not be responsible for any postal delays.

27.0 RECOVERY OF OUTSTANDING AMOUNT: In the event of any amount of money being outstanding at any point in time against the Seller/Contractor, due to excess payment or any other reason, whatsoever, in the present order/contract or any other order/contract, the outstanding amount shall be recovered from the payments due to the Seller/Contractor or at any other appropriate time and manner/mode as deemed fit by the Purchaser at its sole discretion.



Check List

S. N.	Required Document	If Submitted then Tick (√)
1	List of references	
2	Complete tender in all respects duly signed & stamped on each and every page by the authorized signatory of the bidder as a token of acceptance of all the terms and conditions of tender.	
3	Copy of sale tax registration / service tax registration.	
4	Copy of PAN card.	
5	EMD (DD/Pay Order) amount ` —	
6	Technical Specification Checklist	



EXECUTED ORDER DETAILS
(Where similar equipment has been installed)

P.O./W.O. No. & Date (copy(s) to be enclosed)	
Name of the company/customer(s)(where similar equipment has been installed)	
Complete postal address of the customer	
Year of commissioning	
Name and designation of the contact person of the customer	
Phone, FAX No. and Email address of the contact person of the customer	
Certificate from the customer regarding satisfactory performance of the device	

Signature with Seal



EMD DETAILS

EMD AMOUNT	Cheque/DD No.	Bank	Dated
Rs.10,000/-			

Signature with Seal



Price Format for Redundant Radio Link (100 MBPS)

Item description	Qty	Quarterly Charges(₹) (A)	Quarterly Taxes/Duties(₹) (B)	Total Quarterly Charges(₹) C= (A) + (B)	No. of Quarters (D)	Total Charges for 2 years (₹) E=C x D
A Redundant 100 MBPS Radio link between two offices of BHEL-PEM,Noida	1		Rate= %		8	

Total Charges in Word including taxes:

Note : Taxes as application should be mentioned along with rate(%)
[Taxes and duties on actual basis shall be paid to the vendor as applicable as on date]

Signature with Seal

Seal and Signature of Bidder



Details of Party

S. N.	Description	Details
1	Name of the Party	
2	Address of the party	
3	Contact Person's Name	1) 2)
4	Cell No. of Contact Person	1) 2)
5	Land Line No./mobile no	1) 2)
6	FAX No.	
7	E-mail ID of the Party	1) 2)
8	PAN No.	



BIDDER'S COMPANY LETTER HEAD

Annexure-7

No Deviation Certificate
(To be submitted along with Part-1 Bid)

Notwithstanding anything mentioned in our bid, we hereby accept all the terms and conditions of the above tender. We confirm that the offer submitted is confirming to all the terms and conditions mentioned in the tender document. We hereby undertake and confirm that we have understood the scope of services properly and shall carry out the job as mentioned in this tender.

Or

We hereby accept all terms and conditions of the above tender except the following:

- 1.
- 2.
- 3.
- 4.



BIDDER'S COMPANY LETTER HEAD

Annexure-8

DECLARATION CERTIFICATE

I / We do hereby declare that there is no case with the Police/Court/Regulatory authorities against the proprietor/firm/partner. Also I/We have not been suspended / delisted / blacklisted by any other Govt. Ministry / Department/Public Sector Undertaking/ Autonomous Body/Financial institution/Court. We also certify that either our firm or any of the partners are not involved in any scam or disciplinary proceedings settled or pending adjudication. I / We have enclosed the following documents with the tender document in technical bid. :-

1. List of references
2. Complete tender in all respects duly signed & stamped on each and every page by the authorized signatory of the bidder as a token of acceptance of all the terms and conditions of tender.
3. Copy of PAN card.
4. EMD Money.

**TECHNICAL SPECIFICATIONS FOR 100MBPS RADIO LINK BETWEEN TWO OFFICES OF
BHEL-PEM IN SECTOR 16A, NOIDA.**

Annexure - 1

SPECIFICATION NUMBER: PE888S-1503 REV. 00

1.0 REQUIREMENT

BHEL-PEM at NOIDA requires an all-weather error-free 100Mbps full duplex radio link connectivity between its offices at PPEI Building, HRDI & ESI Complex, Plot No. 25, Sector 16A, Noida and **the** building ("Mindmill Towers") located at Plot no. 24A, Sector 16A, Noida as per the details of the Service Level Agreement (SLA) stipulated here-under. The distance between the two buildings is approximately 100 meters as the crow flies and the two buildings are in the line of sight of each other

2.0 DURATION OF THE CONTRACT

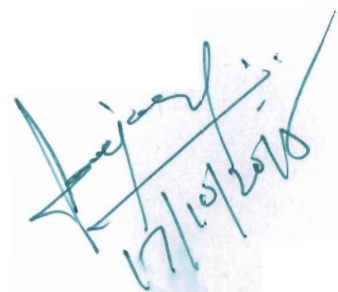
The contract shall be initially for a period of 2 years after which the same shall be extendable on mutually agreed terms and conditions.

3.0 INTERFACE EQUIPMENT

A network consisting of Windows 2003 / 2008 Advanced Server s/w based servers, nodes, switches, network-interfaced LED and Inkjet plotters and laser printers etc. and various design, engineering, drafting and office application s/w already exists at BHEL-PEM. The equipment being obtained under this specification is required to be connected and compatible to the existing system. For a detailed understanding of the existing hardware, software and networking environment at BHEL, the bidders should visit and acquaint themselves of the existing system. Bidder shall visit the site for complete appraisal and assessment of existing facilities and site requirement.

Appointments for site visits may be taken from the following:

Shri Sanjay Singh
Engineer (IT)
BHEL-PEM
First Floor, PPEI Building
HRDI & ESI Complex
Plot No. 25, Sector 16A
NOIDA - 201 301.
Phone: 0120-4368697
Fax: 0120 - 4329026
Mobile: +91 9899095970
E-mail: sanjaysingh@bhhelpem.co.in


17/10/2010



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- 4.0 The radio link shall terminate with RJ-45 Ethernet connectors at both the ends. The RJ-45 connectors shall be input to Cisco switches at both the ends. Cisco switches at both the ends shall be provided by BHEL. However, laying of CAT6 cable from the interface equipment to the switch rack shall be in the scope of the vendor.
- 4.1 Bidder should specify the equipment (if required) for interfacing. It shall be the vendor's responsibility to configure and demonstrate the total solution so that it performs satisfactorily.
- 4.2 It may be noted that the cost of the equipment required for interfacing (as specified by the bidder) should be included in the quarterly charge for the connectivity to be quoted by the bidder. The equipment should be quoted with 2 years comprehensive onsite warranty on all equipments. During warranty period, vendor shall do all necessary work to keep radio link functional the work may include maintenance of supplied mast whenever required, replacement of faulty parts etc. It shall be the vendor's responsibility to keep radio link functional for the contract period.
- 4.3 The required foundation for mounting the tower shall be prepared by the vendor.
- 4.4 BHEL shall provide adequate UPS power supply and earthing for the interface equipment at both the ends. However, laying of power cable from the nearest UPS point to the interface equipment shall be in the scope of the vendor. Also, all accessories required for installation of towers, radio device, antenna etc. shall be provided by the vendor.
- 4.5 Any permission from regulatory authorities (if required) shall have to be obtained by the vendor.
- 4.6 Radio link between the two buildings should be safe and secure from un-authorized access or snooping or piggybacking. The signal between the two buildings should be encrypted.
- 4.7 The cables used for connecting radio device to Cisco switches should be properly laid in PVC conduit pipe (white color) and fixed as per the aesthetics of the building.

5.0 **INSTALLATION**

- 5.1 The vendor shall carry out total installation work as per the requirements of the complete specifications and instructions of Engineer to be nominated by BHEL to get the installation done.
- 5.2 Necessary power and communication cables for complete H/W installation including interfacing cables required for inter-connection of different equipment, are in the scope of vendor and shall be supplied at no extra cost.

[Handwritten signature and date]
17/10/2018



- 5.3 The installation work shall be carried out in a neat workman-like manner by skilled, experienced and competent workmen.
- 5.4 All materials, equipment, instruments, hardware, tools, consumables, fasteners, accessories etc. whether specifically mentioned or not in the specification but required for complete installation and testing in all respects and to the satisfaction of the Engineer will be in the scope of the vendor and no extra cost shall be paid for the same .
- 5.5 The vendor shall provide (cost inclusive in the offer), skilled and unskilled labour, supervisory and administrative personnel, erection tools and tackles, equipment for erection, testing and commissioning and implements necessary for timely and efficient execution of the contract.
- 5.6 All materials being supplied or consumed during erection by the vendor in the process of erection work shall be of the best quality conforming to the relevant standards.
- 5.7 The vendor shall submit the authorization certificate for sale and maintenance from the principal manufacturer for all the quoted equipments.
- 5.8 Radio modem should be enclosed in a weather proof enclosed for protecting it from heat, humidity, rain, cold etc.

6.0 **ACCEPTANCE TEST PROCEDURE (ATP)**

- 6.1 ATP shall be conducted by the vendor to establish that the connectivity and all hardware and software has been supplied by the vendor strictly as per the specifications and is in perfect working conditions as per the hardware and software manuals.
- 6.2 Once the system is fully installed and is made operational, its operation and performance would be observed for a duration of seven continuous working days. The ATP would start on a mutually agreed date and time after the preliminary observation of seven days.
- 6.3 At least one representative of the Service Provider shall be present during the entire ATP. Vendor's representative should be capable of performing all tests, interpret the meaning of each diagnostic and satisfy BHEL representative(s) with satisfactory answers.
- 6.4 Following procedure would be followed during the ATP:


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- 6.4.1 The complete system with all its hardware and software would be operated continuously for seven continuous working days on eight hours per day basis.
- 6.4.2 An overall availability of 99% would be ensured by the vendor during ATP for the radio link and the interface equipment. If any equipment or the radio link is not available for more than eight (8) hours or if it is found at the end of ATP that its availability is less than 99%, BHEL would not accept that particular equipment or the radio link and its ATP would restart (from zero) after making necessary rectifications/replacements. If any equipment or the radio link is not operating to its full specifications, it shall be treated as down for the purpose of computation of its availability. However, downtime shall not be counted for problems because of the equipment (H/W & S/W) from sources other than the vendor.
- 6.4.3 During the physical verification, it would be established that all hardware and software have been supplied as per BHEL technical specifications.
- 6.4.4 All problems/deficiencies as pointed out by BHEL shall be immediately attended to by the vendor.
- 6.5 BHEL shall issue an ATP certificate on successful completion of ATP, provided that:
- 6.5.1 An overall availability of 99% has been achieved as per clause 10.3
- 6.5.2 No hardware or software problem/deficiency reported during the ATP is pending
- 6.5.3 No major hardware or software problem/deficiency which indicates that the supplied hardware/software is of poor quality and/or faulty design, was detected during the ATP.

7.0 **MODE OF PAYMENT**

Payment shall be released on a quarterly basis at the end of each quarter after the successful completion of Acceptance Test Procedure (ATP) outlined above subject to compensations as per clause no. 10.3.3 below.

8.0 **SERVICE LEVEL AGREEMENT**

8.1 **LATENCY**

Average Latency or round-trip delay (RTD) shall be averaged over 95% best measurement samples collected over the calendar month. The measurements are the response time to test sample ('ping') issued at interval of 5 minutes between designated network routers. The Service Provider shall ensure latency of not more than 350 ms.



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8.2 **PACKET LOSS**

For a transmission taking place, packet loss would be defined as the number of packets lost divided by the total number of packets sent expressed as a percentage (%).

$$\text{Packet Loss} = \frac{\Sigma(\text{Number of Packets not returned})}{\text{Total number of packets sent}} \%$$

The Service Provider will use all the commercially reasonable efforts to minimize Excess Packet Loss.

After discovering or being notified by Customer of packet loss in excess of 6% ("Excess Packet Loss") based on the Service Provider's measurements between the two designated routers within the Network, the Service Provider will use commercially reasonable efforts to determine the source of such Excess Packet Loss and to correct such problem to the extent that the source of the problem is on our Network.

8.3 **UPTIME OF RADIO LINK**

8.3.1 **SERVICE LEVELS COMMITTED**

The Service Provider shall maintain an Up-Time of not less than 99% of the total available time on 8 and a half hours per day basis. The Up-time as above is to be maintained on a quarterly basis. If any equipment or radio link is not operating to its full specifications, it shall be treated as down for the purpose of computation of its availability. For radio link or any equipment which is available for less than 99% during any quarter, deductions shall be made from its charges payable for that quarter. However, downtime shall not be counted for problems because of the equipment (H/W & S/W) from sources other than the vendor.

8.3.2 **COMPUTATION OF AVAILABILITY**

The availability (%) for the radio link during a given quarter shall be calculated as follows:

$$\frac{\text{Total working hours} - \text{Total down time in hours}}{\text{Total working hours}} \times 100$$

Total working hours = Total no. of BHEL working days during the period under consideration X 8.

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Down time = Hours for which the radio link is not available only during BHEL working days from 9 AM to 5:30 PM.

Total down time = Cumulative down time for during the period under consideration.

8.3.2.1 Downtime breaks comprising of a continuous break in services for 15 minutes or more shall only be considered. Breaks with durations of less than 15 minutes shall be disregarded in computing the downtime.

8.3.2.2 The downtime shall not include the time granted to the vendor for the purpose of modifications/ up-gradation on the Network. The downtime calculation shall not include the downtime for less than 15 minutes for each time of occurrence, i.e. any downtime of less than 15 minutes shall not be included while computing the downtime.

8.3.2.3 The planned downtime activities due to the purpose of modifications / up-gradation on the network, will be intimated to BHEL 24 Hours in advance.

8.3.2.4 The uptime percentages will be calculated up to two decimal points, e.g. 98.87%.

8.3.2.5 Vendor's representative shall submit to BHEL a service sheet after each occasion on which the radio link is not available for more than 15 minutes at a stretch. The call sheet shall serve as the basis for calculation of up/down time.

8.3.3 COMPENSATION FOR FAILURE TO MAINTAIN SERVICE LEVEL

8.3.3.1 If availability of the radio link during any quarter is less than 99%, deductions to be made from its charges payable for that quarter shall be as per following formula:

$$\text{DEDUCTION} = \frac{C \times (100 - A)}{100}$$

Where C = Quarterly charges payable for the equipment under consideration

A = Percentage availability of the equipment during the Quarter under consideration

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8.3.3.2 If the radio link is down for more than 15 BHEL working days, deductions shall be two times and if it is down for more than 30 BHEL working days, deductions shall be three times the normal leviable deductions as above.

8.3.3.3 However, total of all such deductions in a quarter shall be limited to the total charges payable during the quarter.

9.0 PROJECT COMPLETION

9.1 The ATP for the project should be successfully completed within 6 weeks of placement of the LOI - subject to reasons beyond the control of the vendor.

10.0 DEPRECIATION

10.1 The equipment shall be returned to the vendor after the Contract period and the Vendor shall take the benefit of depreciation.

11.0 REFERENCE LIST

11.1 Bidder to submit a list of references where similar equipment has been installed.

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EXECUTED ORDER DETAILS
(Where similar equipment has been installed)

P.O./W.O.No. & Date (copy(s) to be enclosed	
Name of the company/customer(s)(where similar equipment has been installed)	
Complete postal address of the customer	
Year of commissioning	
Name and designation of the contact person of the customer	
Phone, FAX No. and Email address of the contact person of the customer	
Certificate from the customer regarding satisfactory performance of the device	

Signature with Seal

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Annexure - 5

Technical Specification Checklist		
Description	Required specification	Vendor Compliance (to be filled by vendor)
Radio Modem		
Make and Model (To be filled by Vendor)		
100 Mbps Full Duplex	100 Mbps Full Duplex	
SNMP Capability	SNMP v1,v2 & v3	
Monitoring	Having a web interface which allow link to be monitored and configured from a Network Computer	
Reports	Alarm Reports via SNMP	
Bridge Functionality	YES	
Telnet	Telnet	
Log Records	On board History Log Files, Statistics Graphing	
Report	Success full bidder shall submit a report on radio link between the two offices of BHEL, Noida at the end of completion of ATP.	
Technical Specification	Acceptance of tech specs Ref No. PE888S-1104 REV.00	
MAC Address filtering	Ensures secure network connection in all operating modes	

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