

ADDENDUM-6

DATE: 15-12-2012

SUPPLY OF PLCC for TURAL HYDRO ELECTRIC PROJECT,MIZORAM.

TENDER REFERENCE NO.77/12/6121/MCS

1. With reference to the above, we would like to inform you that the following change is incorporated to our ENQUIRY SPECIFICATIONS for PLCC for TURAL HYDRO ELECTRIC PROJECT,MIZORAM

SECTION-III in the ENQUIRY SPECIFICATIONS (IS-1-02-2013/PLCC).

A. SCOPE OF SUPPLY OF EQUIPMENTS : CLAUSE 3.1 IS CHANGED AS PER THE REVISED DOCUMENTS ENCLOSED(REV NO:01 DATE OF ISSUE:14.12.2012; PAGE 9 OF 9,10 OF 10,11 OF 11)

B. MANDATORY TESTING AND MAINTENANCE EQUIPMENT : CLAUSE 3.3 MANDATORY SPARES IS CHANGED AS PER THE REVISED DOCUMENTS ENCLOSED(REV NO:01 DATE OF ISSUE:14.12.2012; PAGE 12 OF 12) .

C. PRICE BID FORMAT : ANNEXURE-3 IS CHANGED AS PER THE REVISED DOCUMENTS ENCLOSED(PRICE BID FORMAT : REV NO:01 DATE OF ISSUE:14.12.2012; 2 PAGES) .

Vendors who have already furnished their Techno Commercial and Price offers initially are requested to submit the revised price offer and technical acceptance in separate covers considering the above changes. However Commercial terms & conditions and other technical specifications already agreed and submitted shall hold good and remains unaltered. Initial price bids will not be considered.

Vendors who have not submitted the offer initially are permitted to submit their competitive Techno Commercial and price offer in separate sealed covers considering the above changes.

As per special instructions of the enquiry, the sealed offers viz Techno commercial and Price Offers of vendors(who have not quoted earlier) and

revised price offer and technical acceptance covers of vendors (who have already quoted) should reach us latest by 2pm on 24.12.2012.

Techno-commercial offers and Technical acceptance covers shall be opened on 24.12.2012 at 3pm. Any offer received after the indicated due date and time will be rejected without further notice.

2. Any further addendum issued shall form part of the bidding documents and this will be available at the web site from where the original documents have been received / downloaded by the bidder. Hence bidders are requested to visit the web site on regular basis.

For Further Queries if any, Contact:

**Mallikarjuna N /Sr.DGM (BG-II)
Bharat Heavy Electricals Ltd.
Industrial Systems Group
P.B. No. 1249, IISc Post
Malleswaram; BANGALORE 560 012
E.Mail : mcs@bhelisg.com ; nm@bhelisg.com; sma@bhelisg.com;
Tel: 080 22184252, 080 22184535, 080 22184126.**

BHEL-ISG BANGALORE	ENQUIRY SPECIFICATIONS FOR POWER LINE CARRIER COMMUNICATION EQPT	IS-1-02-2013/PLCC
-----------------------	---	-------------------

SECTION-III

SCOPE OF SUPPLY AND SERVICES

3.0 SCOPE OF COMMUNICATION SYSTEM (PLC)

This specification covers planning, design, manufacture, inspection, supply, delivery, erection, supervision of erection, testing, commissioning and performance requirements of various items of power line carrier communication and associated equipment as per Employer's requirement specified in this specification. The equipments are required for providing the power line carrier communication system on 132 kV transmission lines as detailed in this specification. This will include speech on automatic dialling basis, express channels, for telemetering purposes and assistance in relay protection.

Requirement

The Power Line Carrier (PLC) communication equipment is required for the following line sections. Speech communication on automatic dialling basis as well as express is envisaged:

- i) Tuirial – Aizwal – 80Km
- ii) Tuirial – Jiribam – 70Km
- iii) Tuirial – Kolasib - 40km

The carrier equipment offered shall also be suitable for facilities such as teleprinting/telemetering, telecontrol and carrier operated.

All the equipments to be offered against this specification, unless stated specifically, shall be suitable for connection to 48 V DC supply only. For this purpose tenderer shall offer 48 V batteries and battery charger of suitable capacities.

PLC equipment covered in this specification is given below:

- Line Traps
- Coupling Device
- Coaxial cable, PLC terminal coupling device
- VFT equipment for tele-protection, four-wire group selector (FWGS), PAX, telephone set with/witliput priority key, companders, etc.
- Power supply equipment

Tenderer shall recommend a set of spare parts required at the sub-station for normal maintenance of the equipment offered for a period of five years.

BHEL-ISG BANGALORE	ENQUIRY SPECIFICATIONS FOR POWER LINE CARRIER COMMUNICATION EQPT	IS-1-02-2013/PLCC
-----------------------	---	-------------------

3.1 SCOPE OF SUPPLY OF EQUIPMENTS:

Sl. No.	Description	Nos	Type no/model no to be mentioned
3.1.1	Wave traps (to be as per requirements of frequency plan) along with 132 kv String insulators, terminal Connectors and mounting structure,etc for the above wave/line trap(0.2mh, 1250A, 31.5kA , 1 sec) for 3 line (Terial end only)	6 sets	
3.1.2a	Copper connecting rod from CVT to coupling device (for three lines)	3 set	
3.1.2b	Coupling Device suitable for Phase to Phase coupling (for 3 lines).	3 Sets	
3.1.3	HF Co-axial cable with connectors as required	1500 Mteters	
3.1.4	Protection coupler with 4 commands	6 nos.	
3.1.6	Power line carrier terminal for Protection . (40W TERMINAL) (Terial end only)	3 nos.	
3.1.7	Power line carrier terminal , Twin Channel , for use of speech+ telex+ data signals (RTU) + and back up protection. (40W TERMINAL) (Terial end Only)	3 Nos	
3.1.8	VFT equipment	3 sets	
3.1.9	Remote end four wire E/M interface unit (Qty will be decided	3 nos .	

BHEL-ISG BANGALORE	ENQUIRY SPECIFICATIONS FOR POWER LINE CARRIER COMMUNICATION EQPT	IS-1-02-2013/PLCC
-----------------------	---	-------------------

	during detailed engineering /manufacturing clearance stage s based on Customer clearance and the payment shall be made on actual supplied basis Bidder to note that this item may be removed from supplier scope & no payment shall be made if removed from the scope		
3.1.10	EPAX (24 /4 lines) with Hand set as per Technical Specifications	1 sets	
3.1.11	4 Wire telephone equipment with necessary connecting cable	12 nos.	
3.1.12	2 Wire telephone equipment with necessary connecting cable(Qty will be decided during detailed engineering /manufacturing clearance stage s based on Customer clearance and the payment shall be made on actual supplied basis Bidder to note that this item may be removed from supplier scope & no payment shall be made if removed from the scope)	24 nos	
3.1.13	5 Pair jelly filled telephone cable	2 kms	
3.1.14	1 pair jelly filled telephone cable	6 kms	
3.1.16	Mandatory Testing & Maintenance Equipment as per the specifications	1 Set	
3.1.17	Supervision of erection.	1 lot	
3.1.17	Commissioning and Testing , PG Test & handing over of PLCC equipment	1 lot	
3.1.20	48V, Battery and battery charger of suitable AH rating including supply of cables from battery to charger and charger to panels. The price shall include erection and commissioning charges	1 sets	

BHEL-ISG BANGALORE	ENQUIRY SPECIFICATIONS FOR POWER LINE CARRIER COMMUNICATION EQPT	IS-1-02-2013/PLCC
-----------------------	---	-------------------

3.1.21	Tools & tackles(Testing Instruments)		
3.1.22	Level Meter	1 No	
3.1.23	Level generator	1 No	
3.1.24	Time interval meter. & frequency counter	1 No	
3.1.25	Dual Trace Oscilloscope	1 no	
3.1.26	True RMS Meter	1 No	

3.3 MANDATORY TESTING AND MAINTENANCE EQUIPMENT

Print testing kit for PLCC terminal, E/M interface & subscriber unit, Protection coupler & EPAX:

Comprising of following items of reputed make in addition to any other special items required for testing and maintenance of this equipment packed in a carrying brief case:

- 3.3.1 Screwdriver set with multi up fixing feature
- 3.3.2. Nose pliers
- 3.3.3. Cutting pliers
- 3.3.4. Ordinary Pliers
- 3.3.5. Adjustable wrench
- 3.3.6. Soldering iron with tip earthed
 - a) 150 watts - 1 No.
 - b) 35 Watts - 1 No
 - c) 10 watts - 1 No.
- Operated with isolated (step down) transformer having provision for interchangeable taps.
- 3.3.7. Desoldering pump
- 3.3.8. Print extender
- 3.3.9. Print puller
- 3.3.10. Large selection of test leads
- 3.3.11. Solder wire
- 3.3.12. Large selection of plugs, jacks & pistol probes compatible with equipment supplied
- 3.3.13. Dummy load
- 3.3.14. Interface card/print for Tx to Rx loop-back
- 3.3.15. Test oscillator/tone generator with indicating meters - either built in or separate
- 3.3.16. ESD wristband
- 3.3.17. ESD conducting mat

BHEL-ISG BANGALORE	ENQUIRY SPECIFICATIONS FOR POWER LINE CARRIER COMMUNICATION EQPT	IS-1-02-2013/PLCC
-----------------------	---	-------------------

MANDATORY SPARES

Telephone 4 wire with necessary connecting cable
Co-axial connector

PRICE BID FORMAT

PLCC EQUIPMENT FOR Turiial Project

ANNEXURE-3

ENQ NO:

Rev.01, Dtd. 14.12.12

Design, Engineering, supply, Testing, dispatch and transportation to Turiial site, site supervision and commissioning all set of PLCC system (Excluding storage and Erection at site)

Sl no	Description	Unit	Quantity	EXCISE DUTY RATE %	SALES TAX WITH 'C' FORM RATE %	FREIGHT & OTHERS	SERVICE TAX ON INSTALLATION & COMMISSIONING %	ALL INCLUSIVE TOTAL F.O.R PRICE
1.1	MAIN EQUIPMENT			AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
1.1.1	Wave traps (to be as per requirements of frequency plan) along with 132 kv String insulators, terminal Connectors and mounting structure,etc for the above wave/line trap(0.2mh, 1250A, 31.5kA , 1 sec) for 3 line (Turiial end only)	Nos	6					
1.1.2	Copper connecting rod from CVT to coupling device (for three lines) .	set	3					
1.1.3	Coupling Device suitable for Phase to Phase coupling (for 3 lines).	Sets	3					
1.1.4	HF Co-axial cable with connectors as required	Meters	1500					
1.1.5	Protection coupler with 4 commands (for 3 Lines)	Sets	6					
1.1.6	Power line carrier terminal for Protection . (40W TERMINAL) (Turiial end only)	Nos.	3					
1.1.7	Power line carrier terminal , Twin Channel , for use of speech+ telex+ data signals (RTU) + and back up protection. (40W TERMINAL) (Turiial end Only)	Nos.	3					
1.1.8	EPAX (24 /4 lines) with Hand set as per Technical Specifications	sets	1					
1.1.9	VFT equipment	sets	3					
1.1.10	Remote end four wire E/M interface unit (Qty will be decided during detailed engineering /manufacturing clearance stage s based on Customer clearance and the payment shall be made on actual supplied basis Bidder to note that this item may be removed from supplier scope & no payment shall be made if removed from the scope	nos	3					
1.1.11	4 Wire telephone equipment with necessary connecting cable	nos.	12					

1.1.12	2 Wire telephone equipment with necessary connecting cable(Qty will be decided during detailed engineering /manufacturing clearance stages based on Customer clearance and the payment shall be made on actual supplied basis Bidder to note that this item may be removed from supplier scope & no payment shall be made if removed from the scope)	Nos	24					
1.1.13	5 Pair jelly filled telephone cable	kms	2					
1.1.14	1 pair jelly filled telephone cable	kms	6					
1.1.15	48V , Battery and battery charger cum Distibution Board of suitable AH rating including supply of cables from battery to charger and charger to panels. The price shall include erection and commissioning charges	sets	1					
1.1.16	Mandatory Testing & Maintenance Equipment as per the specifications	Set	1					
1.2	Supervision of erection. Of equipments	lot	1					
1.2.1	Commissioning and Testing , PG Test & handing over of PLCC equipment	lot	1					
1.2.2	Tools & tackles(Testing Instruments)							
1.2.3	Level Meter (VF and HF measurement)	No	1					
1.2.4	Level generator	No	1					
1.2.5	Time interval meter. & frequency counter	No	1					
1.2.6	Dual Trace Oscilloscope	No	1					
1.2.7	True RMS Meter	No	1					
1.3	MANDATORY SPARES							
1.3.1	Telephone 4 wire with necessary connecting cable	Set	4					
1.3.2	Co-axial connector	Nos	4					

Notes:

- 1.00 Any item not required for completion of the job from your end , kindly mark as (NR) or Not required.
- 2.00 All approvals from Customer/Consultant like drawings,data sheets, etc shall be Vendor's responsibility. BHEL shall only co-ordinate the visits.
- 3.00 Any other item required for satisfactory operation of the system may please be added at the end and written quoted.
- 4.00 **No additional item or services will be supplied by BHEL during any stage after receipt of order. Completion of the job including handing over shall be your total responsibility.**