



Ref: ENNORE/FOHS/E-4831/2015/CORRIGENDUM/09

Date: 14/08/2015

DUE DATE
24/08/2015
11:00AM(IST)

Our Ref:

- (i) TENDER ENQUIRY NO: PE/PG/EN1/E-4831/2015 dated 12.05.2015
- (ii) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/01 dated 10.06.2015
- (iii) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/02 dated 10.06.2015
- (iv) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/03 dated 12.06.2015
- (v) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/04 dated 07.07.2015
- (vi) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/05 dated 22.07.2015
- (vii) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/06 dated 28.07.2015
- (viii) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/07 dated 10.08.2015
- (ix) ENNORE/FOHS/E-4831/2015/CORRIGENDUM/08 dated 12.08.2015

Subject: Techno commercial clarification and issue of revision in price schedule for above referred tender enquiry.

Bidders to note following changes with respect to price schedule of subject package:-

S.NO	Reference point of price schedule	Instead of	Read as
1	1.4.24 of schedule 2 of price schedule	Lump sum price for Instruments (Gauges, Transmitters, switches etc)	Lump sum price for flow meter & Instruments (Gauges, Transmitters, switches etc.)
2	Note 1 of GPC of price schedule	Estimated Power Consumption Figure for the compressed air system (For Working Drives Only) considered is 9.6 KW (For station)	Estimated Power Consumption Figure for the Fuel Oil Handling system (For Working Drives Only) considered is 9.6 KW (For station)

Above changes are incorporated in Rev 02 price schedule (Indian & foreign) in line with amendment no 2 to technical specification. Same is being enclosed herewith.

Earlier uploaded price schedule (Rev 01 Indian & foreign bidders) has been replaced with rev 02 to price schedule (Foreign and Indian bidders). Same has been uploaded on BHEL websites (www.bhel.com & www.bhelpem.com).

Bidders may submit their revised offers before due date and time in line with the issued corrigendum, if required.

Thanking You

With regards

For & on behalf of BHEL

Akash Verma
Akash Verma

Engineer | PG II-2, BHEL PEM | Noida

E-MAIL: akashverma@bhelpem.co.in

(Page 1 of 12)

कृपया प्रेषित करे : Please reply to : फ़ोन Phone No:
बीएचईएल, पीएस-पीईएम BHEL, PS-PEM, 91-120 - 436 8864
पीपीआई भवन PPEI Building,
प्लॉट नं २५, सेक्टर १६ ए Plot No.25, Sector 16A,
नोएडा - २०१ ३०१ उ प्र Noida-201301 (U.P.)
भारत INDIA

पंजीकृत कार्यालय Registered Office :
बीएचईएल हाउस BHEL House,
सीरी फोर्ट Siri Fort,
नयी दिल्ली - ११० ०४९ New Delhi-110049
भारत INDIA

**TAMILNADU GENERATION AND DISTRIBUTION
CORPORATION LIMITED.**

**2X660MW ENNORE SEZ COAL BASED STPP AT ASH
DYKE OF NCTPS, CHENNAI**

AMENDMENT NO – 02

FUEL OIL UNLOADING SYSTEM

SPECIFICATION NO.: PE-TS-412-166-A001



BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT

NOIDA



**ENNORE SEZ COAL BASED STPP
(2 X 660 MW)**

FUEL OIL UNLOADING SYSTEM

SPEC. No: PE-TS-412-166-A001

AMENDMENT NO. - 2

DATE 13.08.2015

SHEET 1 OF 1

AMENDMENT / ADDITION TO EXISTING CLAUSES OF FOHS TECHNICAL SPECIFICATION. BIDDER TO NOTE THAT EXISTING DISCRPTION AS APPEARING IN THE SPECIFICATION STANDS DELETED / MODIFIED OR ADDED AND CLAUSES / DETAILS AS MENTIONED IN "AMMENDMENT (TO BE READ AS)" COLUMN SHALL BE APPLICABLE AND COMPLIED BY THE BIDDER.

1.0	AMENDMENT NO – 01, S.no 7 & ANNEXURE-II	AMENDMENT	CHAPTER FOR PERFORMANCE GUARANTEE TO BE ESTABLISHED BY SUCCESSFUL BIDDER IS ATTACHED AS ANNEXURE I TO THIS AMMENDMENT-02.
2.0	Price schedule	AMENDMENT	REVISED PRICE SCHEDULE IS ATTACEHD WITH THIS AMMENDMENT -02

2 X 660 MW ENNORE SEZ TPS						
Guaranteed Power Consumption For Fuel Oil Handling System Shall be as per Following :						
S.No. (1)	Description of Equipments (2)	Nos. of Equipments (3)		Total Guaranteed Power Consumption for Each Equipment at Motor Input Terminals & control Panel (4)	Duty Factor (5)	Total (KW) (6) = (3A)*(4)*(5)
		Working (3A)	Standby (3B)			
1	HFO Unloading Pumps, 100 M3/hr at 45 MWC pressure	2	1		0.1	
2	HSD Unloading Pumps, 50 M3/hr at 40 MWC pressure	1	1		0.1	
					TOTAL	
Note :						
1	Estimated Power Consumption Figure for the Fuel Oil Handling system (For Working Drives Only) considered is 9.6 KW (For station)					
2	Bidders Guaranteed power consumption at motor input terminals (Not Shaft Power) including power for control panel as furnished in guranteed schedule shall be demonstrated by the successful bidder during performance testing at works/site.					
3	The price quoted by the bidder shall be loaded @ (INR) 356607/- for every additional kW (or part thereof) increase in consumption from the base figure indicated at Note no. 1.0 above.					
4	In case the successful bidder fails to establish / prove the guaranteed values of power consumption (base figure of auxiliary power consumption) on actual performance testing at the manufacturing works / site, penalty @ (INR) 356607/- for every additional kW (or part thereof) increase in consumption from the base figure shall be levied.					

SCHEDULE-1 (PE/PG/EN1/E-4831/2015 DATED 12.05.2015)													
2 X 660 MW ENNORE SEZ COAL BASED STPS, FUEL OIL UNLOADING & STORAGE SYSTEM.													
PRICE FORMAT FOR INDIAN BIDDERS (MAIN PRICE)													
S.No	Details of Works or Equipment/System	Total ex-works Price (including packing/forwarding) (in Rs.)	ED @.....% (self manufactured items only) (in Rs.)	CST @% against C-form & against E1/E2 or VAT@....%. Whichever is applicable (in Rs.)	FREIGHT (including service tax, if any) @% of total ex-works price (in Rs.)	TOTAL (FOR site price) (in Rs.)	E & C CHARGES (in INR)	Service tax on column no. 08 @ _____% (in INR)	E & C Charges including service tax (in INR)	PG TEST (in INR)	Service tax on column no. 11 @ _____% (in INR)	PG TEST including service tax (in INR)	Total Lumpsum price for supply and E&C & PG TEST (Currency+INR)
1	2	3	4	5	6	7=3+4+5+6	8	9	10=8+9	11	12	13 = 11+12	14=7+10+13
1.0	Lumpsum prices												
1.1.0	Lumpsum firm price for SUPPLY comprising design, engineering, manufacturing, inspection and testing at vendor's / sub-vendor's works, painting, forwarding, proper packing, shipment and delivery at project site, including freight in line with drawings / documents / test procedures to be approved by Customer / consultant, inclusive of all prevailing taxes, duties and other levies for Fuel Oil Unloading & Storage System with all accessories including electricals, control & instrumentation items, start up & commissioning spares, mandatory spares as required for the total scope defined as per technical specification PE-TS-412-166-A001.												
1.2.0	Lumpsum firm price for Erection & commissioning comprising unloading, storage, handling and transportation at site, erection and commissioning, minor civil work as required, trial run at site, functional/demonstartion Test at site and handing over to the customer in line with drawings / documents / test procedures to be approved by Customer / consultant, inclusive of all prevailing taxes, duties and other levies for Fuel Oil Unloading & Storage System as required for the total scope defined as per technical specification PE-TS-412-166-A001.												
1.3.0	Total (1.1.0 +1.2.0)												
Notes:													
a)	Bidder to note that total (for site price) indicated above at 1.3.0 shall be considered for evaluation and hence should be complete in all respect for the full scope defined under tehcnical specification.												
b)	Any item not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.												
c)	Total (FOR site supply price) indicated at S.N.1.1.0 above should match with the total of item wise break-up of S.N.1.4 of SCHEDULE-2.												
d)	Bidder shall furnish the price of all items as indicated in the price SCHEDULE 1,2 & 3. Bidder's offer shall liable to be rejected in case bidder does not furnish the same. For SCHEDULE-2, pls refer next page.												
e)	Bidders are requested to obtain clarifications in case of any doubt before filling the price schedule in the prebid clarification stage. It is requested not to make any assumption.												
f)	Total erection & commissioning charges including service tax should be minimum 20% (as specified in NIT) of the total quoted package price (excluding mandatory spares but including all taxes and freight), failing which the break-up of prices shall be adjusted accordingly for ordering.												

SCHEDULE-2 (PE/PG/EN1/E-4831/2015 DATED 12.05.2015)							
2 X 660 MW ENNORE SEZ COAL BASED STPS, FUEL OIL UNLOADING & STORAGE SYSTEM							
PRICE FORMAT FOR INDIAN BIDDERS (SUPPLY BREAK-UP)							
S.No	Details of Works or Equipment/System	Total ex-works Price (including packing/forwarding) (in Rs.)	ED @.....% (self manufactured items only) (in Rs.)	CST @% against C-form & against E1/E2 or VAT@....%. Whichever is applicable (in Rs.)	FREIGHT (including service tax, if any) @% of total ex-works price (in Rs.)	TOTAL (FOR site price) (in Rs.)	Items price %age w.r.t total supply price
1	2	3	4	5	6	7 = 3 + 4 + 5 + 6	8
1.4	<u>Break - up of Total (for site supply price) given at S.N 1.1.0 of SCHEDULE-1</u>						
1.4.1	Lump sum price for steel plates for HFO Tanks, HSD tanks.						23 - 27
1.4.2	Lump sum price for structural steels including flanges, hand rails, gratings etc for FOHS.						2 - 4
1.4.3	Lump sum price for HFO & HSD flexible metallic/ neoprene unloading hoses with all accessories						less than 1
1.4.4	Lump sum price for Steam & condensate hoses with all accessories						1 - 2
1.4.5	Lump sum price for HFO & HSD Pipe & Fittings (excluding insulation & cladding)						16 - 20
1.4.6	Lump sum price for Steam & Condensate Pipe & Fittings (excluding insulation & cladding)						5 - 7
1.4.7	Lump sum price for Air, oily water & others types of pipes & fittings Fittings						less than 1
1.4.8	Lump sum price for Valves (Ball / Plug / Gate / check / Globe / others) in HFO & HSD line						10 - 13
1.4.9	Lump sum price for Valves (Gate / check / Globe / others) in steam & condensate line						1 - 3
1.4.10	Lump sum price for Valves in Water and air line						0.5 - 1
1.4.11	Lump sum price for Steam Trap						3 - 5
1.4.12	Lump sum price for HFO unloading Pumps with motor (3 nos, cap. 100 cum/hr)						6 - 8

1.4.13	Lump sum price for HFO unloading Pumps Strainers						1 - 1.5
1.4.14	Lump sum price for HSD unloading Pumps with motor (2 nos, cap. 50 cum/hr)						0.5 - 1
1.4.15	Lump sum price for HSD unloading Pumps Strainers						0.5 - 1
1.4.16	Lump sum price for Suction Heater in HFO tanks						1 - 3
1.4.17	Lump sum price for Pressure Reducing Station complete in all respect						3 - 5
1.4.18	Lump sum price for Drain Oil pump motor set (2 nos) in all respect						0.5 - 1
1.4.19	Lump sum price for Sump pump motor set (2 nos) in pump house and water pit of OWS (2 nos) in all respect						0.5 - 1
1.4.20	Lump sum price for recovery Oil pump motor set (2 nos) in oil pit of OWS , complete in all respect						0.5 - 1
1.4.21	Lump sum price for Control valves in steam line (for floor coil heater in HFO tanks)						0.5 - 1
1.4.22	Lump sum price for Control valve in steam line (for suction heater in HFO tanks)						0.5 - 1
1.4.23	Lump sum price for Control valve in steam line (for drain oil tank)						0.5 - 1
1.4.24	Lump sum price for flow meter & Instruments (Gauges, Transmitters, switches etc)						1 - 3
1.4.25	Lump sum price for Insulation & Cladding						0.5 - 1
1.4.26	Lump sum price for Equipment and accessories of OWS including pipings, bends, heating arrangement, skimmer pipe, butterfly valve, rung ladder etc.						less than 1
1.4.27	Lump sum price for any other items not included above, but required to complete Fuel oil unloading & storage package as per system requirement.						less than 1
1.4.28	Total price for special tools & tackles for maintenance, if any						less than 1
1.4.29	Total price for startup and commissioning spares						less than 1
	Total percentage range						78-113
1.4.31	Total of 1.4 (sum of 1.4.1 to 1.4.31)						
1.4.32	Mandatory spares						
	Notes:						
a)	Total (for site supply price) of mandatory spares indicated at S.N.1.4.32 above shall match with the total of item wise break-up of S.N.1.5 of SCHEDULE-3 .						
c)	Items price %age w.r.t total FOR SITE supply price is indicated under last column of each row from 1.4.1 to 1.4.29 . Bidder to strictly fill the prices of each item under column no.8 as per indicated percentage only.						

SCHEDULE-3 (PE/PG/EN1/E-4831/2015 DATED 12.05.2015)									
2 X 660 MW ENNORE SEZ COAL BASED STPS, FUEL OIL UNLOADING & STORAGE SYSTEM.									
SUGGESTIVE PRICE FORMAT (MANDATORY SPARES)									
S.No	Details of Works or Equipment/System	Unit Ex-works price	Unit	Qty (Nos)	Total ex-works Price (including packing/forwarding) (in Rs.)	ED including cess @.....% (self manufactured items only) (in Rs.)	CST @% against C-form & against E1/E2 or VAT@....%. Whichever is applicable (in Rs.)	FREIGHT (including service tax, if any) @% of total ex-works price (in Rs.)	TOTAL (FOR site price) (in Rs.)
1	2	3	4	5	6	7	8	9	10=6+7+8+9
1.5	Break - up of Total (for site supply price) given at S.N 1.4.32 of SCHEDULE-2								
1.5.1	HFO/HSD UNLOADING PUMPS								
1.5.1.1	COUPLING PADS / BUSHES AND COUPLING BOLTS		set*	ONE SET /PUMP					
1.5.1.2	BEARINGS		set*	TWO SETS /PUMP					
1.5.1.3	MECHANICAL SEALS		set*	TWO SETS/PUMP					
1.5.1.4	COUPLINGS		set	ONE SET/PUMP					
1.5.1.5	COUPLING PADS		set	TWO SETS/PUMP					
1.5.1.6	SET OF SEALS, O-RINGS & GASKETS		set	2 SETS/PUMP					
1.5.1.7	BEARINGS FOR PUMP		set	2 SETS/PUMP					
1.5.1.8	SET OF ALL TYPES OF BUSHES SLEEVES		set	2 SETS/PUMP					
1.5.1.9	CATRIDGE		nos	1 NO EACH TYPE					
1.5.2	DRAIN OIL PUMP/ RECOVERY OIL TRANSFER PUMP/ WASTE WATER PUMP/ SUMP PUMP(FOR EACH TYPE)								
1.5.2.1	BEARING OR BEARING METALS AND WEARING PARTS FOR EACH ROTATING UNIT.		sets	1 COMPLETE SET					
1.5.2.2	CONNECTING COUPLING FOR EACH ROTATING UNITS (COUPLING ASSEMBLY)		nos	1 SET					
1.5.2.3	PACKING AND GASKETS OF TOTAL INSTALLED		%	100%					
1.5.2.4	INNER WEAR AND TEAR PARTS FOR EACH SIZE AND TYPE OF PUMP		sets	1 SET					
1.5.3	HOSES								
1.5.3.1	UNLOADING HOSES (HFO & HSD)		%	20% OF TOTAL QUANTITY					
1.5.3.2	STEAM AND CONDENSATE HOSES		%	20% OF TOTAL QUANTITY					
1.6	415 V Motors								
1.6.1	Terminal plates			10 Nos. each for small motors upto 30 kW & 4 Nos. each for more than 30 kW					

1.6.2	Heaters			2 sets					
1.6.3	Greasing arrangements			4 sets each type of motor					
1.6.4	Motor of each type and rating			10% of the installed quantity or minimum 1 number whichever be higher					
1.6.5	Bearings (DE and NDE) for each type and rating of motor			4 sets					
1.7	BATTERY								
1.7.1	Battery cell			10					
1.7.2	MT cell container of each type			10					
1.7.3	Level indicator			6					
1.7.4	Vent plugs			12					
1.7.5	Inter-cell connector			10					
1.7.6	Set of nuts, bolts and washer			12					
1.8	BATTERY CHARGERS								
	The list of mandatory spare parts for the battery charger covered under this package are as follows: The bidder is required to indicate the item wise price of listed mandatory spares in respective schedule. These quoted price shall be considered for bid evaluation.								
1.9	For Float cum boost Charger of Unit Batteries.								
1.9.1	Electronic Cards (with all components mounted)			1 set of each type and rating.					
1.9.2	Fuses			4 nos of each type and rating					
1.9.3	SCR			6 nos of each type and rating					
1.9.4	Blocking Diode			6 sets of each type and rating					

1.9.5	Potentiometer			3 sets of each type and rating.					
1.10	For Float cum boost Charger of Switchyard Batteries.								
1.10.1	Electronic Cards (with all components mounted)			1 set of each type and rating.					
1.10.2	Fuses			4 nos of each type and rating					
1.10.3	SCR			6 nos of each type and rating					
1.10.4	Blocking Diode			6 sets of each type and rating					
1.10.5	Potentiometer			3 sets of each type and rating.					
1.10.6	Each type of lamps, PBs, ILPBs, fuse, MCB, MCCB used in the equipment/system.		Nos.	20 % of Installed of each type.					
1.11	Measuring Instruments								
1.11.1	Indicators, Recorders, Electrical Metering and Skid Mounted Instruments								
1.11.1.1	Indicators, recorders and meters offered from each model for the project. These instruments shall be supplied with three sets of blank scales.		Nos.	10 % of Installed of each type/Model or a minimum of one number for each model and type, whichever is more					
1.11.1.2	For skid mounted instruments		Nos.	10% of total number of instruments for each Type and model or a minimum of one number for each model and type, whichever is more					
1.11.2	Temperature Elements and Thermowells								
1.11.2.1	Thermocouple/RTD elements		Nos.	10% spare for each type and length of element furnished with thermocouple/RTD assemblies, or a minimum of one number of each type & length, whichever is more.					
1.11.2.2	Thermowells		Nos.	10% for each type of temperature sensors or a minimum of one for each type, whichever is more					

1.11.2.3	Hooters, Buzzers, Cooling fans of each type.		Nos.	Ten (10) percent or 2 no. (Whichever is more)					
1.11.2.4	Interface cables		Set	2 sets of each type/model					
1.11.2.5	Power supply modules (AC to DC convertors)		Nos.	10% or Five no. (Whichever is more) of each type/model					
1.11.3	Relay based Control Panels								
1.11.3.1	LEDs for indicating lights		Nos.	10% of qty installed.					
1.11.3.2	Control circuit fuses/MCB/MCCB/Semiconductor Fuses		Nos.	300% of installed of each type, current rating.					
1.11.3.3	Relays modules & contactors.		Nos.	20% spare of qty Installed of each type & rating.					
1.11.4	Alarm Annunciation System								
1.11.4.1	logic modules, group card modules, power supply modules, Hooters and any other electronic module.		Nos.	20% spares of each type installed					
1.11.4.2	un-engraved window boxes complete with LED etc.		Nos.	5% spares of each size installed					
1.11.4.3	LEDs for annunciation facia windows and LEDs box assemblies offered for the project		Nos.	20% of qty installed					
1.11.4.4	Annunciator hooter		Nos.	One (1) No. of each type					
1.11.5	Erection hardware								
1.11.5.1	Instrument valves		Nos.	Ten (10) percent of each type & Size installed					
1.11.5.2	Condensate pots of each type & Size installed		Nos.	Ten (10) percent of total number of Installed or four numbers whichever is higher .					
1.11.5.3	Manifold		Nos.	Ten (10) percent of each type & Size installed					
1.11.5.4	Fittings		Nos.	Ten (10) percent of each type & Size installed					
1.11.5.5	Electronic cards		Nos.	One no. of each type					
1.11.6	Mandatory Spares for Control valves, Power Cylinder, Control Dampers, Actuators and Accessories								
1.11.6.1	Following spares shall be furnished for control valves, Power Cylinder, Control Dampers as applicable.								
1.11.6.1.1	control valve stem packing for each control valve		Set	One set of spare for each control valve.					
1.11.6.1.2	Moulded rubber diaphragms for each control valve		Nos.	2 Nos for each control valve.					

1.11.6.1.3	O-rings and rubber gaskets for each control valve		Set	One sets for each control valve.					
1.11.6.1.4	lubricants for gaskets for each control valve		Lot	100 percent qty. for one year consumption.					
1.11.6.1.5	limit switches for each control valve		Set	2 sets for each control valve.					
1.11.6.1.6	valve positioner for each control valve		Set	1 sets for each control valve.					
1.11.6.1.6	Position transmitter (4-20mA)		Lot	20 percent for total qty. of control valves.					
1.11.6.1.7	valve trims (such as plug, stem, seat ring /cage, guide bushing, stem lock pin, packing retaining ring, etc) for each control valve.		Set	One set for each control valve.					
1.11.6.1.8	completes actuator		Lot	1 No. of each type or minimum 10 percent for each type and size whichever is more.					
1.11.6.1.9	Solenoid valves		Lot	20 percent of Solenoid valves or min 2 no. of each type for total qty. of control valves.					
1.11.6.1.10	I to P converters, Pressure regulators.		Lot	20 percent of total I to P convertors, Pressure regulators.					
1.12.1	sensor/instrument, instrumentation/mechanical fittings etc for any other electronic system, feeder control cabinets, hydrastep (EWLI), Vibration Monitoring System, CCTV, C&I Lab Instruments, On line Carbon in Ash analyser system, On line Coal mass flow/speed measurement system, On line secondary air flow measurement system Mass Flow meter, Solid flow meter, 3 D Acoustic type level transmitters, Nucleonic & non nucleonic density transmitter etc.		Lot	10 percent of total or 1 no. (whichever is higher) for each type.					

NOTE:- These spares shall be considered as per the applicable items in main supply of respective packages.