



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-25-Jul-19

CORRIGENDUM- 03

PROJECT	:	1 x 660 MW Panki STPP
PACKAGE	:	FUEL OIL HANDLING AND STORAGE SYSTEM
ENQUIRY NO	:	PE/PG/PKI/E-6256/2019 Dt. 04.07.2019
SUBJECT	:	DUE DATE EXTENSION & PRE BID REPLIES

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☒

In reference to the above mentioned tender enquiry please note the following.

1. Replies of Pre-Bid queries (attached).
2. Due date has extended from 25.07.2019 to 05.08.2019 till 02:00 PM. Bid opening shall be done at 03:00 PM on the due date.

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Yours faithfully,

For and on behalf of BHEL

Vinit Kumar Verma
Dy. Manager

PRE BID CLARIFICATION SCHEDULE

Project: 1 x 660MW UPRVUNL PAKNI TPS, EXTENSION						
Sr.No.	Section/Clause/ Page No.	Statement of the referred clause	Clarification/ Confirm action required	BHEL Reply	Clarification on Corrigendum -01	BHEL Reply
A	Mechanical					
1	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 157 of 593 / Cl. No. 22.8.0	Technical Specification & Datasheet for Tanks	Dimensions of LDO storage tanks & DOT not given in the specification. Please provide.	Please refer page no 301 of the specification ,minimum dimension of LDO Tank is 16.0M Dia X 12.0M Height and for Drain Oil Tank minimum dimension to be considered as 3.0M(L)x3.0M(W)x2.0M(H).	-	-
2	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 161 of 593 / Cl. No. 22.8.4.10	---	Min. pipe thickness given for 400NB size oil line in the referred clause (6.35mm) is contradicting with the thickness specified in P&ID (7.14mm). Please clarify which thickness to be considered.	Bidder to follow the customer specification	-	-
3	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 170 of 555 / Cl. No. 22.9.9	Pumps technical datasheet.	As proposed facility is not envisaged to handle HFO, we consider viscosity of media to be handled by drain oil pumps as 2-20Cst instead of 50-500cst. Please confirm.	Bidder to provide system considering LDO fuel.	-	-
4	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 171 of 593 / Cl. No. 22.10.1	Control interlocks for safe operation of various pumps shall be provided in DDCMIS provided by bidder. Similar operations and controls shall be provided for inter tank transfer system also.	Inter tank transfer system is not indicated in P&ID's. Hence we are ignoring this clause. Please confirm.	Inter tank transfer is not in bidder scope.	-	-
5	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 156 of 593 /Cl.No.22.7.5	The tank shall be fitted with a heating coil of suitable surface area to be heated by hot condensate. The condensate-heating coil shall be made of 40 mm dia. Seamless tubes as per ASTM-A-106 Grade-B. The drain oil tanks shall also be insulated and clad as specified elsewhere in this specification.	Since the facility is not envisaged for handling of HFO, we shall not consider any heating coil for drain oil tank. Please confirm.	Bidder to provide system considering LDO fuel.	-	-
6	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 301 of 593 / Drg. No. PE-DG-426-166-A002	---	In the referred drawing twin simplex strainers are shown in the each suction line of LDO unloading pumps, where as in the P&ID single strainer is shown. Please confirm the actual requirement.	Bidder to follow the P&ID.	-	-
7	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 19 of 593 / Cl.No.4.0.0	TERMINAL POINT: Effluent from Oil Water Separators : Terminal point shall be 5m from ETP area.	As per referred clause, we understood that waste water separated in OWS shall be transferred to near the ETP facility indicated with area identification no.34 in progressive plot plan. Please confirm.	Bidder to follow the specification.	Kindly confirm whether our understanding regarding the location of ETP area is correct or not.	Location of ETP area is indicated in Plot plan under identification no . 34.
8	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 327 & 329 of 593	Regarding patinting specification.	Painting systems are given for C2 & C3 and C4 & C5 environments separately. Please clarify which is applicable for this project. We are considering the following painting specification (PS) for FOHS system. Please confirm. 1. External (Uninsulated) surfaces of LDO tanks - As per PS given under S.No.12. 2. Internal surfaces of LDO & Drain oil tanks - As per PS given under S.No.16. 3. Above ground FO piping (Uninsulated) - As per PS given under S.No.9. Also provide PS to be followed for Underneath of LDO tanks bottom plates.	Bidder to follow painting specification. Painting is subject to customer approval and same shall be provided without any cost implication to BHEL.	-	-
9	SUGGESTED PRICE FORMAT, ANNEXURE-II, LIST OF MANDATORY SPARES / Pg. 3 of 8.	---	Please clarify, whether the Quantity of spare items given in sl.no. 1.1, 1.2, 1.3, 1.4 are the quantity required for each pump or for each type of pump.	Bidder to follow the specification.	Specification is not clear. Kindly provide the specific reply.	Bidder to provide quantity given in sl.no. 1.1, 1.2, 1.3, 1.4 for each type of pump.
10	P&ID for LDO system, Drg. No. PE-DG-426-166-A001, Rev.00, Sht. 02 of 02.	Vavle selection criteria for fuel oil line: 300NB & Below - Ball/plug valve Above 300NB - Gate valve	As per given valve selection criteria, Oil line valves shall be of ball and/or plug for line sizes 300NB & below. But from P&ID, we understood that isolation valves for oil lines of sizes 300NB & below are ball valves only. Please confirm. Ball valves are being shown in 500NB LDO unloading pumps common discharge line to LDO storage tanks. But the same shall be gate valves as per referred valve selection criteria. Please clarify.	Bidder to follow valve selection criteria as per technical specification.	-	-
11	SPECIFICATION NO. PE-TS-426-166-A001 / Page no. 161 of 593 / Cl. No. 22.8.4.11	Velocity criteria	Both pipe sizes & velocity criteria are provided. Please clarify which to be followed.	Bidder to follow P&ID.	-	-
	P&ID for LDO system, Drg. No. PE-DG-426-166-A001, Rev.00, Sht. 02 of 02.	Pipe sizes			-	-
12	P&ID for LDO system, Drg. No. PE-DG-426-166-A001, Rev.00, Sht. 02 of 02.	LDO unloading pumps suction line size	In P&ID, two different sizes (300NB & 250NB) are indicated for LDO unloading pumps suction lines. Please confirm the size to be followed.	Bidder to consider 300NB for suction line.	-	-
13	P&ID for LDO system, Drg. No. PE-DG-426-166-A001, Rev.00, Sht. 02 of 02.	Regarding oily water collected in LDO unloading pump house & drain trench area sump pits.	Please clarify whether the oily water collected in the sump pits located in LDO unloading pump house & drain trench shall be transferred up to OWS located at tank farm area by means of pipeline or route it to surface drain available near u/I pump house.	Bidder to follow P&ID.	Terminology used in P&ID regarding discharge of sump pumps in the sump pits located in unloading pump house & drain trench is "surface drain to oil water separator pit" which can be understood as pump discharge shall be routed up to nearest surface drain available which shall further goes to OWS located in T/F area through drain trench. Please confirm.	Pump discharge shall be routed up to OWS.

B	Electrical, Control & Instrumentation					
1	SPECIFICATION NO. PE-TS-426-166-A001 /P&IDs Page 299 of 593	Process & Instrument Diagram for LDO system -sheet 1 of 2	Type of Level Transmitter is not mentioned in tender P&IDs & specifications. Please clarify which type of level transmitter (Radar or Ultrasonic) to be considered.	Ultrasonic Type level transmitters to be considered.	-	-
	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 456 & 457 of 593	2.03.00 GUIDED WAVE RADAR TYPE LEVEL TRANSMITTER 2.04.00 Ultrasonic Type level Transmitter				
2	SPECIFICATION NO. PE-TS-426-166-A001 /P&IDs Page 300 of 593	Process & Instrument Diagram for LDO system -sheet 2 of 2	From the referred clause,we understood that triple redundancy applicable for HT drives and protection of boiler , turbine and major auxiliaries of main plant whose non- availability may result in 50% loss of unit availability and loss of generation. And dual redundancy applicable for LT drives . Whereas in the P&ID you have shown following: Triple redundancy: storage tanks level transmitters & unloading pumps common discharge line pressure transmitters. Dual redundancy: Pressure transmitters at Drain Oil & OWS pit Pumps common discharge lines, level transmitters at OWS pit, drain oil tank, sump pits & level swith at unloading suction line. Single instruments: DPITs across Unloading pump suction Strainers & pressure transmitters at each unloading Pump discharge line. No transmitters: Sump pit pumps common discharge lines From the above, redundancy requirement is not clear. We understood that given instruments in PIDS are as per system requirement and we are considering as per P&IDs. If not, please revise PIDS suitably.	Bidder to follow Annexure 1 (G) over and above PID.	We understood that redundancy criteria given in the referred annexure 1(G) is for over all plant. We are not able to correlate this instrument redundancy criteria to the our FO system. Kindly advice which redundancy (triple/dual) to be considered for all instruments being used in FO system. Due to lack of clarity on redundancy requirement there may be difference in the quantity of instruments considered by each bidder, which leads to huge price variation. If you confirm the requirement, all bidders will follow the same.	Bidder to follow technical specification.
	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 408 of 593	ANNEXURE - 1, (g) Redundancy requirements				
3	SPECIFICATION NO. PE-TS-426-166-A001 /P&IDs Page 302 of 593	Plot Plan	Please provide location of Central Control Room in Plot plan.	Location of CCR is in TG building at 17.0m between Grid 2-3 and B-C BAY.	-	-
4	SPECIFICATION NO. PE-TS-426-166-A001 /P&IDs Page 309 of 593	III. CONTROL & INSTRUMENTATION (MANDATORYSPARES)	We understood that Mandatory spares given is for complete package. We will quote as per system requirement only. Please confirm.	Supply according to the C&I Mandatory spares list .	we are considering Spares as per list given in Annexure - II mandatory spares.	Bidder to provide mandatory spares as per technical specification.
5	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 403 of 593	4.0 Power supply derived for Transmitters, contact interrogation, interposing relay and solenoid shall generally be ungrounded 24V D.C only. 15.0 The solenoid operated valves/Dampers/Gate shall have a limit switch for open/close feedback. Solenoid Valve shall be rated for 24V DC only.	We understood from the referred clauses that the requirement of 24V DC for instruments & solenoid valves will be provided by purchaser. Please confirm.	Refer Page no. 403 clause no.13. All supplies shall be in the scope of bidder .		
6	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 403 of 593	17.0 Local push buttons in the field shall be in Vendor's scope.	We have not understand the Requirement of local push buttons. Please elaborate the requirement.	Local Push buttons are in BHEL's scope of supply.		
7	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 404 of 593	Specific Technical Requirements (C&I): 24.0 DP Instruments with minimum Capillary length of 15m is to be supplied.	Referred clauses are contradicting about requirement of capillary. In the referred instruments specifications capillary asked for temperature gauges & temperature switches only.	Bidder to supply capillary as per the system requirement except 15M length of capillary requirement for DP instruments.		
	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 455 of 593	2.02.0 0 SPECIFICATIONS FOR PR. GAUGE, D.P. GAUGE, TEMP. GAUGE AND LEVELGAUGE. Temperature gauge	For pressure measurements (ie., gauges, switches & transmitters) there is no capillary indicated. Whereas in the Specific Technical Requirements (C&I) calls for 15M length of capillary requirement for DP instruments.			
	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 473 of 593	2.13.00 PROCESS ACTUATED SWITCHES Temperature switches	Please clarify whether capillary is required all other pressure measurements or not. If required specify the length of capillary to be considered.			
8	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 405 of 593	36.0 Bidder to note that all the transmitters/instruments supplied by Bidder shall be rack mounted. The racks shall be preassembled and provided by Bidder. Also no Instruments/ analysers & JBs/Racks should be protruding on the walkway.	From the referred clause,we understood that all transmitters & instruments are to be rack mounted. Please clarify the following: 1. Location of rack to be considered. 2. Length of Capillary for transmitters 3. Specifications/ data sheets & makes list for instrument racks	Bidder to supply as per the system requirement .		
9	SPECIFICATION NO. PE-TS-426-166-A001 / SECTION-IC, C&I SPECIFICATION FOR FUEL OIL HANDLING SYSTEM Page 459 of 593	2.05.00 HART Hand Held calibrator: The quantity of HART hand held calibrator to be provided by Bidder is listed in Appendix- I to Vol.V, Table IV, Part A of Technical Specifications.	We have not found referred Appendix -I in the tender specifications. Please provide.	Hand Held Calibrator is not in vendor's scope of supply.BHEL shall supply the same.		
10	General	--	Instrument Hookup drawings are not provided. Please provide.	Attached for ready reference.		