



**CORRIGENDUM 04**

Ref: E-6358/2019 /04

Date:04/03/2020

**Corrigendum 4 to OPEN Tender Enquiry of Travelling Water Screens for 2X660 MW UDANGUDI SUPERCRITICAL STPP**

Ref No: - E-6358/2019 Dated: 21.01.2020

1. **Technical clarification:** Please refer attached pre bid clarifications. Bidder to quote accordingly.
2. Bidders to note that bidding form (Annexure II and price bid form) is revised vide corrigendum dated 18.02.2020 and same was published on BHEL eProcurement system. Bidders are requested to quote accordingly.
3. With reference to clause no 18 of NIT, kindly read GCC rev 07 instead of GCC rev 06
4. Bidders to note that GCC rev 07 is applicable in this tender enquiry. Wherever reference of GCC rev 06 is indicated in tender documents bidders are requested to read same as GCC rev 07.

All terms and condition shall remain as per GCC REV 07, SCC, NIT and corrigendum, if any.

With regards  
For & on behalf of BHEL

(AKASH VERMA)  
Sr Engineer/ PG-I  
PEM, BHEL, Noida

**Pre-Bid Clarification for Travelling Water Screen Package .**

Tender.No:		E - 6358/2019 Dated : 21.01.2020						
Project:		2X660 MW UDANGUDI STPP STG I						
S.No	Volume	Section	Clause	Page No	Specification requirement	Clarification	Reasons for clarification	BHEL Replies
1		NIT	Point no. 18		Quantity Variation	+/- 5 % which will prevail over the quantity variation clause no. 6.0 indication in the GCC rev 06.	Please note this clause may not be applicable to us as the offered equipments are custom made based on the pump house layout and moreover these are consisting of hand-picked and expensive raw materials whose price keeps on changing. Hence, quantity variation clause needs to be reviewed at your end for this package.	Bidder to note that the quantity variation will remain same as per NIT. However Kindly read applicable GCC as GCC rev 07 instead of GCC rev 06.
2		Section IA & IIA	Clause no. 9.01.00 & Annexure A, Standard Technical Requirement for mechanical system Clause no. 4.6.2		R- 0 within 21 days .....received from BHEL	G.A of Strainer	1. We need 45 days from the approval of PID, datasheet and GA of TWS for Self cleaning type Duplex strainer (Automatic) as we need to submit the GAD after placement of order to the approved strainer vendor. 2. However, in case of manual cleaning type Duplex strainer, the time period of 21 days is acceptable to us. Please review and confirm.	Bidder to follow Drawing/ Document submission schedule as mentioned in NIT.
3		Section IA	Clause no. 2.00.0 Point no. 2.3	2 of 12	Scope of supply & services	01 no. Duplex basket Strainer with other accessories	We have noted your requirement. However, we can provide 2 nos. (1W + 1S) manual cleaning type simplex strainers as an alternate. Please confirm.	Bidder to follow Technical Specification.
4		Section IA	Clause no. 2.00.0 Point no. 2.6	2 of 12	Scope of supply & services	1 no. Common Automatic mobile trash cleaning mechanism (Scrapers)	As discussed with your technical team on this matter, please note the following issues encountered by us for designing common Automatic mobile trash rack cleaning machine: 1. The Trash Racks sizes are not uniform for all the seven (7) vent openings due to which we cannot design uniform sized Grab bucket for cleaning all the bays. 2. In case we design the grab bucket considering the smallest bay width of 1000 mm, then the grab bucket has to be used multiple times for cleaning the entire trash rack area for bigger bay widths i.e. 1600 mm and 2700 mm respectively which calls for manual intervention that is laborious and time consuming. 3. In the above case, the center of hoist along with the wheel position of the grab bucket during landing on the Trash rack will get changed frequently which requires close monitoring by the operator. 3. Also, in a condition where more than one trash rack is required to be cleaned simultaneously then the time lag between the cleaning of two trash racks becomes high owing to the small grab size as expalined in point no. 2 and 3 above. Considering the above technical issues, we suggest to go for Two (2) Nos. multiple trash cleaning mechanisms instead of common. The configuration shall be as follows: a) For 1600 mm and 2700 mm bay widths - 1 no. b) For 1000 mm - 1 no. Please review and confirm.	Single Trash Cleaning Mechanism is acceptable as per Technical Specification. However, Bidder may also offer multiple Trash Cleaning Mechanism as per their design.
5		Section IA	Clause no. 2.00.0 Point no. 2.7	2 of 12	Scope of supply & services	Switch gear panel should have suitable arrangement like bus coupler for providing redundancy of incoming supply feeder (1 Working + 1 Standby feeder)	Bus Coupler is not applicable for starter panel. We shall provide manual changeover for redundancy	Bidder to follow Technical Specification. However, same may be discussed during detailed engineering.
		Section IA	Clause no. 2.00.0 Point no. 2.7	2 of 12	Scope of supply & services	2 nos. debris collection basket (Data sheet A)	Please note the size of the Debris collection basket is subjected to change from the specifications provided by you considering the grab bucket size based on the alternate configuration suggested by us in point no. 4 above.	Size of Debris Collection Basket to be decided by the Bidder and shall be subject to approval during detailed engineering.

		Section IA	Clasuse no. 4.00.0 Point no. 4.02.00	4 of 12	Description of Equipments	Common 2 x 100 % horizontal type booster pump	Since we require different flow rates for various TWS's, we may have to use VFD operated pumps to cater to rage of flow rates (or) excess water recirculation system with automatic valves. Kindly review and confirm the suitable option for the same. Also, please inform us the suitable location of discharging the recirculated water.	As per Cl. 2.11 of Section IA, Any item not listed in Technical Specification but is required to complete the package shall be deemed to be included in the Bidder's scope of supply. Further, Pump recirculation line if required as per Bidder's design may be connected to pump suction or connected to the Intake Forebay.
7		Section IA & ID	Clasuse no. 5.04.00 Point no. 5.04.01, Sketch-A, Data sheet A Point no.8.3	6 of 12	Differential level transmittter	ULT to be used instead of DLT	Considering your application of both trash Rack and TWS, we understand that Three (3) Nos. ULT's with individual controller are required for operation purpose. The comparison between 1st and 2nd ULT, 2nd and 3rd ULT (By BHEL) should be carried out in your plant DCS. Please confirm.	Bidder to provide LTs (Ultrasonic Transmitters) and DLTs (Differential Level Transmitters), minimum as per Technical Specification. Both LTs and DLTs are in Bidder's scope only.
8		Section IA & ID	Clasuse no. 6.00.00 Point no. 6.07.00 & Data Sheet -A point 3.13 & 7.1	8 of 12	General Requirement	Cathodic Protection of TWS.	Please note we shall provide the same in guides as mentioned in your Data sheet-A.	Bidder to follow Technical Specification.
10		---	---	----	Sketch - A	1. Legend 2. Motorzied Butterfly valve	1. Please provide Legend of instruments shown in Sketch - A. 2. Please note that One no. Motorzied butterfly valve & one no. Manual butterfly valve for maintenace is required at the inlet of TBS. However, the same is not shown in Sketch-A. Please clarify.	Legend for instruments shall be as follows: PT - Pressure Transmitter, PG - Pressure Gauge, PDI - Differential Pressure Gauge, LT - Ultrasonic Level Transmitter and DLT - Differential Level Transmitter. Further, please note that instruments and valve as shown in P&ID are minimum requirement. If additional instruments and valves are required to make the system complete, Bidder to provide their offer accordingly.
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		Section ID	Data sheet A Point no. 1.2	1 of 8	No. of TWS system set required	configuration of working philosophy of TWS and pump capacity.	Please provide the configuration of TWS (working & standby) for all the three pump sumps so as to calculate the wash water pump sizing.	There is no working / standby concept for TWS. Design shall be done so that minimum one and maximum all seven TWS can work simultaneously
		Section ID	Data sheet A Point no. 2.10	2 of 8	pressure available at Tap off from discharge of purchaser's pump	10 to 25 MWC (g)	Please note that for calculating the Pump head and Strainer pressure drop, the available suction pressure needs to be exactly provided by you with a justifiable range. However, the range provided by you is on the higher side.	Water for Spray Wash Pumps is being provided through two type of Pump Discharge Headers with different pumping Head. Therefore, Bidders to consider the pressure available at Terminal Point as per Datasheet-A only and design the Spray Pumping System considering the range of input pressure as per specification.
		Section ID	Data sheet A Point no. 6.6	3 of 8	wire mesh size dia	min. 5 mm	Please note we are providing perforated sheet instead of wiremesh.	Bidder's clarification is noted ,shall be discussed during detailed engineering
		Section ID	Data sheet A Point no. 6..7.1	4 of 8	Number of guide way	4 nos. shall be changed to 2/4 nos. based on the type of TWS.	This depends on the type of TWS we are offering for Seven (7) nos. bays. For In-line flow --> Two (2) guide way construction & for Dual flow --> Four (4) guide way construction.	Bidder's Clarification is noted.
		Section ID	Data sheet A Point no. 8.7	4 of 8	Instruments of Duplex strainer	Differential pressure Transmitter	Please note the same is not indicated in your PID, sketch-A.	Bidder to consider instruments both as per Datasheet-A and P&ID, whichever is more stringent.
19		Section ID	Data sheet A Point no. 12.10.12	7 of 8	Material of Construction of splash housing & rear door	FRP/ SS 316L	Please note that we shall provide Moulded FRP with SS 316 L frame or SS316L frame with Toughened glass.	Bidder to follow Technical Specification. Details shall be discussed during detailed engineering and subject to End Customer acceptance.
20		Section ID	Data sheet A Point no. 12.11	7 of 8	Material of Construction of Trash & Automatic raking mechanism	wire rope of SS 316L	Please note wire rope shall be made of GI as SS 316L material is not available in market for small quantities.	Bidder to follow Technical Specification.
21		Section ID	Data sheet A Point no. 12.12.3 to 12.12.4.4	7 of 8	Material of Construction of Valves	A 439 Gr D2- NI rest/ Duplex SS	We can provide water contact parts in A 439 Gr D2- NI rest/ Duplex SS and SS 316L for non-water contact parts.	Bidder to follow Technical Specification. Non-wetted fasteners shall be of SS316L as per S.No. 12.16 of Datasheet-A, Section ID.