

Corrigendum 1 dated June 24, 2016 to Tender Specification BHEL PSSR SCT 1613

- A) The following condition is added to Technical Conditions of Contract (TCC) Volume IA, Part-I Chapter –X as clause no.1.10.1.5

1.10.1.5 DEPLOYMENT OF SKILLED / SEMI-SKILLED TRADESMEN

The contractor shall, at all stages of work deploy skilled / semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training Institute / National Institute of Construction Management and Research (NICMAR), National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled / semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

B) Some of the bidders had raised queries in the published tender specification. The Clarifications issued by BHEL are furnished below:

<u>No</u>	<u>Reference clause</u>	<u>Existing provision</u>	<u>Bidder's query</u>	<u>BHEL's clarification</u>
1)	Techno commercial bid Volume – I Book - I Notice Inviting Tender Clause no 1.0 (v)	Extension of due date for offer submission	Please extend the date of submission of Bid up to 8 <sup>th</sup> July 2016	Time extension is not envisaged
2)	Notice Inviting Tender Annexure -1 PRE-QUALIFICATION CRITERIA - Technical:	The bidder should have executed Erection and commissioning of at least one Boiler of unit rating 200 TPH or above in a Power plant in the last seven years reckoned from the date of bid opening.	We request BHEL to consider the execution of power cycle piping in thermal power plant as Pre qualifying criteria for bidders who do not possess boiler experience, since the IBR experience gained during execution of power cycle piping matches the required IBR experience for a boiler.  We request you to consider the power cycle piping job experience also in the PQR, so that we can submit our competitive offer.	PQR is finalized as per BHEL norms and no change in PQR is envisaged

3)	Technical Conditions of Contract (TCC) Volume IA, Part-I Chapter –V clause 1.5.5 and 1.5.6 and clause 4.1.4 of SCC	Consumable for induction heating machine ..... contractor at his cost.  Clause 4.1.4 of GCC: These shall be.....BHEL stores.	Please confirm that as per clause no. 4.1.4 of SCC the electrodes and filler wire for P-91 welding shall be provided by BHEL free of cost.	BHEL shall provide filler wire and electrodes free of cost for P-91 welding
4)	TCC Volume IA, Part-I Chapter –VI clause 1.6.3.1	The activities for material handling ..... Manager of BHEL	Please confirm that how many months before starting of erection work the material management team shall be deployed at site.	Material Management team must be mobilized immediately on LOI. Erection works are likely to commence by mid-Aug'16.
5)	TCC Volume IA, Part-I Chapter –VIII clause 1.8.4.1	In case Govt. imposes ..... to this contractor	We feel that any new tax / levy imposed after date of submission of bid shall be reimbursed by BHEL instead of award of work as the gap between submission of bid and award of work is unknown. Please Confirm	The clause is revised as below: In case Government imposes any new levy / tax after <b>the date of technical bid opening</b> , during the tenure of the contract, BHEL shall reimburse the same at actual on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.

6)	TCC Volume IA, Part-I Chapter –IX clause 1.9.1.1	Clearance and taking delivery from transport or godown situated within 30kms radius from site based on LWB / PWB and arrange for transportation to site, unloading, stacking and handing over to BHEL stores, with your own cranes and other T&Ps	Please provide maximum weight of each material and approximate location of godown	Maximum weight details are not currently available, godown will be located within 30 kms radius from site
7)	TCC Volume IA, Part-I Chapter –IX clause 1.9.1.1.1	Table-1: Tentative list of ODCs for which BHEL will be providing higher capacity cranes  1 Steam Turbine - Combined HP-IP (K) -Module 1 HYD 8000x4300x3500 120  2 HP Drum TRY 2800 DIA X 18900 160	We presume boiler steam drums will unloaded near to boiler bay. Contractor drag the drum to position & lift by using suitable cranes which provided by BHEL. There is no requirement of trailers in this scope.	Unloading of Boiler drums is covered in bidder's scope under Material Handling package. Drums to be unloaded near to erection location.
8)	TCC Volume IA, Part-I Chapter –IX clause.	Bill of Quantity, SA335 'P91' Piping (IBR)	As per Document Bill QTY is 60.3 MT but as per Price Bid Qty is 115 MT, kindly clarify.	The quantity mentioned in price bid includes valves also. However, this is a tentative quantity and payment will be released as per actual quantum of work executed

9)	TCC Volume IA, Part-I Chapter –IX clause 1.9.1.2.3	Bill of Quantity, PGMA-wise break-up for critical piping / CW Piping.	PGMA-80-922& 80-933. Rate Schedule ID is C.4 But Description is Hangers & Supports, we understand Rate Schedule ID should be C.3, kindly clarify.	Rate schedule C.3.0 shall be referred to for Hangers & Supports
			As per Bill of Quantity, HP Piping (IBR) is 100.4 MT but as per Price Bid, Qty is 111 MT, kindly clarify.	The quantity mentioned in price bid includes valves also. However, this is a tentative quantity and payment will be released as per actual quantum of work executed
			PGMA-80-320, 80-345, 80-349, 80-417, 80-421, 80-430, 80-453 These PGMA category indicate is P91 but Rate Schedule ID is C.1, this rate schedule id indicate is HP Piping (IBR) including Valve, We understand Rate Schedule ID should be C.2 kindly clarify.	All PGMA's mentioned as HP piping refer to rate schedule ID C.1.0. Revised table for "PGMA-WISE BREAK-UP FOR CRITICAL PIPING/ CW PIPING" is published as SI no. 23 of this corrigendum
			The following PGMA has been referred in following:- 1) PGMA-80-304, 80-307, 80-310, 80-312, 80- 321, 80-359, 80-452 These PGMA category indicate is HP Piping and Rate Schedule ID is C.2 but as per material specification is SA 106 & SA335P22, We understand Rate Schedule ID should be C.1 kindly clarify.	Revised table for "PGMA-WISE BREAK-UP FOR CRITICAL PIPING/ CW PIPING" is published as SI no. 23 of this corrigendum.  Material specification as mentioned in the Erection Welding Schedule is that of HAZIRA project which is only for general guidance.

10)	TCC Volume IA, Part-I Chapter –IX clause 1.9.1.2.4	Insulation Weight Schedule	Refer Schedule D.2 As per Document Bill QTY is 83.13 MT but as per Price Bid Qty is 98 MT, kindly clarify.	Refer revised clause for 1.9.1.2.4 INSULATION WEIGHT SCHEDULE which is published as SI no 22 of this corrigendum. Total tentative weight will be 98 MT.
			Refer Schedule D.3 As per Document Bill QTY is 30.32 MT but as per Price Bid Qty is 15 MT, kindly clarify.	Refer revised clause for 1.9.1.2.4 INSULATION WEIGHT SCHEDULE which is published as SI no.22. Total tentative weight will be 15 MT.
11)	TCC Volume IA, Part-I Chapter –IX clause 1.9.1.2.3	Notes for Critical Piping, Point 6 of chapter IX of TCC Access platforms supplied by BHEL	Please confirm that which rate shall be applicable for this items	C – 3.0 of Rate Schedule shall be operated. Hangers, Supports & Structural
12)	TCC Volume IA, Part-I Chapter –XIV clause 1.14.4	For erection activity, all items including heavy items unloaded elsewhere inside KPCL compound shall be... ..... ....., are to be arranged by the contractor.	As per tender condition bidder responsibility is to deploy 20 MT trailer for material management and Suitable Trailer for transportation of HRSG modules from storage yard to erection location only. Kindly confirm the transportation of above 20 MT equipments (i.e LP drum, IP drum) from storage yard to erection location	Unloading of Boiler drums is covered in bidder's scope under Material Handling package. Drums to be unloaded near to erection location.

13)	TCC Volume IA, Part-I  Chapter –XV clause 1.15.2.9	Steel Chimney shell will be issued in several pieces and the contractor has to carry out the fit up / assembly / alignment, welding, NDT, insulation etc., as per erection drawing.	We presume there is no refractory works in chimney	Refractory works not applicable
14)	TCC Volume IA, Part-I Chapter –XV clause 1.15.3.86	For Erection & Welding.... Chapter 4, of volume IA part-II of this booklet	Chapter 4, of volume IA part- II is meant for safety precautions instead of Erection & Welding Practice for SA335P91 materials, please clarify	This may be read as ‘For Erection & Welding.... Chapter 17, of volume IA part- II of this booklet’
15)	TCC Volume IA, Part-I Chapter –XVIII clause 1.18.48.11 and Clause 1.18.49.7	Clause 1.18.48.11 The commissioning activities .....all these factors also.	Please confirm which clause is applicable as in both the clauses man power for commissioning is required.	Clause 1.18.48 pertains to rotary equipment while Clause 1.18.49 pertains to HRSG. Hence both are applicable.
		Clause 1.18.49.7 After floating.... .....all these factors also	kindly Provide the Required No. of Manpower	Commissioning manpower deployment shall be as per site requirement.
16)	TCC Volume IA, Part-I Chapter –XIX clause 1.19.1.6	All the expose metal parts .....BHEL / Customer Official	As per note of painting Schedule “ <b>Out of 2 coat of finish paint one coat shall be given at shop &amp; second coat shall be applied at site</b> ” which means contractor has to do the second coat of finish paint only as such question of surface cleaning and application of primer coat of paint does not arise. Please confirm	Surface cleaning, primer application is required for all site welding.

17)	TCC Volume IA, Part-II Chapter – 2	Welding Schedule for HRSG (6 Pages)	P-91 joint of D 33.4 is mentioned in meters and numbers. Please clarify what is the difference between these	Socket weld details have been represented in metres. In order to obtain no. of joints, the given length has to be divided by perimeter of the respective pipe sizes. Butt weld details have been represented in Numbers.
18)	TCC Volume IA, Part-II Chapter – 2	The Volumn IA Part II chapter 2 Welding Schedule refferd :-	2.2.1 Welding Schedule for HRSG, kindly clarify which schedule ID refer these item.	Separate payment is not envisaged for welding as the same is treated as part of erection work.
19)	TCC Volume IA, Part-II Chapter – 2	The following PGMA has been referred in following:- 1) PGMA-80-463	The PGMA Refer Non IBR Pipe Schedule but Schedule is not available in Tender Document. Kindly provide the same.	Tentative pipe schedule for cooling water piping is enclosed with this corrigendum. However this is not final as detailed engineering is under progress.
20)	TCC Volume IA, Part-II Chapter – 2	Sl no 14 of IP circuit of KPCL-Yelahanka-HRSG (Cust. No.5768) - List of Tentative Erection Joints	PGMA-12-856 As per Material Specification is SA106Gr.C but indicated in Remarks as “AS Weld Joint”, Kindly Clarify.	This is to be read as CS Weld Joint.

21)	TCC Volume IA, Part-II Chapter-2 and Chapter-10	Erection Welding Schedule Welding Schedule for Piping and Instruction for Application of Thermal insulation for Piping and Equipments  Application Procedure of Thermal Insulation for Piping and Insulation.	The Project name is mentioned as Gujrat State Energy generation Ltd., Hazira CCPP 1 X 350 MW, please confirm that the same is applicable to this project also.	Refer "Note to critical piping sl.no.1"  "1) IMPORTANT NOTE Tentative Welding schedule is enclosed to provide a guidance for basic estimate purpose. The pipes under PGMAs 80-304, 80-310, 80- 312, 80-321, 80-359 will be P-91 for Yelahanka CCPP. Actual size and thickness of the pipes will vary during detailed engineering. The contractor shall estimate for this variation and quote accordingly."
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SI No 22.

**INSULATION WEIGHT SCHEDULE**

PG	MA	Description	Est Wt (in Kg)	Category	Rate Schedule id
<b>INSULATION FOR HRSG (Supply by BHEL Trichy)</b>					
28	700	CLADDING SHEET FIXING PINS, NUTS& WASHER	12,450	SH	D.2
32	10	CLADDING SHEET - INLET DUCT	29,900	SH	D.2
32	55	EXTERNAL INSULATION - PIPING	5,150	INS	D.1
32	110	CLADDING SHEET - CASING	34,650	SH	D.2
32	700	BULKED BPS COMPONENTS	4,000	FIX	D.3
32	810	CLADDING SHEET - OUTLET DUCT	1,800	SH	D.2
32	993	ERECTION MATERIALS	850	FIX	D.3

PG	MA	Description	Est Wt (in Kg)	Category	Rate Schedule id
33	21	CERAMIC WOOL	86,900	WOOL	D.1
33	621	MINERAL WOOL FOR PIPING	122,350	WOOL	D.1
33	970	WIRE MESH	1,050	SH	D.2
33	975	SEALING COMPOUNDS	200	FIX	D.3
<b>INSULATION FOR HRSG STACK (Supply by BHEL Ranipet)</b>					
87	950	Insulation Wool	18,000	INS	D.1
87	960	INSULATION FIXING COMPONENTS	4,000	INS	D.3
87	960	ALUMN. SHEET 0.71 MM THICK	3,264	INS	D.2
87	960	RETAINER TYPE A 2MM	977	INS	D.3
87	960	CASING SUPPORT ALUM-VAR-01-650L	510	INS	D.3
87	960	GI WIRE -1.2 , 07.11,	153	INS	D.3
87	960	GI WIRE -0.711	26	INS	D.3
87	960	SLOT PAN HEAD TAP SCRU M4X12	6	INS	D.3
87	960	FIXING PIN FOR INSULATION-L85	244	INS	D.3
87	960	SH.2X320X1300 C.T.S MATL.	20	SH	D.2
<b>INSULATION FOR PIPING (Supply by BHEL-PEM)</b>					
--	---	THERMAL INSULATION MATTRESS	85,100	WOOL	D.1
--	---	THERMAL INSULATION ANCILLARY MATERIAL	4,500	FIX	D.3
--	---	ALUMINUM SHEET	14,850	SH	D.3
<b>TOTAL</b>			<b>430,949</b>		

SI No 23.

**PGMA-WISE BREAK-UP FOR CRITICAL PIPING/ CW PIPING:**

<b>PG</b>	<b>MA</b>	<b>Description</b>	<b>Est Wt (in Kg)</b>	<b>Category</b>	<b>Rate Schedule id</b>
80	304	MS Header to HPBP Valve	2,800	P-91	C.2
80	307	HP & LP Bypass Warm Up	1,200	P-91	C.2
80	310	HRH from Reheater to Interceptor Valve	41,500	P-91	C.2
80	312	LPBP Valve Upstream & Downstream	23,300	P-91	C.2
80	320	CRH from turbine to reheater	22,800	HP Piping	C.1
80	321	HPBP Valve to CRH Piping	3,200	P-91	C.2
80	345	Aux Steam to Deaerating Heater	4,600	HP Piping	C.1
80	349	Aux Steam to Gland Seals - TG Scope	200	HP Piping	C.1
80	359	Steam from Process BLR	25,900	P-91	C.2
80	417	Boiler Feed Discharge Piping	27,400	HP Piping	C.1
80	421	Boiler Feed Pump Recirculation	2,300	HP Piping	C.1
80	430	Spray Water to HPBP	2,000	HP Piping	C.1
80	452	HP Piping Drains - SG Scope	2,500	P-91 (part)	C.1, C.2
80	453	LP Piping Drains - SG Scope	1,000	HP Piping	C.1
80	463	Cooling Water Piping	4,04,000	CW Piping	C.5
80	922	Hangers & Supports	50,000	H&S	C.3

<b>PG</b>	<b>MA</b>	<b>Description</b>	<b>Est Wt (in Kg)</b>	<b>Category</b>	<b>Rate Schedule id</b>
80	933	Hangers & Supports	5,000	H&S	C.3
80	992	Imported Electrodes	--	--	--
		<b>TOTAL</b>	<b>6,19,700</b>		

**All other conditions of the tender specification remain unchanged.  
Bidders are requested to consider this corrigendum as part of tender specification and quote accordingly.**

-Sd-  
Manager / Subcontracts