

CORRIGENDUM -1 TO TENDER SPECIFICATION BHEL:PSSR:SCT:1646 - DT: 06.01.2017

Some of the bidders sought clarifications vide letters in regard to TENDER SPECIFICATION BHEL PSSR SCT 1646- Erection, Testing and Commissioning of - 1 set Frame 9FB Gas Turbine, GTG, 133.4MW Steam Turbine, STG, Condenser, LP Piping, 2 sets Gas booster compressors and respective auxiliaries and other Balance of Plant equipment's including supply and application of painting, Handling of materials at Site Store/Storage yard, transportation to site of work at 1x370 MW Yelahanka Combined Cycle Power Plant, Yelahanka, Bengaluru, Karnataka State and BHEL's clarifications are furnished below for information.

<u>Sl. No.</u>	<u>Clause No. / Subject</u>	<u>Existing Provision</u>	<u>Clarification/Query</u>	<u>BHEL REPLY</u>
1	Technical Qualification Criteria (B1.2) of Tender	One Boiler (Necessarily consisting of rotating machines) of one unit of ≥ 190 MW, under direct order of BHEL subject to - a) experience of Steam Turbo Generator (STG) of ≥ 30 MW. OR - b) Consortium arrangement with an agency who has experience of Steam Turbo Generator (STG) of ≥ 30 MW.	We are earnestly requesting you to kindly amend the PQ Criteria with specified capacity of GTG in lieu of STG of ≥ 30 MW.	Tender conditions prevail.
2	VOLUME-IA PART - I CHAPTER - II; Scope of Work	Manpower assistance for GTG Stator & STG Stator	Please provide us the unit of Manpower Assistance in 'Man-Hr' for GTG Stator and STG Stator. Any materials consumables and T & P required for Assistance shall be paid extra except PPE and small hand tools.	Manpower assistance: During lifting of the equipments the checking of base plate/bottom plate for cleanliness and blue matching if required is to be carried out by the contractor at no extra cost. Manpower assistance other than the aforementioned, is not required during lifting. Consumables and T&P for assistance for lifting of GT,GTG,ST and STG are not within the scope of this tender.
3	VOLUME-IA PART - I CHAPTER - II; Scope of Work	Shifting of Major Equipment other than GTG Stator & STG stator	Please clarify the scope for shifting the other major equipment like GTG and STG HP Module.	1. Steam Turbine and gas turbine will preferably be lifted directly from the trailer and placed on the foundation. 2. VOLUME-IA PART - I CHAPTER - II. SCOPE OF WORKS - Note no 2 shall be read as "The STG Stator (Weight: 195 MT) and GTG Stator (Weight: 228 MT) are unloaded at a distance of around 500 Mtrs from TG Hall"
4	VOLUME-IA PART - I CHAPTER - V, T& P to be deployed by BHEL	Induction Heating machine	Please specify the total involvement of P-91 works in this tender as Induction Heating machine shall be supplied Free of cost	Approximately 30 joints of (48.3 x 5.08mm) & 30 joints of (60.3 x 8.74mm) lines in turbine drain piping will involve P91 material. There is no other requirement other than this. Induction heating machine is not required for this process.
5		Material for Stool fabrication	Please provide us the scope for supply of Stool material for temporary platform	Bidder to refer Volume 1A Part-1 Chapter- XVI, clause 1.16.19.
6		Weight of Schedule VI	We found differences between BOQ weight for Schedule VI and Price bid weight for Schedule VI. Please provide us the details of Schedule VI as per Price Bid	The weights provided in price bid & BOQ are in order. In BOQ sl No C.10.24- and BOQ sl No E.1 together constitute 134 MT, which is same as in price bid.
7			Please specify the heaviest equipment to be erected in single lift of Crane	Bidder to refer VOLUME-IA PART - I CHAPTER - V T&Ps AND MMEs TO BE DEPLOYED BY BHEL ON SHARING BASIS (Higher capacity crane i.e., above 40 MT will be provided by BHEL)

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8	RODM System		Please provide us the average diameter and thickness for Fuel Gas, Fire protection system & RODM system for piping work. Pipes shall be supplied as commercial length for the above service. We apprehended that all other pipe will be supplied with fabricated length as per drawing.	Fuel gas system comprises mostly of 14" and 12" pipes. Some drain and vent headers for gas scrubber, filter skid, drain tank also to be erected. Fire protection system: In BOQ refer C.9.0 fire fighting system. All items beginning with C.9 belongs to fire fighting system. RODM system: In BOQ items from sl no C.10.18.1 to C.10.18.4 belongs to RODM system. Regarding pipe fabrication: Bidder to refer VOLUME-IA PART- I CHAPTER XIV ERECTION- Clause 1.14.56. and VOLUME-IA PART- I CHAPTER XVI ERECTION- OF LP PIPING Clause 1.16.35 & 1.16.36.
9	Weight break up for Insulation material		Please specify the individual weight for Wool mattress, fixing material and Aluminum sheet. You are also request to provide the average SQM per MT for Insulation work	Bidder to refer : Volume 1A, Part-II, Chapter-III. (Insulation schedule - STG integral piping) and Chapter - 11 GA drawing of FST and deaerator
10	O&M of RODM Plant		Please specify the manpower assistance in 'Man-Hr' required for O&M of RODM Plant otherwise we shall consider maximum 1 Supervisor and 2 workmen round the clock basis. Any materials consumables and T & P required for Assistance shall be paid extra except PPE and small hand tools.	Bidder to refer : Volume 1A, Part-I, Chapter-XIX. And clause 1.19.22.2 Adequate manpower shall be deployed by the contractor for carrying out O&M of the RODM Plant independently. The minimum manpower to be deployed for above jobs per shift shall be 1 No. Supervisor and 2 Nos workmen.
11	PVC Clause		Please specify that PVC will applicable as per GCC SCC forms amend 3 clause no. 2.17.9, page no. 77 of 165 as it is mentioned in Tender stipulation	PVC shall be as per sl no. 2 of VOLUME-IA PART – II CHAPTER 1
12	Grouting volume		Please specify the total grouting volume for different equipment to ascertain the proper cost against grouting works	Approx 120 m ³ of grouting cement will be required for all skids. Bidder to refer VOLUME-IA PART- I CHAPTER XII FOUNDATIONS AND GROUTING.
13	1.4.1 E- T&P deployment	Hydraulic jack 300 T capacity	What are the physical dimension of the jack required and its purpose. It is our view that this capacity jack is not required for drop test of GT.	Tender condition prevails. 300 T jack is to be arranged by the contractor for the mentioned job.
14	1.5.1 note and 1.5.12	EOT cranes will be erected / commissioned by another agency and may become operational any time during the period of subject work.	Any work where the EOT is required can be started only on its availability. Reading in conjunction with subsequent clauses , Is the contractor to mobilise a spare or to wait for availability.	Tender condition prevails. a.EOT crane will be provided for all such works where the requirement of EOT crane is necessary for carrying out the work. BHEL's decision in this regard will be final and binding. b. Wherever work can be carried out in other areas without the requirement of EOT crane, contractor has to make necessary arrangements to work in parallel by making use of other lifting arrangements like A-Frame, Hydraulic jacks and sleepers etc.,and cannot cite non-availability of EOT as a reason for slow progress/delay.

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15	BOQ sl NO B.4.1.1 Surface condenser	16400 tubes weight is given as 1.5 T	This information seems to be incorrect.	The weight in BOQ sl no B.4.1.1 shall be read as 24.6 MT.
16	1.91. BOQ summary	Total weight of the BOQ is 3349.53 MT	This total weight does not include the weight of HP-ST, STG stator, GT & GTG stator. But all works related to these equipment including transportation from storage yard to erection & commissioning and up-to handing over to customer is to be carried out by the contractor as per scope. Contractors estimation for the work is based on manpower deployment which is a major factor in the price quoted. The manpower is estimated on the basis of manhour output(Kg/Mh) for such works. If the weight of these equipments is not included in the BOQ then the estimation by any contractor will be erroneous. Only the equipment(strand jack) is hired by BHEL whereas the entire work of erecting the strand jack and assisting in the lifting and placement of the said equipment is being done by the contractor. As such the BOQ should reflect the total weight of all equipment being handled / serviced by the contractor.	Agreed. The unit weight of following items in Volume IA Part I Chapter IX to be read as below: A.1.1 - Gas Turbine is 310 MT. A.2.1 - GTG is 228 MT. B.1.1 - HP-Steam Turbine is 125 MT. B.2.1 - STG stator is 195 MT. The above weights are for reference only. Also, the approximate weight of ref. No. II in Volume II Pricebid to be read as 623 MT respectively.(Including revised condenser tube weight) Erecting the strand jack is not included in the scope of this tender. Manpower assistance for strand jack services can be read in conjunction with SL NO 2 in corrigendum1.Bidder to refer VOLUME-IA PART – I CHAPTER – II SCOPE OF WORKS Note no 1.
17	B.2 Annexure 3		In the context of consortium,for submitting the bid for the above refered tender, whether the documents in support of financial PQR of consortium partner to be attached with the technical bid.	Financial PQR is applicable only for Prime Bidder.
18	1.10.3.1.5	In case of non-compliance to BOCW Act & BOCW Welfare Cess Act, BHEL reserves the right to effect recoveries as applicable.		Clause to be read as - "Contractor shall effect the necessary remittances and submit proof of remittance and compliance to BHEL , failing which BHEL shall effect necessary recoveries from Contractors' bills."

Note:-

- All other Terms & Conditions of the Tender Specification remain unchanged.
- Bidders are requested to consider this corrigendum as part of tender specification and quote accordingly.

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AGM / SCT & PURCHASE