

Ref No.: PE/PG/BRB/E-6883/2021 dated. 18.02.2022

Date: 05.03.2022

CORRIGENDA - 02

PROJECT: 4X250MW BRBCL NABINAGAR TPP-FGD SYSTEM project.

PACKAGE: AGITATOR OF FGD SLURRY TANKS

TENDER ENQUIRY NO: PE/PG/BRB/E-6883/2021 dated. 18.02.2022

TENDER DUE DATE: 19.03.2022 (2.00M)

Bidders to note following amendments w.r.t subject tender:

- ***Pls refer enclosed Annexure-1 for Technical Pre-Bid Clarification pertaining to subject tender.***
- ***At Sl no. 1.12 of Price format, BoQ4 (Annexure-3 Mandatory Spares) Quantity may be read as " 1 LOT =2 no. of each type and size" instead of '3 nos of each type and size' as given in Annexure II (Mandatory spare list) of Technical Specification.***
- ***At Sl no. 2.21 of Price format BoQ3 (Annexure-2 Supervision Charges) the total sum is not fetching automatically. Bidder to note: As per clause no. 9.0 (ii) of ITB of GCC Rev. 07, If in the price structure quoted for the required goods/services/works, there is discrepancy between unit price and total price (which is obtained by multiplying by the unit price by the quantity) the unit price shall prevail and the total price corrected accordingly.***

Bidders to ensure the submission of bid within the tender due date and time.

With Regards,
For & on behalf of BHEL

Raeesul Azam
Engineer/PG-III/BHEL-PEM

PROJECT: 4X250 MW BRBCL NABINAGAR TPP -FGD SYSTEM

PACKAGE: AGITATOR OF FGD SLURRY TANKS

TENDER ENQUIRY NO: PE/PG/BRB/E-6883/2021 dated. 18.02.2022

Annexure-01 for Technical Pre-Bid Clarification

Sr. No	Section/Clause/Page No	Statement of the referred Clause	Clarification Required	BHEL Reply
1	Annexure II Mandatory Spares List Page 241/306	1.1 AUXILIARY ABSORBENT TANK AGITATOR 2 Bearing Assembly - 2 no. of each type and size	Quantity given for said item does not match with the BOQ, in TS quantity is "2 no. of each type and size", however, in BOQ8912 it is given as "1L=3 no. of each type and size", please clarify which quantity we should follow	Quantity shall be " 2 no. of each type and size" as given in Annexure II (Mandatory spare list) of Technical Specification.
2	BOQ8912 - BoQ3 - 2.21	Total lump sum prices for visits.... for trial run at site & taining to O&M staffs	Formula given against this line item is having problem, and after typing Unit Rate, Sum Amount is not coming automatically, and same cannot be put either at bidder side. Hence, total amount against this item may be considered at BHEL end during evaluation stage	As per clause no. 9.0 (ii) of ITB of GCC Rev. 07, If in the price structure quoted for the required goods/services/works, there is discrepancy between unit price and total price (which is obtained by multipling by the unit price by the quantity) the unit price shall prevail and the total price corrected accordingly.
3	Section C, Sub-Section-C1 4.0 - A) - 1 - x Page 22/306	Supporting arrangement including tie rods, gusset plates etc. of Side Entry Agitator on the tank Wall. Vessel Nozzle and mating flange for supporting on the tank wall , gaskets and fasteners	"Vessel Nozzle and mating flange" are excluded from supply scope, please confirm	Vessel Nozzle is excluded from bidder scope. However, the mating flange (agitator flange) including mountings are included in bidder scope of supply.
4	Section C, Sub-Section-C1 4.0 - A) - 1 - xii Page 22/306	Foundation plate with foundation bolts, vessel nozzle	1. Vessel nozzle shall be in BHEL scope, pls confirm 2. Foundation plate with foundation bolts for fixing of the External Supports of side entry agitator shall be connected by welding with rebar of Absorber or Aux Tank foundation to ensure same settlement so as to avoid the impact on agitators, those IPs shall be imbeded during foundation construction, so design can be done by bidder, but supply to be excluded from Bidder scope, please confirm.	1. Noted. Vessel nozzle is excluded from bidder's scope. 2. Bidder to note that incase of side entry agitators, if the supporting arrangement is through ground, then BHEL shall provide the foundation (civil works), however, the supporting arrangement along with bolts shall be provided by bidder. Also, in case of vertical agitators, the foundation plate along with bolts shall be in bidder's scope of supply.
5	Section C, Sub-Section-C1 4.0 - A) - 1 - IX Page 24/306	Static and dynamic (as far as applicable) balancing of all agitators shall be carried out after assembly.	Since the agitator impeller RPM is very low, Dynamic balance is not applicable and only static balance will be carried out. Further, in the NTPC Agitator Quality Plan (page 136/306) only static balance test if required. Pls confirm.	BHEL informed that the balancing (static/dynamic) shall be decided during detail engineering based on the applicable codes and standards furnished by the bidder and subject to NTPC approval. Bidder to comply.
6	Section C, Sub-Section-C1 4.2 - A) - III Page 26/306	Although Agitator will have substantial low speed it is mandatory that rotating assembly shall be dynamically balanced to its rated speed.	Since the agitator impeller RPM is very low, Dynamic balance is not applicable and only static balance will be carried out. Further, in the NTPC Agitator Quality Plan (page 136/306) only static balance test if required. Pls confirm.	Refer our reply at S.N.5 above.
7	Section C, Sub-Section-C1 4.2 - B) - XI) Page 26 of 306	Seal life has to be guaranteed, taking into consideration all its components for 25000 hrs. If the seals fail before the completion of guaranteed period, the same should be replaced free of cost by the bidder.	As per Mechanical Seal OEM, the standard warranty given is only 8000hrs, so request to accept guarantee life as 8000hrs. However, actual working life under design condition can be expected up to or more than 25000hrs subject to strictly following up the O&M guidelines.	Mechanical Seal life shall be decided during detailed engineering based on design conditions and O&M guidelines by bidder.
8	Section C, Sub-Section-C1 4.2 - B) - 2 - Vertical Agitators for Other Slurry Tanks & Drain Pit Tanks - I Page 26 of 306	Agitator shall be supplied with stuffing box or any proven equivalent or superior sealing type. Construction of Gland Packing shaft seal system shall be as per the below fig:	Considering no pressure for slurry Tanks and drain pit, such requirement here Is not applicable. As per our current design for existing NTPC projects Skeleton Oil Seal will be used here.	Refer SI. no. 4 of ANNEXURE-8: AGITATOR SCHEDULE for the requirement of stuffing box.
9	Section C, Sub-Section-C1 4.2 - H COUPLING & COUPLING GUARD) -VI Page 28 of 306	It is desirable that for servicing of seal, coupling half should not be removed. Coupling should be dynamically balanced to Gr: G6.3, ISO-1940.	Dynamic balance is not applicable and only static balance will be carried out.	Refer our reply at S.N.5 above.

Annexure-01 for TechnicalPre-Bid Clarification

Sr. No	Section/Clause/Page No	Statement of the referred Clause	Clarification Required	BHEL Reply
10	Section C, Sub-Section-C1 4.2 - L) - vII) Page 30 of 306	Impeller should be dynamically balanced to Gr: G16: ISO-1940 after rubber lining of shaft.	Since the agitator impeller RPM is very low, Dynamic balance is not applicable and only static balance will be carried out. Further, in the NTPC Agitator Quality Plan (page 136/306) only static balance test if required. Pls confirm.	Refer our reply at S.N.5 above.
11	Section C, Sub-Section-C1 10 INSPECTION AND TESTING - 7 Mechanical Run Test (in air) Page 35 of 306	Mechanical Run Test (in air) Each Agitator unit shall be given a 4-hour mechanical run test in air at vendor's shop.	1. The quantity of Agitator to be tested shall be as per approved MQP post order, but shall not be each agitator. 2. "4-hour mechanical run test in air" technically is not allowed.	The quantity of Agitator to be tested shall be as per approved MQP during detail engineering, subjected to NTPC approval. Further, the Mechanical run test for Agitators shall be carried out with air/water along with other test requirement in line with the QAP to be approved by customer during detailed engineering. Bidder to comply.
12	Section C, Sub-Section-C1 10 INSPECTION AND TESTING - 8 Mechanical Run Test (in slurry of similar concentration as applicable for the project) Page 36 of 306	Mechanical Run Test (in slurry of similar concentration as applicable for the project) Each agitator unit shall be given a load test in slurry at the vendor's shop. The duration of this test shall be 4 hours unless agreed otherwise.....	1. The quantity of Agitator to be tested shall be as per approved MQP post order, but shall not be each agitator. 2. Testing time will be 30 mins as per existing NTPC approved MQP, it will not be 4 hours 3. Testing slurry will be bidder's existing slurry inside the testing platforms, slurry details can be provided before testing, but it will not be in slurry of similar concentration as applicable for the project	The Mechanical run test for Agitators shall be carried out with air/water along with other test requirement in line with the QAP to be approved by customer during detailed engineering. Bidder to comply.
13	Section I, Sub-Section-D Page 231-237	List of Makes of Sub-Vendor Items	Sub-vendor given for Motors, Paints etc, please confirm Bidder can used NTPC approved vendors beyond list, or propose its own vendors during DDE post order	NTPC approved vendors may be accepted. Apart from the makes given under specification, bidder may propose additional vendors, along with their credential during detailed engineering. However, successful bidder has to submit the sub-vendor questionnaire provided with the specification in Section I, Sub-Section-C2B along with necessary credentials in case the successful bidder wants to propose its own sub-vendors during detail engineering. Further as mentioned in the technical specification, acceptance of makes shall be subjected to BHEL/ End customer acceptance during the detail engineering. Bidder to comply.