CORRIGENDUM - 3 DTD. 29.01.2020 TO TENDER SPECIFICATION - BHEL:PSSR:SCT:1884

Civil, Architectural, Mechanical, Electrical, C&I and other allied Works of Natural Draught Cooling Towers (NDCTs) including supply of Materials, Labour, Tools & Plants, etc. required for Package-1 and Package-2 At 5X800 MW Yadadri STPP

S.No.	NIT reference		Description	Bidder's Query	BHEL's Clarification
	Section	Cl. No			
1	NIT	33.0	Mode of award of work	CT-1 and CT-2 are located close to each other on the West side of the plant. On the other hand location of CT-3, CT-4 and CT-5 are together on the East side of plant. We, therefore, request BHEL to award the contract for Package-1 consisting of 3 Nos. NDCTs for Units 3, 4 and 5 (instead of NDCTs of Units 1, 3 and 5). Similarly, we request BHEL to award the contract for Package-2 consisting of 2 Nos. NDCTs for Units 1 and 2 (instead of NDCTs of Units 2 and 4). With this slight modification in mode of award of work, smooth execution of the Package-1 and Package-2 cooling towers can be ensured from the successful NDCT contractor(s).	Tender conditions prevail
2	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2	Package 1: NDCT of Unit- 1, Unit-3 & Unit-5 Package 2: NDCT of Unit-2 & Unit-4	Please see our clarification against S No 1 above.	Tender conditions prevail

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3	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.3 (6)	Layout of CW hot water inlet header to cooling tower	In order to improve the thermal performance of the NDCTs, we may like to re-design the hot water inlet piping layout to match with our modifed thermo-hydraulic components (listed in S Nos. 24 and 25 in the Price Bid). Please allow bidder to modify inviolable condition no. 6, if required, with proper justification during detailed engineering stage. Further since we will be re-designing the cooling tower internal components viz. fill, drift eliminators, hot water distribution system, etc., the loading arrangement of the internal components will be discussed with BHEL during detailed engineering stage, which shall change the cooling tower foundation requirements. Since the design of cooling tower internal components will be carried out by the bidder, thermal design of NDCT shall be in the scope of bidder only. However GA drawing and all other engineering drawings/documents pertaining to NDCT shall be reviewed and vetted by bidder. Kindly confirm.	Bidder shall furnish their improved thermal design calculation with proper reasoning/justified documents/supporting documents for review by BHEL/BHEL's consultant . Bidder shall also furnish the performance gurantee schedule with improved cold water gurantee for BHEL/BHEL's consultant review in their offer. Bidder may however note no changes in the invoilable civil contraints is acceptable as foundaiton drawings are already approved. Biddder to note that BHEL has specifically specificed in specficaion that while suggesting justifiable reasons for changes, the NDCT contractor shall abide by the following constraints. Also, the NDCT contractor shall guarantee the NDCT performance considering these constraints that are inviolable. 1) Civil Design of NDCT Shell, Shell Profile and Shell dimensions at various heights 2) Foundation of NDCT 3) Air Inlet Height 4) Basin & Internal Structure Column-Beam Grid Dimensions and Elevations 5) Water Distribution Ducts 6) Layout of CW Hot water inlet header to Cooling Tower 7) Height and Diameter of NDCT. Once the changes with justifiable reasons/analyses/calculations provided by the NDCT Contractor areaccepted by BHEL/Consultant and duly incorporated, the NDCT contractor will vet the final thermal design & GA of NDCT and furnish the Performance guarantee. The thermal design and GA vetted by the NDCTcontractor shall be furnished to Customer for approval.
4	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.3; I (i)	The bidder shall terminate pump discharge pipe work at a distance of 100M from sludge pit.	We propose flexible hose pipe for sludge discharge. Please confirm.	Tender conditions prevail
5	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.3 (I, II, III, IV, V & VI)	Scope	Contractor's scope of mechanical, electricals, C&I, civil, etc. shall be strictly as per Bill of Quantities / Price Bid, except Ref Nos 24.0 and 25.0 of BOQ. Please confirm.	Pls refer note below Clause 1.2.3 (I, II, III, IV, V & VI).
6	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.3 (IV)	….disposal of surplus soil outside plant boundary	Please inform the approximate distance of this area from site which will be allocated for disposal of surplas soil.	Approximately 8 K.M.

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7	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.3 (Note)	Any other structure / foundation not mentioned above, but required for completion of the scope of work in total, deemed to have been included in the bidder scope under this contract.	Contractor's scope is strictly as per available Bill of Quantity. No additional work is included in our scope.	Pls refer note below Clause no. 1.2.3 (I, II, III, IV, V & VI) regarding scope of work and clause no. 1.9.8 TCC; VOLUME-IA PART-I CHAPTER – IX regarding variation in bill of quantities.
8	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.11	Land for labour colony shall be provided by BHEL approximately nearer to site	We understand that land for labour colony shall be provided by BHEL free of cost. Also please specify the approximate distance of this alloted land from the site.	Adjecant to plant boundary
9	TCC; VOLUME-IA PART-I CHAPTER – VI	1.6.1.2.1	NDCT-1 - 28 months NDCT-3 - 28 months NDCT-5 - 28 months	Specifed completion time of 28 months for 3 natural draught cooling towers of required dimensions is too short. We request BHEL to re-look and revise the same to minimum 36 months from the date of commencement of work.	Tender conditions prevail
10	TCC; VOLUME-IA PART-I CHAPTER – VI	1.6.6	Guarantee Period	The guarantee period should be calculated tower-wise and NOT package-wise. The guarantee period shall be 12 months from the date of mechanical completion of each cooling tower or 18 months from the date of completion of supplies, whichever is later. Please confirm.	Tender conditions prevail
11	TCC; VOLUME-IA PART-I CHAPTER – X	1.10.3.3.7	Deployment of skilled / semi-skilled tradesmen	This stipulation is not acceptable to us. We will engage our own skilled / semi-skilled workers who are trained for specialized job applicable for NDCT construction. However, we confirm that skilled / semi-skilled workers shall be deployed by us at site to suit compliance of the project completion schedule.	Tender conditions prevail

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12	TCC; VOLUME-IA PART-I CHAPTER – X	1.10.4.11	Terminal points	Contractor's scope will be limited to BOQ quantities only. Terminal points are for information purpose only. Please confirm.	Please refer clause no. 1.9.8 TCC; VOLUME-IA PART-I CHAPTER – IX regarding variation in bill of quantities.
13	TCC, Vol-IA, Part-II	SL No 12	Arbitration	Appointment of sole arbitrator should be on mutual consent basis.	Tender conditions prevail
14	TCC, Vol-IA, Part-II	SL No 16	Performance Security Deposit	Since format for Bank Guarantee towards Security Deposit is available in the tender documents, we understand that submission Performance Security Deposit in the form of Bank Guarantee is also acceptable.	Tender conditions prevail. Performance Security Deposite is different from and Security Deposite.
15	GCC / Chapter 2	2.7.2	Termination	In the event of any termination for reasons not attributable to contractor, contractor shall be eligible to claim all expenses incurred by them till the date of such termination, in addition to the material / equipment ready for despatch / use, sub-vendor order cancellation charges, etc. in addition to the demobilization charge to be incurred by the contractor.	Tender conditions prevail
16	GCC / Chapter 2	2.7.3	Risk & Cost	Risk purchase clause to be imposed only after the mutual and amicable agreement between BHEL and the Contractor. Please confirm.	Tender conditions prevail
17	GCC / Chapter 2	2.7.9	Liquidated Damages / Penalty	Liquidated damages for delay in completion of work for reasons solely attributable to us will be acceptable to us @ 0.5% of the contract value per week of delay or part thereof subject to maximum of 5% of the contract value. The zero date shall be counted from the date of handing over of clear front and unhindered access to cooling tower site. Kindly confirm.	Tender conditions prevail
18	GCC / Chapter 2	2.22	Retention amount	Adjustment of retention amount of this contract against any due arising out of any other contract(s) is not acceptable to us.	Tender condition prevails

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	Section	Cl. No			
19	GCC / Chapter 2	2.24	Performance guarantee for workmanship	The guarantee period should be calculated tower-wise and NOT package-wise. The guarantee period shall be 12 months from the date of satisfactory commissioning of each cooling tower or 18 months from the date of completion of supplies, whichever is later. Please confirm.	Tender conditions prevail
20	Volume - II / Price Bid	BOQ Ref no. A2329	Stop log gate, Sluice gates etc.	Please confirm whether we should include stop log gate as per IS: 5620 or sluice gate as per IS: 3042 in our scope.	Stop Log Gate as per IS: 5620
21	PE-TS-417-165-N002 / Section I	1.01	Inviolable constraints	Please see our clarification against S No 4 above.	Reply as at point no.3 above
22	PE-TS-417-165-N002 / Section I / Sub-Section IA	Clause No 2.00.00	Scope	Contractor's scope is strictly as per available Bill of Quantity.	Reply as at point no.7 above
23	PE-TS-417-165-N002 / Section I / Sub-Section IA	2.01.01 j	Sludge pump discharge pipe work	As per Price Bid we have to include 100 M long discharge piping. Hence, mention of terminating sludge pump discharge piping up to a distance of 250 M from sludge pit has been ignored by us. Please confirm.	Please consider discharge pipe length of 250 m
24	PE-TS-417-165-N002 / Section I / Sub-Section IA	2.01.01 k	Counter flanges at terminals	The end preparation at hot water piping terminal points shall be suitable for butt welding. This is as per standard indutrial practice for large diameter pipes and also in lne with Clause No. 2.01.01 a. Hence counter flanges, bolts, nuts & gaskets at terminal points are not applicable within our scope. Please confirm.	Confirmed
25	PE-TS-417-165-N002 / Section I / Sub-Section IA	2.01.04 a	Scope (Civil)	We understand that piling is not applicable for this tender. However, in case piling becomes applicable during project execution stage, same shall be in BHEL's scope and the cooling tower site will be handed over to us by BHEL after completion of piling (including pile testing, pile chipping and pile head preparation).	Piling is not applicable for this tendered work.

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26	PE-TS-417-165-N002	Clause 11.00.00	Performance guarantees and liquidated damages / penalty for performance	The thermal design will be guaranteed by us in accordance with CTI norms and we will rectify shortfall in capacity, if any, free of cost. We can accept L/D for performance @ 1% of the contract value (excluding taxes, duties and freight) per 1% shortfall in capacity as established by the performance test and subject to maximum 5% of the contract value (excluding taxes, duties and freight). Please confirm.	Tender conditions prevail
27	PE-TS-417-165-N003	--	Design wind speed	In absence of any information about wind speed considered in the thermal design of the cooling tower, we presume that same is based on a wind speed of 0 m/s. At higher speeds the design cold water temperature will need to be adjusted as per wind speed correction curve forming part of the cooling tower performance chart.	In the absence of any specification for wind speed, it is necessary to consider a minimum of 1.5 m/s for thermal design as per BS. However, in the present case the wind speed considered is 2.22 m/s. Also, please refer reply as at point no.3 above.
28	PE-TS-435-165-N011 / Data Sheet A	8.10	Louvers	We understand that louvers are not applicable. Please confirm.	Confirmed
29	Cooling Tower Drawings	--	--	Please provide the shell inlet diameters at 0.0m, 1.5 m, 3.0 m and 4.5 m above shell base level (air inlet level).	137.6196 m, 136.9272 m, 136.2348 m and 135.5424 m
30	Cooling Tower Drawings	--	--	Please provide all civil drawings related to fill arrangement, water distribution arrangement and drift eliminator arrangement.	Pl refer the drg no - PE-V1-417-165-N040, PE-V1-417-165-N058,PE-V1-417-165-N074 for reference.
31	PE-V1-417-TS-101	11.0	Vendors list	Since fill and drift eliminators are self-manufactured items for us, we shall furnish our internal test reports only. 3rd party testing agency is not applicable in our case.	Tender conditions prevail

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32	PE-V1-417-TS-101	Clause No 5.0	Specific compliance	In order to improve the thermal performance of the NDCTs, we may like to re-design the hot water inlet piping layout to match with our modifed thermo-hydraulic components (listed in S Nos. 24 and 25 in the Price Bid). Hence thermal and hydraulic design calculations are subject to change during detailed engineering stage.	Reply as at point no.3 above
33	General	--	--	Any optimisation in the internal supporting arrangement which will save the civil quantities shall be allowed by BHEL during detail engineering.	Tender conditions prevail. Also, refer reply as at point no.3 above.
34	PE-TS-417-600-C004	7.03.2	Minimum weight of fill should be 100 Kg/sqm.	We understand that this has already been taken care in the civil design.	Bidder to execute works as per drwgs provided
35	PE-TS-417-600-C004	7.04.1	Fill support grid spacing	Fill support grid spacing will be 1.0 M to 1.2 M as per our tried and proven standard for PVC V-bar type splash fill.	Tender conditions prevail and bidder to execute works as per drwgs provided
36	PE-TS-417-600-C004	Annexure-A (2.0)	Recirculation as per CTI bulletin PFM-116	This is not applicable for a natural draught cooling tower.	As the thermal design is already finalized bidder need not consider these aspects
37	PE-TS-417-600-C004	Annexure-A (5.0)	Hot water distribution piping / Outside Tower - MS pipes with PVC/FRP Wrap on outside.	We understand that this is not applicable for this job.	Bidder to execute works as per drwgs provided
38	PE-TS-417-165-N002 / Data Sheet A	5.4	External walkway platform	Construction of RCC platform at each aviation lamp level during jump form lifting is not possible. It has to be done later on by chipping out the dowels left in the concrete during jump form lifting. This is a very unsafe practice and we do not recommend the same. We, therefore, request Purchaser to delete this requirement.	As per the GAD there is only one level of AOL, which is at the top. Hence, no additional platforms as cited in the query are applicable.

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39	TCC, Vol. IA, Part I, Chapter - III, Cl. 1.3.1.1.2		Open Space for living purpose of the bidder - In Bidder's Scope	As in case of the tender issued by BHEL PSSR for Yadadri Chimney works, "open space for labour colony shall be provided by BHEL near to site (outside plant premise) free of charge." In view of above, we hereby request you to provide us the open space required for labour colony near to site (outside plant premise) free of cost. Please consider and confirm.	Please see clause no. 1.2.11 of VOLUME-IA PART-I CHAPTER – II
40	TCC, Vol. IA, Part I, Chapter - IV,		T & P's to be deployed by Contractor **For Package 1 (3 NDCTs)** 1. Excavator - 3 Nos. 2. Batching Plant (30 Cum/hr) - 3 Nos 3. Concrete Pump - 4 Nos. 4. Dumpers - 6 Nos. 5. Diesel Mixer Machine - 4 Nos.	The T & P suggested by BHEL are seems to be on higher side. We request you to consider the following requirement of Major T & P, T & P's to be deployed by Contractor For Package 1 (3 NDCTs) 1. Excavator - 2 Nos. 2. Batching Plant (30 Cum/hr) - 2 Nos 3. Concrete Pump - 2 Nos. 4. Dumpers - 4 Nos. 5. Diesel Mixer Machine - 2 Nos. The plant requirement shall be augmented/decreased as per the site requirement. Please consider and confirm.	Tender conditions prevail
41	TCC, Vol. IA, Part I, Chapter - IV, Sr. no.B19		T & P's to be deployed by Contractor For Package 1 1. Raker column steel shuttering - 8 sets for each NDCT	1. We presume the requirement of steel shuttering given by BHEL is 8 sets of raker column i.e. 4 Pairs of Raker column per NDCT. Please confirm. 2. Further we request you to consider 3 Pairs of raker column steel shuttering for each NDCT. Please consider and confirm.	1. 8 sets denotes 8 pairs of raker column 2. Tender conditions prevail

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42	TCC, Vol. IA, Part I, Chapter - IV,		T & P's to be deployed by Contractor **For Package 2 (2 NDCTs)** 1. Excavator - 2 Nos. 2. Batching Plant (30 Cum/hr) - 2 Nos 3. Concrete Pump - 4 Nos. 4. Dumpers - 4 Nos. 5. Diesel Mixer Machine - 4 Nos. 6. Transit Mixer - 4 Nos.	The T & P suggested by BHEL are seems to be on higher side. We request you to consider the following requirement of Major T & P, T & P's to be deployed by Contractor For Package 2 (2 NDCTs) 1. Excavator - 1 Nos. 2. Batching Plant (30 Cum/hr) - 1 Nos 3. Concrete Pump - 1 Nos. 4. Dumpers - 2 Nos. 5. Diesel Mixer Machine - 1 Nos. 6. Transit Mixer - 2 Nos. The plant requirement shall be augmented/decreased as per the site requirement. Please consider and confirm.	Tender conditions prevail
43	TCC, Vol. IA, Part I, Chapter - IV, Sr. no.B19		T & P's to be deployed by Contractor For Package 2 1. Raker column steel shuttering - 8 sets for each NDCT	1. We presume the requirement of steel shuttering given by BHEL is 8 sets of raker column i.e. 4 Pairs of Raker column per NDCT. Please confirm. 2. Further we request you to consider 3 Pairs of raker column steel shuttering for each NDCT. Please consider and confirm.	1. 8 sets denotes 8 pairs of raker column 2. Tender conditions prevail

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44	TCC, Vol. IA, Part I, Chapter - VI, Cl. 1.6.1		**Time Schedule** The entire works of the cooling towers including green belt area (as applicable) as detailed in the Tender Specification shall be completed within 30 (Thirty) months for both the packages from the date of commencement of work for both the packages. **Package -1** NDCT-1 - 28 months NDCT-3 - 28 months NDCT-5 - 28 months Final bill & contract closure: 30 months **Package – 2** NDCT-2 - 28 months NDCT-4 - 28 months Final bill & contract closure: 30 months	As the proposed NDCT is large in size (Sill dia. 144.67m & height of NDCT - 198.19 M), we request you for below realistic completion schedule from the date of start of work as below, Package-1 NDCT-1 : 30 months NDCT-3 : 33 months NDCT-5 : 36 months Final bill & contract closure: 38 months Package-2 NDCT-2 : 30 months NDCT-4 : 33 months Final bill & contract closure: 35 months. Also request you to revise the Civil Work Schedule for all NDCTs accordingly mentioned at cl. 1.6.7. Please consider and confirm.	Tender conditions prevail
45	NIT, Cl. 4.0		It is to be noted that proof of remittance for EMD shall be made available at BHEL PSSR Office prior to tender opening.	We shall upload the scanned copy of remittance of Cost of tender & EMD on BHEL's E-Procurement portal before due date & time of offer submission.Further, we request you to allow us to submit the original hard copy of the same within 4 days of due date & time of offer submission so that we can send the same through courier/post/physically hand over to BHEL office.Please consider & confirm.	Submission confirmed. Due date is latest due date.
46	Price Bid, Part-C, Vol-II.		Price Bid – Weightage for amount of each item w.r.t. the total amount.	BHEL has pre-fixed the weightage for the individual items of the BOQ. Due to this, there is a negative cash flow. We hereby request you to review & revise the weightage provided to individual items of BOQ. Please consider and confirm.	Tender conditions prevail

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Note:- 1. Drawings are attached as indicated in the reply. 2.All other Terms & Conditions remain unchanged. Bidders are requested to consider this Corrigendum as part of the Tender Specification and quote accordingly.					
-sd- Anil Kumar DGM/SCT					