ANNEXURE TO CORRIGENDUM - 2 DTD. 29.11.2019 TO TENDER SPECIFICATION BHEL PSSR SCT 1869

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 at 2X660 MW Udangudi STPP

S.No.	NIT		Description	Query	BHEL's reply
	Section	Cl.no			
1	VOID				
2	NIT	33.0	Order of Precedence	For BOQ based offers, bidders are quoting strictly as per available BOQ / Schedule of Quantities. Hence Schedule of Quantities should govern. Please confirm.	Order of precedence as mentioned in published NIT prevails.
3	NIT / Annexure-2	18	Capacity evaluation of bidder	We understand that capacity evaluation of bidder is in BHEL's scope and same is mentioned under Sl No D of Annexure-1. Hence please confirm that bidder need not submit any documents under this head.	It may be submitted for our information along with the bid.
4	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.1	BHEL shall provide cement & reinforcement steel for civil work and structural steel for structural works only for incorporation in the permanent works as free supply	Please confirm that all structural steel required for incorporating in the cooling towers e.g. for Handrails, ladders, access doors, hot water pipe, etc. will be free isssued by BHEL at site (near cooling towers' location).	Structural steel required for supporting arrangement of pipe is only in the scope of BHEL as far as supply is concerned.
			_	Please furnish Annexure-1 of Section IA for our review.	Annexure A attached herewith for reference.
5	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2 (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.	Deviation is not acceptable for invoilable condition No. 6. Bidder to withdrew the Technical Deviation. As per Technical Specification, Bidder can re-design the thermo-hydraulic components (listed at S. Nos. 24 and 25 in the BOQ) with technical reasoning/analysis/ calculations to justify the measures to improve the thermal performance of the NDCT with justifiable reasons which will be guaranteed by the bidder. In case, Bidder suggest to re-design the thermo-hydraulic components, Bidder to submit the revised thermal design as per Technical Specification. However, any change in Civil Structure including Hot Water Duct, Cooling Tower Foundation etc. are not permissible and has to be accomodated as per the approved Civil Drawings.

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6	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2 (I)	The bidder shall terminate pump discharge pipe work at a distance of 100 M from sludge pit.	We propose flexible hose pipe for sludge discharge. Please confirm.	Bidder to consider termination of sludge pump discharge pipe as per Cl. 2.01.01 (i), Sub-Section IA of Technical Specification. MOC of pipe shall be as mentioned at S.No. 8.16, Datasheet-A of Technical Specification.
7	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2 (I, II, III, IV, V)	Scope	Our scope of mechanical, electricals, C&I, civil, etc. shall be strictly as per BOQ / price schedule, except Sl Nos 24 and 25. Please confirm.	Scope shall be as per BOQ except Sl Nos 24 and 25 with allowable variation in quantity specified elsewhere in NIT. Tentative quantity for si. Nos. 24 & 25 is mentioned in annexure-A as attached herewith.
8	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2 (III)		Instruments like pitot tube, etc. required for the performance guarantee test of cooling tower would be loaned by Contractor for the duration of the test but shall remain the contractor's property. The same shall not be left with Customer after the completion of test. However, we will supply 1 set of pitot tube as per BOQ (Instrumentation / Sl No d). Please confirm.	Pitot Tube is required to be supplied for this project hence Deviation to be withdrawn. For other instruments required for PG Test but not included in Bidder's scope of supply, these instruments shall remain the property of contractor.
9	TCC; VOLUME-IA PART-I CHAPTER – II	Clause 1.2.2 (VI)	Purchaser's responsibility	Please clarify whether structural steel for fabricating hot water piping & sludge discharge piping within bidder's terminal point shall be issued free by BHEL (Purchaser).	BHEL will not supply structural steel for fabrication of hot water piping and sludge discharge piping.
10	TCC; VOLUME-IA PART-I CHAPTER – VI	1.6.1.2	The entire works of both the cooling towers as detailed in the Tender Specification shall be completed within 24 (Twenty-Four) months from the date of commencement of work.	Completion time of 24 months for 2 natural draught cooling towers is too tight. We request BHEL to re-look and revise the same to minimum 28 months from the date of commencement of work.	Tender conditon prevails.
11	TCC; VOLUME-IA PART-I CHAPTER – VI	1.6.4	Guarantee period	The guarantee period shall be 12 months from the date of satisfactory commissioning of cooling tower or 18 months from the date of supply of materials at site, **whichever is earlier**.	Tender conditon prevails.
12	TCC; VOLUME-IA PART-I CHAPTER – VII	1.7.2	Mobilization advance	We expect interest-free mobilization advance. Please confirm. Machinery and T&P shall be deployed by us as per requirement of meeting project schedule and not in strict compliance of this clause.	Tender conditon prevails.

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	Section	Cl.no			
13	TCC, Vol-IA, Part-II, Chapter - XIII	Clause 2.7.9.1	Penalty for Intermediate Milestones	Milestone L/D is not acceptable to us. L/D on overall completion period, for reasons solely attributable to us, is acceptable. Please delete this stipulation for smooth execution and timely completion of the project	Ch.1-Tender conditon prevails.
14	TCC, Vol-IA, Part-II, Chapter - XIII	Clause 2.12	Overrun Compensation (ORC)	ORC clause is not acceptable to us. Please delete this clause.	Ch.1-Tender conditon prevails.
15	TCC, Vol-IA, Part-II, Chapter - XIII	Clause 2.21.1	Arbitration	Arbitration should be by joint arbitration procedure as per Indian Arbitration and Conciliation Act, 1996 as amended in 2015.	Ch.1-Tender conditon prevails.
16	VOID				
17	Volume - II	Price Bid	Wightage for amount of each item (Nearest to the 7 decimal points) w.r.t. the total amount	As our cooling tower selections are based on modified design of cooling tower internals, weightages mentioned in the BOQ will get modified and made representative of actual cost. Hence this "weightage" column should be removed from the Bill of Quantities.	Tender conditon prevails.
18	Volume - II	BOQ Sr. no. 21.7	Providing & fixing handling Facilities on top of cooling tower	This item is not applicable for NDCT. Please review.	Tender Specification prevails.
19	Volume - II	Price Bid	--	Please furmish spreadsheet format of the price schedule.	Tender conditon prevails.
20	SCC, Chapter - V	5.4	Achieving targets set by BHEL	Extra cost involved towards advancement of completion of event, if applicable, to achieve BHEL's commitment of advance date of completion to its customer will have to be reimbursed by BHEL. The contractual completion date for the purpose of L/D (due to delay) will remain unchanged.	Tender conditon prevails.
21	SCC, Chapter - V	5.11	Adequacy of structural design	Since civil design is outside bidder's scope, adequacy of the structural design of cooling towers will not be bidder's responsibility.	As per Technical Specification Structural Design or its vetting is not in the scope of Bidder.
22	VOID				
23	GCC, Volume - 1C	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.	Not acceptable. Tender condition prevails.

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24	GCC, Volume - 1C	2.7.3	Risk & Cost	isk purchase clause to be imposed only after the mutual and amicable agreement between BHEL and the Contractor. Please confirm.	Not acceptable. Tender condition prevails.
25	GCC, Volume - 1C	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.	Not acceptable. Tender condition prevails.
26	GCC, Volume - 1C	2.13	MOB advance	We expect interest-free mobilization advance for smooth excution and timely completion of the project. Kindly confirm.	Tender conditon prevails.
27	GCC, Volume - 1C	2.21	Arbitration	Arbitration should be by joint arbitration procedure as per Indian Arbitration and Conciliation Act, 1996 as amended in 2015.	Tender conditon prevails.
28	GCC, Volume - 1C	2.22.2	Retention amount	Adjustment of retention amount of this contract against any due arising out of any other contract(s) is not acceptable to us.	Not acceptable. Tender condition prevails.
29	GCC, Volume - 1C	2.24	Performance guarantee for workmanship	The end date of the guarantee period will be 12 months from the date of satisfactory commissioning of cooling tower or 18 months from the date of supply of materials at site, whichever is earlier.	Tender conditon prevails.
30	VOID				

S.No.	NIT		Description	Query	BHEL's reply
	Section	Cl.no			
31	PE-TS-435-165-N011 / Section I	1.01	Inviolable constraints	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.	Deviation is not acceptable for invoilable conditions including S.No. 6. Bidder to withdrew the Technical Deviation. As per Technical Specification, Bidder can re-design the thermo-hydraulic components (listed at S. Nos. 24 and 25 in the BOQ) with technical reasoning/analysis/ calculations to justify the measures to improve the thermal performance of the NDCT with justifiable reasons which will be guaranteed by the bidder. In case, Bidder suggest to re-design the thermo-hydraulic components, Bidder to submit the revised thermal design as per Technical Specification. However, any change in Civil Structure including Hot Water Duct, Cooling Tower Foundation etc. are not permissible and has to be accomodated as per the approved Civil Drawings.
32	PE-TS-435-165-N011 / Section I	Clause No 2.00.00	Terminal points	Bidder / Contractor's scope will be limited to BOQ quantities only. Terminal points are for information purpose only. Please confirm.	Confirmed
33	PE-TS-435-165-N011 / Section I	2.01.01 i	Sludge pump discharge pipe work	We propose flexible hose pipe for sludge discharge. Please confirm.	MOC of pipe shall be as mentioned at S.No. 8.16, Datasheet-A of Technical Specification.
34	PE-TS-435-165-N011 / Section I	2.01.01 i	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).	Bidder's understanding is correct. Piling is not applicable.
35	PE-TS-435-165-N011 / Section I	3.00.00	Purchaser's responsibility	Please clarify whether structural steel for fabricating hot water piping & sludge discharge piping within bidder's terminal point shall be issued free by BHEL (Purchaser).	BHEL will not supply structural steel for fabrication of hot water piping and sludge discharge piping.

S.No.	NIT		Description	Query	BHEL's reply
	Section	Cl.no			
36	PE-TS-435-165-N011 / Section I	11.00.00	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 of thermo-hydraulic components (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 of thermo-hydraulic components (excluding taxes, duties and freight). Please confirm.	Bidder's deviation is not acceptable. Penalty for Performance shall be applicable as per the referred Clause of Technical Specification.
37	PE-TS-435-165-N011 / Section - B	2.0	Fill	We confirm that fills shall e of PV splash type. However, fill shape, size and configuration shall be as per our own design.	Paharpur Make PVC V-Bar type Splash Fill is acceptable. However, Bidder to provide technical reasoning/analysis/ calculations to justify the measures to improve the thermal performance of the NDCT with justifiable reasons which will be guaranteed by the bidder. Same shall be subject to approval during detailed engineering.
38	PE-TS-435-165-N011 / Section - B	3.4	Nozzles	Since internal hot water distribution system shall be re-designed by bidder, PP nozzle type, size and configuration shall be as per bidder's own design.	BHEL Noted. However, Bidder to provide technical reasoning/analysis/ calculations to justify the measures to improve the thermal performance of the NDCT with justifiable reasons which will be guaranteed by the bidder.Same shall be subject to approval during detailed engineering.
39	PE-TS-435-165-N011 / Section - B	3.5	Hot water piping	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 confirm.	Re-design of Hot Water Inlet Piping Layout due to change in thermo-hydraulic components is not permissible.
40	PE-TS-435-165-N011 / Section - B	7.0	Material handling facilities at top of shell	This item is not applicable for NDCT. Please review.	Tender Specification prevails.
41	PE-TS-435-165-N011 / Section - B	11.0	Vendors list	Since fill and drift eliominators are self-manufactured items for us, we shall furnish our internal test reports only. 3rd party testing agency is not applicable in our case.	Material Test for fill and drift eliominators shall be as per QAP approved during detailed engineering. CIPET or Shriram Laboratories are the approved labs for material tests. Inhouse testing is not acceptable.
42	PE-TS-435-165-N011 / Section - B	11.0	Vendors list	Please furnish approved vendor list for electrical items, applicable within our scope.	Sub-Vendor List shall be submitted by the Bidder during detailed engineering and shall be subject to BHEL/Customer approval.

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43	PE-TS-435-165-N011 / Schedule - II	2.0	Conditions of the test	Conditions of the test shall be in line with CTI test code ATC-105. “Unit” for Wind Velocity should be read as m/sec not km/hr. Please confirm.	Testing shall be as per either CTI or BS codes depending on site conditions and time available. Wind speed in kmph can be converted to m/s for calculations.
44	PE-TS-435-165-N011 / Schedule - II	6.0	Frequency of observations	Frequency of observations shall be in line with CTI test code ATC-105. “Unit” for Wind Velocity should be read as m/sec not km/hr. Please confirm.	Testing shall be as per either CTI or BS codes depending on site conditions and time available. Wind speed in kmph can be converted to m/s for calculations.
45	PE-TS-435-165-N011 / Volume - IIB	Section - C	Scope of Electricals	Our scope of electricals shall be strictly as per available BOQ. Please confirm.	Scope of supply shall be as per BOQ. However for detailed specification, Bidder to refer Technical Specification.
46	PE-TS-435-165-N011 / Section I	Sub-Section - IC	Scope of C&I items	Our scope of C&I items shall be strictly as per available BOQ. Please confirm.	Scope of supply shall be as per BOQ. However for detailed specification, Bidder to refer Technical Specification.
47	PE-TS-435-165-N011 / Section I / Sub-Section ID	8.10	Louvers	We understand that louvers are not applicable. Please confirm.	BHEL confirmed.
48	PE-TS-435-165-N011 / Section I / Sub-Section ID	Annexure - 1	KaV/L as per Tchebycheff Method	KaV/L calculations are not enclosed (as mentioned).	Bidder to refer S.No. 4 of Annexure-1.
49	PE-TS-435-165-N011 / Section I / Sub-Section ID	Annexure - 2	Cooling Tower Drawings	Please furnish the cooling tower shell inlet diameter at Air Inlet Level of EL 8.70 M.	125.89 M (inside dia)

S.No.	NIT		Description	Query	BHEL's reply
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50	Vol. IA, Part I, Chapter II	Cl. 1.2.2	The tentative quantities for thermo-hydraulic components (Fills and distribution system) listed for S. nos. 24 and 25 of price bid as per BHEL's design indicated in Annexure -1 of section IA and the same is calculated based on the area inside the NDCT at respective levels shown in the GA drawing. If found necessary, " the NDCT contractor may suggest modifications to the thermos-hydraulic components (listed at S. Nos. 24 and 25 in the price bid) with technical reasoning/ analysis/ calculations to justify the measures to improve the thermal performance of the NDCT which will be guaranteed by the bidder" and such the responsibility of cooling tower performance shall remain with the bidder in all manners.	We didn't find the Annexure -1 of section IA wherein tentative quantities for thermo- hydraulic components (Fills and distribution system) as per BHEL's design are mentioned against Sr. nos. 24 and 25 of price bid. Please provide us the same.	Attached herewith.
51	Vol. II, Price Bid, Part C, BOQ	item no. 102.0	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759. - 1,27,546 Cum	As this is the item of dewatering, we request you to change the unit of measurement (UOM) to Kwh against the construction power consumed for dewatering. Please consider & confirm.	Tender condition prevails.