



**BHARAT HEAVY ELECTRICALS LIMITED**  
**PROJECT ENGINEERING MANAGEMENT, NOIDA**

Date-31-Dec-24

**CORRIGENDUM- 02**

PROJECT	:	1x800 MW NTPC SIPAT STP PROJECT, STAGE-III (EPC)
PACKAGE	:	COOLING TOWER - Induced Draft Cooling Towers (IDCT)
ENQUIRY NO	:	77/23/6186/AMI Date 11.12.2024
SUBJECT	:	Amend 01 to Technical Specification and Replies to pre-bid queries

Type of Corrigendum			
Technical Corrigendum -	<input checked="" type="checkbox"/>	Commercial Corrigendum -	<input checked="" type="checkbox"/>

Bidders to note that, following documents are enclosed.

1. Amendment 1 to Technical Specification for IDCT (PE-TS-520-165-W001).
2. Replies to pre-bid queries.

All terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Yours faithfully,

For and on behalf of BHEL

**Amit Kumar**  
**Manager/BOP**

**1 X 800 MW NTPC SIPAT STPP Stage-III**


**AMENDMENT NO. 1**

**TO TECHNICAL SPECIFICATION  
FOR  
INDUCED DRAFT COOLING TOWER**

**Specification No. : PE-TS-520-165-W001 (REV. 00)**



**BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR  
PROJECT ENGINEERING MANAGEMENT  
NOIDA, INDIA**

	<b>TECHNICAL SPECIFICATIONS</b>		SPECN. NO.:		PE-TS-520-165-W001	
	<b>INDUCED DRAFT COOLING TOWER</b>					
	<b>AMENDMENT NO. 1</b>		REV. NO.	0	DATE:	31.12.2024
SI no	Specification reference	Instead of		Read as		
1	CI no. 2.16, page no 19 of 223, book 1 of 2 (Maximum CW Pumping head permissible, viz. static head plus frictional losses as below: - Static head w.r.t. FGL - Frictional losses within bidder's T.P. with 10% margin)	15 MWC		14 MWC		
2	CI no. 2.17, page no 19 of 223, book 1 of 2 (Minimum elevation of top of water level in hot water distribution duct with respect to Basin curv level)	13.0M		12.0M		

Project : Construction of One (1) no. IDCT at 1X800MW NTPC SIPAT TPS STAGE III PROJECT, CHATTISGARH on EPC mode						
	Pre bid points					
Sl. No.		Specification Reference		Query		
	Section-Part	Sub Section / Clause no	Page	Existing condition		BHEL reply
TECHNICAL POINTS						
1	Design	Clause 3.14.00, Tech Specs-1			It is mentioned that for towers provided with an over-dimensioned cold-water basin, the inlet air area shall be computed considering the water level in the cold water basin at normal water level. This specification is erroneous because the water level in the CW basin cannot be expected to be constant at free board level, i.e. 300 mm below the Sill. The water level will keep fluctuating between the Sill level and the free board level depending on water flow to the tower and hence, the air inlet height from the surface of water in the basin to the bottom of the beam at the top of the air inlet will keep varying. This is why the effective air inlet height is always calculated w.r.t the basin sill/kerb level irrespective of whether the basin is extended or not. Please check and confirm/amend the specifications.	Bidder to follow tender specification.
2	Design	Clause 4.00.00 (9), Tech Spec-1			The fill supports of SS 316 grids are applicable only for splash fill. For modular splash fills/trickle grids, the supports are in RCC for RCC IDCT and FRP for FRP IDCT. Please check and confirm..	Bidder to follow tender specification.
3	Design	Clause 4.06.00 (1) & (2), Tech Specs-1			Clauses 1 & 2 are contradictory. Clause 1 states that the fill shall be of non-clogging type fills like modular splash/trickle grid/turbo splash or splash type fills like V-bar splash/splash grid and easily installable. Clause 2 states that the non-clogging type fills shall be in modular form. Modular form means "assembled in pack form" like film fills and trickle grid fills. And if the fills are to be in modular form (ONLY), then splash fills like PVC V bar and PP Splash Grid mentioned in clause 1 are ruled out. Please check and confirm.	Bidder to follow tender specification.
4	Design	Clause 4.06.00 (6), Tech Specs-1			Fill extension into the air inlet applies only to splash fills and not to modular splash/trickle grid fills. Fill extended into the air inlet will be in partial cross flow. Splash fills like V bars are used in cross flow as well and hence, their performance in partial cross flow and partial counter flow can be easily estimated. However, such data is not available for modular fills as the fill openings in the counter flow and cross flow directions for air entry are different. Hence, please revise this clause and mention that fill extensions, if necessary, may be done only for splash fills like V bar with proper de-rating of thermal performance because of the effects of partial cross flow.	Bidder to follow tender specification.
5	Design	Clause 4.08.00, Tech Specs-1			It is mentioned that the pressure drop across the drift eliminators shall be kept to a minimum. In this context, please note that the lowest pressure drop is possible only with cellular type drift eliminators. Cellular drift eliminators can limit the drift loss to 0.001% and less. Hence, please revise this clause to permit cellular type drift eliminators as well.	Bidder to follow tender specification.

6	Design	Clause 4.09.00, Tech Specs-1			It is mentioned that a minimum clearance between the stack and fan blades shall be maintained along the entire periphery of the stack to prevent the rubbing of fan blades while rotating. It is obvious that the fan blades should not rub against the stack while rotating. Hence, this sentence should be modified as under, for a better technical perspective: "The fan blade tip clearances shall be maintained as per the provisions of IS 18758 to ensure proper aerodynamic performance of the fans". Please note that for RCC stacks, the max tip clearance recommended is 0.5% of fan diameter. IS 8758 may be referred to for tip clearances with FRP stacks.	Bidder to follow tender specification.
7	Design	Annexure-1, Tech Specs-1			Please provide the BOD levels in circulating water (at COC 5). It is the microbial activity that determines how early the fill will foul.	Please note that BOD level in circulating water at COC -5 is not available in water analysis provided by end customer in the contract, hence bidder to get the analysis done for BOD level at their end for determining microbial activity. Further please note that suitable disinfectant shall be dosed in the circulating water by BHEL to prevent microbial growth in the circulating water."
8	Design	Clause 2.17, Technical Data Sheet-A and Clause 2.7.1, Performance guarantees, Tech Specs-1			There is a mismatch in the above clauses. Clause 2.17 states that the static head is between the basin kerb level and the elevation of the top of water level in the HW duct. Whereas clause 2.7.1 states that the static head is up to the top of the HW distribution header. Please note that the water level in the HW duct will be at a higher elevation than the header and hence, the static head must be up to the top of water level in the HW duct. Please check and confirm.	Bidder to follow tender specification. As per cl. no. 4 of Section 3 (General Technical Requirement), "In the event of any conflict between the requirements of two clauses of this specification, documents or requirements of different codes and standards specified, stringent requirement as per the interpretation of the BHEL / owner shall apply."
9	Design	Clause 5.17.00.02, (a) & (b), Tech Specs-2			Either the crack width limitation or the stress limitation to 130 MPa in steel will govern. As per this clause, the crack width can be 0.1 mm for liquid retaining structures and 0.2 mm for non-liquid retaining structures like columns and beams, deck slab and fan stack. Hence, once the crack width is specified, stress limitation in steel becomes superseded. Please check and confirm that the crack width limitation specified will govern.	Bidders understanding is not correct .The crack width shall be calculated on service load and to be limited to 0.1mm for liquid retaining structure .The tensile stress in steel shall be maximum. 130 Mpa..If the crack width calculated, is beyond 0.1mm then section shall be revised or dia and spacing of reinforcement shall be readjusted.For structure not in direct contact with liquid crack width shall be limited to 0.2mm with above procedure .For detail refer specification 05.17.00.02 (b).
10	Design	Clause 5.18.01.01, Tech Specs-2			This clause is in contraction with Terminal points wherein it is specified that the civil works scope of the bidder will end at the CW channel at a distance of 15 m from the edge of the basin. Please check. In case the pump house civil works are in bidders' scope, please let us know who is going to do the design and engineering of the pump house, associated equipment and provide GFC drawings to carry out civil works?	The terminal point shall be as per latest plot plan.Beyond terminal point the engg. and desagn is in is in BHEL scope.

11	Design	Clause 5.18.01.10, Tech Specs-2			Please clarify whether the SWGR building is in the scope of the bidders or not. If yes, please let us know who is going to do the layout and engineering of the SWGR building.	Bidder scope is IDCT structure up to terminal point of CW channel.
12	Design	Clause 5.19, Tech Specs-2			We presume that all supplies and works related to the Water Treatment plants is not in the scope of the IDCT package bidder. Please check and confirm.	Bidder scope is IDCT structure up to terminal point of CW channel.
13	Design	Clause 5.21, Tech Specs-2			We presume that civil works of Fire Protection system are not in the IDCT package bidders' scope. Please check and confirm	Bidder scope is IDCT structure up to terminal point of CW channel.
14	Design	Clause 5.23, Tech Specs-2			We presume that civil works of coal, biomass, limestone & gypsum handling systems are not in the IDCT package bidders' scope. Please check and confirm.	Bidder scope is IDCT structure up to terminal point of CW channel.
15	Design	Clause 5.23.07, Tech Specs-2			We presume that civil works of Control & MCC buildings are not in the IDCT package bidders' scope. Please check and confirm.	Bidder scope is IDCT structure up to terminal point of CW channel.
16	Design	Clause 5.23.10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21 and 5.31, 34, 37, 38, 39 in Tech Specs-2			We presume that all design and engineering and civil works of items/structures listed at the above clauses are not in the IDCT package bidders' scope. Please check and confirm.	Bidder scope is IDCT structure up to terminal point of CW channel.
17	Design	Clause 2.14, Technical Data Sheet-A, Tech Specs-1			It is specified that the Contribution of rain and spray zone to be considered in thermal design of tower must be "NIL". As a consequence of the above clause, please clarify and confirm that the demand KaV/L for the heat duty must be met entirely from the fill KaV/L alone.	Bidder understanding is correct.
<b>COMMERCIAL POINTS</b>						
1	Tender document	SCC	pg 2/114	Price Adjustment payment terms & conditions <b>PVC shall be applicable only during the extended period of contract (if any)</b> after contractual completion period and for the portion of work delayed / backlog for the reasons not attributable to the Contractor.	We request the department to <b>pay Price Adjustment (PVC) during the Contract Period also</b> in line with other BHEL Contracts. Please confirm.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
			pg 2/114	The total amount of PVC payable shall not exceed 10% of the Basic contract value for respective order.	Further, we also request the department <b>not to limit PVC</b> and the same shall be payable as actual. <b>Or else, at least increase the limit of PVC payable from 10% of Basic Contract value to 15% of cumulative executed Contract Value</b> in line with other BHEL Contracts.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
2	Tender document	SCC	Sr. no. 13 pg 2 of 5	<b>Construction Power</b> : Construction Power : Construction power shall be made available for Erection Work free of cost at a single point to supplier.	<b>We understand that Construction Power shall be made available at one point within the plant boundary on Free of Cost basis for Construction purpose. We request you to kindly provide maximum lead (in kms) of Single Delivery Point from IDCT location.</b>	Source of construction power and construction water to be provided to the bidder shall be within 500m from IDCT Location.
3	Tender document	SCC	Sr. no. 13 pg 2 of 5	<b>Construction Water</b> : Construction water : Construction water shall be made available for Erection Work free of cost at a single point to supplier.	<b>We understand that Construction Water shall be made available at one point within the plant boundary Free of Cost basis for Construction purpose. We request you to kindly provide maximum lead (in kms) of Single Delivery Point from IDCT location.</b>	Source of construction power and construction water to be provided to the bidder shall be within 500m from IDCT Location.

			cl 3.8.1 on pg 4 /151	Availability of land within plant boundary is very limited and the contractor has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erections agencies. <b>BHEL shall provide free of charge limited open space inside or outside the proposed plant boundary for office, storage shed and laydown area as and where made available by Customer.</b> It is the responsibility of the contractor to construct sheds, fabrication yard, establish batching plant, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work	We understand that BHEL shall provide land Free of Cost basis for office, storage shed and laydown area as and where made available by Customer. <b>We request you to kindly provide tentative location &amp; maximum lead (in kms) of the land to be made available from IDCT location.</b>	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
4	General	NIT		Current Bid Due of submission - 26/12/2024	We request you to kindly extend the Bid due date of submission <b>by atleast 2 weeks from the current date in view of EPC contract.</b>	Already extended till 06.01.2025

Pre-Bid Queries for Induced Draft Cooling Towers (IDCT) for 1x800 MW NTPC SIPAT STP PROJECT, STAGE-III (EPC)					
Sl No	Reference			Queries	Response from BHEL
	Section	Chapter / Cl. No	Page No.		
COMMERCIAL					
1	Tender Notice_1	NIT / Cl. 21	1 of 11	Bidder expects that comments on our documents / drawings will be received by us within 7 days of our submission of those documents / drawings. Kindly confirm.	Please follow specification, section 9 (b) of Book 1 of 2 of technical specification. Same is re-iterated as follow: "BHEL / Customer comments on drgs/docs shall be furnished within 14 days of submission date. However, drgs/docs submitted shall be complete in all respects with revised drawing submitted incorporating all comments. Any incomplete drawing submitted shall be treated as non-submission with delays to bidder's account. For any clarification/ discussion required to complete the drawings, the bidder shall himself depute his personal to BHEL for across the table discussions/ finalizations/ submissions of drawings."
2	Tender Notice_1	NIT / Cl. 21 (E)	2 of 11	Completion of physical work by Contractor shall be considered as nexus point for PG Test. If at such point, BHEL is unable to provide water/ power for commissioning/trial run, PG Test requirement shall have to be waived and the work shall be deemed accepted as is, without the requirement of trial run. BHEL is requested to update the provisions accordingly.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
3	Tender Notice_1	NIT / Cl. 28	3 of 11	For a project of this dimension Bidder expects 10% interest-free advance on Main Supply contract value. Please confirm.  Referring to release of last 10% payment on Main Supply, kindly note that PG test will depend upon the ideal test conditions viz., plant load, etc. which is beyond cooling tower contractor's control. Hence Bidder cannot continue to extend the validity of the subject BG till completion of the PG Test, which is not under our control. Therefore, there should be a cut-off period for revalidating the BG. Ideally the PBG should be valid till the warranty period only.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
4	Tender Notice_1	NIT / Cl. 28	3 of 11	Bidder expects 10% interest-free advance on E&C contract value. Please confirm. Referring to release of last 10% payment on E&C, kindly note that PG test will depend upon the ideal test conditions viz., plant load etc. which is beyond cooling tower contractor's control. Hence in case PG test / demonstration test of the cooling tower(s) cannot be completed within one year after completion of commissioning of cooling tower(s), for reasons not attributable to the contractor, BHEL shall release payment towards PG Test / demonstration test of the cooling tower(s) against existing performance security, valid till warranty period, that would have been submitted as per NIT Clause No 35 (Page 5 of 11). Please confirm.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
5	Tender Notice_1	NIT / 28 (i-a)	3 of 11	Please confirm that BHEL shall release 5% of the civil work payment against site mobilization and not linking it with installation of the T&P mentioned in this clause.  Also kindly note that labour colony shall be constructed as per bidder's standard practice / drawing.	Reg. release of 5% payment against site mobilization: Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.  Reg. labour colony construction: For details please refer "Annexure I: Facility scope Matrix, Labour Colony Site infrastructure etc (guidelines)" enclosed with NIT. <b>However, the contractor shall obtain approval of drawing/ specification of labour colony/ hutment from BHEL/ Customer before establishing it.</b>



Sl No	Reference			Queries	Response from BHEL
	Section	Chapter / Cl. No	Page No.		
6	Tender Notice_1	NIT / 28 (i) (a)	3 of 11	Contractor do not agree to additional BG provisions against mobilization advance of 5% as the payment of 5% will be paid after mobilization and installation, which is not logical.  Further, if BG is provided, a mechanism to reduce the BG against recoveries in bill is to be done by BHEL. Further, when will these BGs be discharged need to be clarified by BHEL.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
7	Tender Notice_1	NIT / 28 (ii)	3 of 11	For the last 10% payment against Civil Work, In case PG test / demonstration test of the cooling tower(s) cannot be completed within one year after completion of commissioning of cooling tower(s), for reasons not attributable to the contractor, BHEL shall release payment towards PG Test / demonstration test of the cooling tower(s) against existing performance security that would have been submitted as per NIT Clause 35 (Page 5 of 11). Please confirm.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
8	Tender Notice_1	NIT / Cl. 35	5 of 11	This is understood to be applicable in case of a composite contract or for E&C package. Please provide PBG validity terms for Supply, Mandatory Spares and Civil packages.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
9	Tender Notice_1	NIT / Cl. 35	5 of 11	Contractor cannot agree to a timeline of 14 days for submission of performance security from issuance of LOA. The timeline of 14 days should be calculated solely from issuance date of Purchase Order.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
10	Tender Notice_1	NIT / Cl. 36	6 of 11 / breach of contract	Bidder disagrees to the provisions under Sub-Cl. 36 (ii) and (iii). Requesting BHEL is same may be omitted from consideration.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
11	Tender Notice_1	NIT / CL. 38	7 of 11	Please clarify whether BOCW Cess is applicable for the subject project. In case same is applicable, please confirm that BOCW Cess, as generally applicable on civil construction scope of work for cooling tower, shall be reimbursed by BHEL as per the guiding principles for BOCW Act and the Cess Act.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
12	Tender Notice_1	NIT / Cl. 51	8 of 11	It is not possible for bidder to assess any unprecedented or unforeseen situation which are non existent at the time of site visit, hence cost consideration for such events is not considered. Hence in case of any circumstance or site related information which was non existent at the time of site visit / bidding stages or not shared along with the tender document, suitable compensation (if applicable at the time of execution) has to be paid to the contractor. Please confirm.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
13	TenderNotice-8 / Annexure-I	3.1.1.a & b	1 of 151	Bidder / Contractor objects to the phrase "as per availability within project premises". BHEL to ensure availability within the premises and within 100-150 meters from the site location.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
NEW (PSER)	TenderNotice-8 / Annexure-I	3.8.1			In clause no. 3.8.1, the term "outside" is deleted. Revised clause stated below: "Availability of land within plant boundary is very limited and the contractor has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erections agencies. BHEL shall provide free of charge limited open space inside the proposed plant boundary for office, storage shed and laydown area as and where made available by Customer. It is the responsibility of the contractor to construct sheds, fabrication yard, establish batching plant, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work."

SI No	Reference			Queries	Response from BHEL
	Section	Chapter / Cl. No	Page No.		
14	TenderNotice-8 / Annexure-I	3.1.2 a	1 of 151	Bidder requests BHEL / Owner to provide land for establishing labour colony by Contractor near plant premises on free of charge basis.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
15	TenderNotice-8 / Annexure-I	3.3.1 (a) / 3.3.2 (a) / 3.3.3 (a)	2 of 151	Please confirm that water shall be made available by M/S BHEL near the IDCT area within the plant premises for construction purposes / drinking purpose @ office, canteen, stores etc. Same has been indicated under Bidder's scope in the Scope Matrix.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
16	TenderNotice-8 / Annexure-I	3.9.1	4 of 151	We request BHEL / Owner to provide space for labour colony on free of charge basis.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
17	TenderNotice-8 / Annexure-I	3.8.1	4 of 151	Bidder / Contractor objects to the phrase "as per availability within project premises". BHEL to ensure availability within the premises and within 100-150 meters from the site location.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
18	TenderNotice-8 / Annexure-I	3.11.1	5 of 151	Bidder understands that open space for fabrication yard or any other construction related activities will be also provided by BHEL / Owner within the plant premises near the cooling tower's location within the plant premises..	Referred clause no. 3.11.1 is related to Construction Power. For Land/ Open Space bidder to refer cl. no. 3.8.
19	TenderNotice-8 / Annexure-I	3.11.1	5 of 151	Bidder requests BHEL to provide construction power at a point near the IDCT & the other near the batching plant area for IDCT. Bidder also requests BHEL to provide the distance of point of connection of construction power from the cooling tower location.	Construction power shall be made available free of cost at 415V level at single point within 500 m from his workplace/ batching plant.
20	TenderNotice-8 / Annexure-I	Scope Matrix / Cl. 3.11	5 of 151	We understand that power for construction works shall be provided free of cost by BHEL. In addition Bidder requests BHEL to provide free power to Bidder's office, store and other establishment inside the plant, except for labour colony (if constructed within the plant).	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
21	TenderNotice-8 / Annexure-I	3.11.1	5 of 151	Bidder requests BHEL to provide the distance of point of connection of construction water from each cooling tower. Also we request BHEL to provide water for drinking purpose for site office / canteen.	Referred clause is related to construction power. However, point of connection of construction water will be provided within 500 m from his workplace.
22	TenderNotice-8 / Annexure-I	3.12	5 of 151	Please confirm that water shall be made available by M/S BHEL near IDCT area within the plant premises for construction purposes / drinking purpose @ office, canteen stores etc.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
23	TenderNotice-8 / Annexure-I	Scope Matrix / Cl. 3.12	5 of 151	We request BHEL to provide free water at one point inside the plant. Since further distribution will have to be done by Bidder, please provide the distance of point of supply from cooling tower site for each IDCT / batching plant location.	Cl. No. 3.12.1 is revised as stated below: "Construction water shall be made available free of cost at a single point within 500m from his workplace."
24	TenderNotice-8 / Annexure-II	Issue of Materials / Cl. 3	7 of 151	Contractor should be entitled to compensations in case of delay in supply of free issue materials/ non-supply of materials by BHEL. This compensation shall apply for both time and price.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
25	TenderNotice-8 / Annexure-II	Issue of Materials Cl. 5	7 of 151	If the non-availability or delay in supply of these items hamper the project critically, the monetary compensation should be allowed. Clause is to be changed by BHEL accordingly.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
26	TenderNotice-8 / Annexure-II	Material Handling, Store and Preservation etc. / Cl. 2.1.5	9 of 151	BHEL should agree to measure and record Rolling Margins on the receiving lots of Steel. This shall help assess the actual wastage percentage. Clause to be updated by BHEL accordingly.	Shall be as per tender. Allowable wastages specified in tender is considering all such incidentals.
27	TenderNotice-8 / Annexure-II	Material Handling, Store and Preservation etc. / Cl. 1	9 of 151	In view of scope of approach road conditions from the stores / yards to the erection/ construction site, Bidder requests BHEL to maintain approach road from time to time, especially during rainy seasons, so that minimum disruption is suffered by PCTL.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.

SI No	Reference			Queries	Response from BHEL
	Section	Chapter / Cl. No	Page No.		
28	TenderNotice-8 / Annexure-II	Material Handling, Storate and Preservation etc. Cl. 3.4.4	11 of 151	PCTL requests BHEL to issue cut-to-length steel in order to save wastage of re-bar.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
29	TenderNotice-8 / Annexure-II	Material Handling, Storate and Preservation etc. Cl. 3.4.4(a)	11 of 151	This 3% shall be comprising of 0.5% invisible wastage and 2.5% visible (returnable) wastage. Kindly confirm the same, otherwise the scrap quantity to be returned to BHEL shall always be less than the actual wastage, resulting in deduction of surpass money on account of wastage. Clause to be updated by BHEL accordingly.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
30	TenderNotice-8 / Annexure - III	T&P List	General / Page 13 of 151 onwards	T&P shall be deployed by us at site as per requirement to suit overall completion period based on our tried and proven standard for RCC / pultruded FRP structured IDCT as being offered by Bidder for the subject project. At the time of start of work, joint MOM may be prepared between BHEL and contractor about T&P to be deployed at site along with their individual quantities & deployment period.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
31	TenderNotice-8 / Annexure - III	T&P List	General / Page 13 of 151 onwards	Many of the T&P items listed may not be applicable. Bidder understands that applicability of the T&P List shall depend on actual requirement of these equipment at site. Please confirm.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
32	Tender Notice_7 / SCC	SCC	General	Following provisions need to be incorporated in SCC / NIT: (a) Timeline for approval of drawing / documents. (b) Provision of Change Order should be incorporated. (c) Provision towards extension of time. (d) Formal Contract Agreement format is required for our review & comments, if any. (e) Order of precedence.	(a) Please follow specification, section 9 (b) of Book 1 of 2 of technical specification. Same is re-iterated as follow: "BHEL / Customer comments on drgs/docs shall be furnished within 14 days of submission date. However, drgs/docs submitted shall be complete in all respects with revised drawing submitted incorporating all comments. Any incomplete drawing submitted shall be treated as non-submission with delays to bidder's account. For any clarification/ discussion required to complete the drawings, the bidder shall himself depute his personal to BHEL for across the table discussions/ finalizations/ submissions of drawings." (b) Bidder to follow tender terms and conditions. (c) Bidder to follow tender terms and conditions. (d) Bidder to follow tender terms and conditions. (e) Already given in GCC BOP.
33	Tender Notice_7 / SCC	Cl. No. 23	4 of 5	The list of Mandatory Spares shall be finalized at least 1 year before delivery timeline of Supply activities (i.e. 20 months from LOA)	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.

Sl No	Reference			Queries	Response from BHEL
	Section	Chapter / Cl. No	Page No.		
34	Tender Notice_9	Price Adjustment - PVC	2-5 of 114	<p>Price Adjustment Clause / PVC should be applicable for entire duration of contract period, as accepted by BHEL in their recent tenders. Please confirm.</p> <p>In case of delays for reasons not solely attributable to the bidder / contractor, L3 schedule shall be revised and PVC needs to be calculated and paid based on revised L3 schedule. Please confirm.</p> <p>We request BHEL to increase the PVC capping from 10% to 15% (or as agreed between BHEL and NTPC in its separate contract, if same is more than 15%/ having no capping)</p> <p>In case of negative price variation, payable amount to be restricted to ZERO. Please confirm.</p> <p>Price Adjustment Formula for Supply and Mandatory Spares should not be limited to Plastic, Steel, Electrical Equipment and Labour components only. Bidder / Contractor should be allowed to furnish the list along with assigned co-efficients for items on which PVC should be applicable. This requirement of Bidder is in line with standard NTPC tender norms.</p> <p>It is understood that "If the works are executed in an x month, then indices pertaining to that particular x month shall be considered (subscript 1) for calculation irrespective of the month the work has to be completed as per L3 schedule.</p>	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
35	Tender Notice -9 / Corrigendum-1 to GCC	Point no. 1	27 of 114	We do not agree to any further damages beyond the LD cappings. LD shall be the only mechanism for compensating BHEL for delay events attributable to Contractor. Clause to be updated accordingly.	<b>BOP to reply</b>
36	Tender Notice -9 / Corrigendum-1 to GCC	Point no. 5	28 of 114	Contractor do not agree to deletion of the original provision. It needs to be changed, i.e. "Stands Deleted" to be striked off.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
37	Tender Notice - 9 / GCC	Definition of Terms Cl. 11, Cl. 12, Cl. 20 and Cl. 23	31 of 114	<p>Under Definition of Commissioning, Trial Run, Performance Guarantee Test and Handing over, Initial Operation has not been defined anywhere.</p> <p>In relation to completion of Commissioning, Trial Operation &amp; PG Test, (+ subsequent Handing Over) and overall health of Cooling Tower in absence of continuous water charging, we state that timely providing all necessary inputs from BHEL of utmost importance. We seek confirmation on this.</p>	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
38	Tender Notice - 9 / GCC	ITB General Instructions Cl. 1.6 / Framework Agreement	35 of 114	BHEL shall have to enter into a formal Contract Agreement (maybe framework only) once the PO is issued.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
39	Tender Notice - 9 / GCC	GCC Cl. 6.0 / Variation of contract value	52 of 114	We request BHEL to add a capping of 20% on this, instead of keeping it open.	Refer clause no. 24 of NIT. Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
40	Tender Notice - 9 / GCC	GCC Cl. 9.0 / Terms of Payment	53 of 114	We understand that the Terms of Payment shall be guided by the NIT document and the GCC provisions shall be applied only if there are some gaps in NIT provisions.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.

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41	Tender Notice - 9 / GCC	GCC Cl. 9.6.5 / Claiming the Retention Payment	57 of 114	Retention money should be released immediately, if BHEL is unable to provide fronts/inputs for Commissioning/Trial Run/PG Test/Handing Over etc. within 30 days from physical work completion by Contractor.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
42	Tender Notice - 9 / GCC	GCC Cl. 9.5 / Release of Payment	56 of 114	The payment timeline of 60 days is to be reduced to 30 days.	Refer clause no. 28 of NIT. Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
43	Tender Notice - 9 / GCC	GCC Cl. 9.10 / Interest on Delayed Payment	58 of 114	It has been observed that BHEL is not able to meet payment timelines often and majorly delays all payments in most of the projects. Hence, this provision cannot be accepted. A interest @ SBI PLR + 2% admin. We request BHEL to agree to charges for all delayed payments.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
44	Tender Notice - 9 / GCC	GCC Cl. 10 / Recovery of Outstanding Payment of Other Contracts	58 of 114	Contractor doesn't agree to adjustment of recoveries from any other contract against this contract.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
45	Tender Notice - 9 / GCC	GCC Cl. 11.3 / Validity of CPBG	59 of 114	Guarantee period shall start from completion of physical works (excluding commissioning, trial run, PG Test and handing over) by Contractor if BHEL is unable to provide necessary inputs timely.  Further, "whichever is later" is to be changed to "whichever if earlier" as the Handing over of the project may get delayed if commissioning inputs are not made available by BHEL.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
46	Tender Notice - 9 / GCC	GCC Cl. 12.1 / Guarantee Period	60 of 114	Guarantee period shall start from completion of physical works (excluding commissioning, trial run, PG Test and handing over) by Contractor, in the event BHEL is not able to provide commissioning/ trial run/ PG Test related inputs.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
47	Tender Notice - 9 / GCC	GCC Cl. 30.1 / Force Majeure	70 of 114	Inclusive nature shall not be applied to Force Majeure clause; this shall be exhaustive. BHEL to replace "including but not limited to" with "i.e."	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
48	Tender Notice - 9 / GCC	GCC BOP - GCTC / Clause No 33.2	71 of 114	Arbitration should be by joint arbitration procedure as per Arbitration & Conciliation Act, 1996 and as amended thereafter. The arbitration shall be conducted by a tribunal of three arbitrators, each party shall appoint one arbitrator, and the two arbitrators so appointed shall appoint the third arbitrator who shall act as the presiding arbitrator. If the two arbitrators fail to agree on the name of the presiding arbitrator, then appointment shall be made as per the provisions of Section 11 of the Arbitration & Conciliation Act, 1996 read with all its subsequent amendments up-to-date. Please confirm	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
49	Tender Notice - 9 / GCC	GCC BOP - GCTC / Clause No 39	73 of 114	The period of 3 years shall be reduced to 1 year.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
50	Tender Notice - 9 / GCC	GCC Cl. 44.i / ORC Charges	76 of 114	ORC Charges capping to be increased to at least 7.5% of the contract value limited to 15 lacs per months. Current cap of 1% of contract value limited to Rs. 1,00,000 /- per month is insufficient and doesn't appear practical.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
51	Tender Notice - 9 / GCC	GCC Cl. 45 / PVC Clause	76 of 114	We understand the the Annexure named "PRICE ADJUSTMENT-PVC payment terms and conditions" (Tendernotice 9) is the only document for PVC calculations as per NIT. Please furnish annexure / attachment if any in standard BHEL format as in other tenders, if applicable.	Bidder to follow tender terms and conditions. There is no change in tender terms & conditions.
52	EMD / BG format	-	-	Please furnish the bank guarantee format for furnishing Bank Guarantee towards Earnest Money Deposit.	Already given in other documents along with NIT.

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TECHNICAL					
53	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Scope of Supply and services / Clause 16.3	7 of 223	Bidder confirms to include Supply of first fill of lubricants for all equipment under this package under our scope. Since commissioning of cooling tower is dependent on process readiness and hence is beyond bidder / contractor's control, Bidder takes exception in including the scope of second fill/ replenishment of chemicals as necessary after mechanical completion of cooling tower.	Please follow tender specification.
54	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Scope of Supply and services / Clause 18.2	7 of 223	Provision for installing BHEL supplied VMS sensor / probes shall be available in our gear box. However, as per standard practice, vibration pad is a part of scope of supply of VMS sensor / probes supplier only. Please note and confirm.	Bidder to follow tender specification.
55	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Scope of Supply and services / Clause 18.2	7 of 223	Scope demarcation of cable trays for VMS is not clear. Since all of VMS equipment and instruments shall be under BHEL's supply scope, we understand that the entire run of cables and cable trays from plant DCS upto cooling tower VMS equipment end shall be furnished by BHEL only. Please confirm.	Technical Specification is clear in this regard.
56	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Approved Sub-Vendor List / Sl. No. 38	169 of 223	M/s ABB's name is enlisted as an approved vendor for FF Temperature transmitter in the approved sub vendor list . Please note that M/s ABB has Non invasive Profibus type temperature transmitter, where the non invasive temperature measurement is not at all proven and hence not at all recommended for gear box lube oil temperature measurement. In this regard, please confirm acceptance of Bidder's proposed Sub-Vendors as M/s SMAR and M/s Baldota as approved make of Profibus type Temperature transmitters with dual input and display unit, for the concerned instrumentation equipment.	Bidder to follow tender specification. Further, approval of additional sub-vendors shall be taken up during detailed engineering and shall be subject to customer approval.
57	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Scope of Supply and services / Clause 47.2	15 of 223	Please confirm that Bidder's scope of instruments for the subject project is limited to the instruments mentioned in Clause No 47.4 only. No other field instruments is in Bidder's scope.	Instruments mentioned at cl no 47.4 are minimum requirement. Bidder has to supply any other instrument required as per contract and as per system requirement for smooth and troublefree operation of IDCT.
58	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Scope of Supply and services / Clause 47.5	15 of 223	All instruments for PG testing in line with specification / CTI test code ATC-105, as applicable, shall be supplied on returnable basis and will remain testing agency's property. PG test instruments will be taken back by the testing agency after completion of the PG tests. No new PG test instruments need to be supplied by bidder. Please confirm acceptance.	Scope of instruments for PG test shall be as per CT PG Test Procedure.
59	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Clause No 51.4	17 of 223	This clause needs to be suitably amended since Structural steel is not a free issue items in case of the subject tender.	Noted. Structural steel to be considered as deleted from cl. No. 51.4.
60	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Technical Data - Part A (Mechanical) SI No 2.17	19 of 223	Minimum elevation of hot water distribution duct w.r.t. Basin Curb Level shall be left to the bidder to decide / optimise. Moreover, the mentioned value is not practical for a counter flow cooling tower offered with trickle grid type fill. Kindly review and confirm.	Noted. Following clauses of TECHNICAL DATA - PART - A (MECHANICAL), Page 19 of 223 is changed as below <b>2.16</b> Maximum CW Pumping head permissible, viz. static head plus frictional losses as below: <b>14 MWC</b> - Static head w.r.t. FGL - Frictional losses within bidder's T.P. with 10% margin <b>2.17</b> Minimum elevation of top of water level in hot water distribution duct with respect to Basin curb level : <b>12 MWC</b>
61	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Technical Data - Part A (Mechanical) SI No 4.2.2	20 of 223	Casing in case of pultruded FRP structured cooling tower option shall be corrugated FRP.	Noted. However, same shall be subject to NTPC acceptance during detailed engineering.

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62	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Technical Data - Part A (Mechanical) SI No 4.2.3	20 of 223	Cell partition wall shall be corrugated FRP for FRP structured cooling tower.	Noted. However, same shall be subject to NTPC acceptance during detailed engineering.
63	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Technical Data - Part A (Mechanical) SI No 4.2.5	20 of 223	In case of pultruded FRP structured cooling tower option, fan cylinder / recovery stack shall be of moulded FRP / GRP. Same in pultruded FRP is not feasible.	Noted. However, same shall be subject to NTPC acceptance during detailed engineering.
64	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Sub-Section A-15 / Clause No 4.08	29 of 223	Bidder recommends to offer self-manufactured 3-pass cellular type drift eliminators designed to limit drift loss to maximum 0.001% of the circulating water flow. Please confirm.	Bidder to follow specification.
65	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Clause no. 2.12 / Specifications of Junction Box	47 of 223	(i) We understand that FRP Junction box as per subject clause specification is applicable for Level Switch, Gear Box TT and Butterfly Valve limit switch open/close signal. Please confirm. (ii) Also, please confirm whether temperature transmitters need to be of Profibus type. In case Profibus type Temperature transmitters have to be considered, Bidder needs to consider Profibus type Junction boxes in scope, technical specification and approved sub vendor list for which are not available in the specifications.. Kindly furnish the same.	Bidder to follow tender specification.
66	Technical Specification No. PE-TS-520-165-W001 (Tender Notice 2)	Aproved Sub-Vendor List	169 of 223	Referred clause does not have any approved make list for Float type level switch. Kindly note that same will be self-manufactured item for Bidder.	Make of insputments / equipments not mentioned in technical specification shall be finalized during detailed engineering and shall be subject to customer approval.
67	Technical Specification No. PE-TS-508-165-W001 (Tender Notice 3)	Technical Specification 10.3	7 of 339	With respect to water proofing of structures, detailed specification & list of approved manufacturer is required.	Detailed specification is already attached. Bidder to follow specification. List of approved manufacturers shall be finalized during detailed engineering and shall be subject to NTPC apporval.
68	Technical Specification No. PE-TS-508-165-W001 (Tender Notice 3)	Technical Specification 10.4	7 of 339	Cooling tower cold water basin inside surfaces are generally not plastered. This may also result in increased dampness in the inside surfaces being plastered. Hence, as per standard insdustrial practice, the clause stating requirment of plastering on inner walls of basin should be deleted. Please confirm.	Bidder to comply with tender specification requirement
69	Technical Specification No. PE-TS-508-165-W001 (Tender Notice 3)	INSET NOTE / k)Coating	60 of 339	Subject clause specifies 'Annexure-III' & 'Annexure-G' for Polyurethane coating & moisture compatible corrosion resisting coating. These Annexure are not provided in the tender specification. Kindly provide the same.	Refer page 338-339 of Book 2 of 2 of technical specification and relevant clauses for IDCT.
70	Technical Specification No. PE-DC-520-IDCT Vol II B (Tender Notice 4)	Plot Plan	19 of 44	<u>Kindly confirm the following w.r.t the plot plan drawing as furnished :</u> i. Bidder requests BHEL to shift the structures marked as ETP, IDCT MCC buildings, pipe racks etc. appearing along one of the longitudinal sides of the cooling tower further away, so that unwanted blocking on the air entry side of the proposed cooling tower is avoided. Also, there needs to be adequate space around the cooling tower structure for laying of foundation and RCC basin along with HW return header piping.  ii. We have noted that 260 M x 40 M space has been provided for cooling tower location. However, based on layout, please confirm the maximum length upto which the tower may be extended within allowable limits.  iii. Please confirm that the dotted "RAW WATER LINE" and "STORAGE AREA FOR REJECT COAL BOULDER" intercepting the IDCT area shall be relocated by BHEL suitably before handing of clear encumbrance-free cooling tower site to Contractor.	i. Refer reply to the query mentioned at sl. No. 77. ii. Cooling tower can be extended up to allowable limits as per tender specification. iii. Clear space will be provided upto allowable limits as per tender specification.

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71	Technical Specification No. PE-DC-520-IDCT Vol II B (Tender Notice 4)	3.01.01 / Annexure A	1 of 44	This stipulation is not acceptable to Bidder. BHEL / Owner should take responsibility for the correctness of the geo-technical investigation report provided along with tender. Onus of correct assessment / interpretation and understanding of provided geo-technical investigation report / bore log data is Bidder's responsibility but the correctness of the data given by BHEL / Owner as part of the tender document has to be ensured by BHEL / Owner only. Any price &/or time implication due to change in the actual soil profile, if encountered by Bidder / Contractor during execution stage, should be borne by BHEL / Owner. Please confirm.	Bidder to follow technical specification.
72	Technical Specification No. PE-TS-508-165-W001 (Tender Notice 3)	General	-	We understand that the correctness of the geo-technical investigation report is the responsibility of BHEL / Owner. Nature of soil, type of foundation, soil bearing capacity, sub-soil water, etc. should be considered by Bidder for estimation purpose based on available geo-technical investigation report only. However, any price &/or time implication due to change in the actual soil profile, if encountered by Bidder / Contractor during execution stage, should be borne by BHEL / Owner. Please confirm.	Bidder to follow technical specification.
73	Technical Specification No. PE-TS-508-165-W001 (Tender Notice 3)	General	-	Available soil report is still under review. Queries on same, if any, shall be raised by Bidder separately in due course of time.	Bidder to follow technical specification.
74	Technical Specification No. PE-DC-520-IDCT Vol II B (Tender Notice 4)	General	--	Please confirm that dismantling & disposal / re-routing (as applicable) of existing over-ground as well as underground facilities, if applicable within Bidder's scope limit, is BHEL's responsibility prior to handing over of the cooling tower site to Bidder / Contractor.	Dismantling & disposal of existing over-ground as well as underground facilities coming within IDCT area( if applicable) will be in Bidder's scope.  Further, Earth work in stripping of top soil upto a maximum depth of 0.30 m below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials all complete shall be in bidders scope.
75	Technical Specification No. PE-DC-520-IDCT Vol II B (Tender Notice 4)	General	--	Kindly furnish the contour drawing for our study.	Detailed topographical survey drg is already provided in tender specification .
76	Technical Specification No. PE-DC-520-IDCT Vol II B (Tender Notice 3)	General	-	Regarding requirement of Painting for Cooling Tower, kindly elaborate the painting requirements of the following areas and furnish specifications if any : (a) Cooling Tower surface in contact with earth (b) Inside of Basin (c) Inside of Superstructure in case of RCC tower model (d) Outside of Basin (e) Outside of Superstructure in case of RCC tower model	Refer page 338-339 of Book 2 of 2 of technical specification and relevant clauses for IDCT.
Additional query received through mail dated 23.12.2024					



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77				In addition, as discussed during the pre-bid meeting, in continuation of our pre-bid query SI No 70 dated 17-12-2024, based on our experience we suggest that the distance between the outer edges of the subject Cooling Tower structure and the Effluent Treatment Plant building / structure (as shown in the layout located on one of the longitudinal air inlet faces of the subject cooling tower) must be maintained as minimum 50% of the length of the cooling tower to ensure optimum performance of the cooling tower. Moreover, we recommend that the edges of the ETP building / structure and the subject Cooling Tower structure should be kept as much staggered as possible w.r.t. each other within the available layout to achieve the desired optimised cooling tower performance.	ETP space as indicated in the plot plan is combination of various buildings/facilities. However, clear space of 40M shall be provided from cooling tower as per standard practice.