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Organisation Chain :	Bharat Heavy Electricals Limited PEM - Noida Core Material Management Common PG				
Tender ID :	2024_BHEL_36079_1				
Tender Ref No :	PE/PG/SIR/E-7516/2024				
Tender Title :	COOLING TOWER - Natural Draft Cooling Towers (NDCT)				
Corrigendum Type :	Other				
Corrigendum Document Details					
Corr.No.	Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
1	PRE-BID MEETING SCHEDULE and TECHNICAL AMENDMENT 01	PRE-BID MEETING SCHEDULE and TECHNICAL AMENDMENT 01	27-May-2024 11:13 AM	Corrigendum01NDCTSingrauli.pdf 	1323.29



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-27-May-24

CORRIGENDUM- 01

PROJECTs	:	2 X 800 MW NTPC SINGRAULI TPP
PACKAGE	:	COOLING TOWER - Natural Draft Cooling Towers (NDCT)
Enquiry No.	:	PE/PG/SIR/E-7516/2024 dated 18.05.2024
SUBJECT	:	PRE-BID MEETING SCHEDULE & TECHNICAL AMENDMENT 01

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

Pre-Bid Meeting through MS Teams for subject package & projects is schedule on 28.05.2024 @02:00 PM.

Details of meeting is as below-

[Join the meeting now](#)

Meeting ID: 466 379 796 314
Passcode: sqH7m5

Bidders are requested to join the meeting for pre-bid clarification (if any) so that submission of offer can be done timely and extension due to pre-bid clarification can be avoided.


Further Technical amendment 01 is also being issued and enclosed.

All the other 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

	TECHNICAL SPECIFICATIONS FOR NATURAL DRAFT COOLING TOWER (NDCT)	SPECN. NO.: PE-TS-512-165-W001			
	AMENDMENT NO. 1	REV. NO.	0	DATE:	24.05.2024

2 X 800 MW NTPC SINGRAULI TPP Stage-III
TECHNICAL SPECIFICATIONS FOR NATURAL DRAFT COOLING TOWER (NDCT)
AMENDMENT NO. 1

1.0	With reference to the Technical Specification, please consider the Specification amended as below:	
S.No.	Details in Technical Specification	Amendment in Technical Specification
1.1	Form of deed of joint undertaking (DJU), page no 211 to 215 of 216 of NDCT Book 1 of 2	Revised form (five pages) of deed of joint undertaking (DJU) attached.
1.2	SOIL DATA AND FOUNDATION SYSTEM for Cooling Tower Page no. 107 of 317 of NDCT Book 2 of 2 (pdf book).	Refer revised Page no. 107 of 317 for SOIL DATA AND FOUNDATION SYSTEM for Cooling Tower#1 and Cooling Tower#2

FORM OF DEED OF JOINT UNDERTAKING
(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

DEED OF JOINT UNDERTAKING TO BE EXECUTED BY THE
COLLABORATOR/ ASSOCIATE ALONG WITH THE CONTRACTOR AND IT'S SUB-
VENDOR (IF APPLICABLE) FOR EXECUTION & PERFORMANCE OF NATURAL
DRAUGHT COOLING TOWER (NDCT) UNDER EPC PACKAGE FOR SINGRAULI STPP
STAGE-III (2X800 MW) AS PER CLAUSE 4.3.2, SUBSECTION I-A, PART-A, SECTION-VI
(TECHNICAL SPECIFICATION) OF BIDDING DOCUMENTS

This DEED of JOINT UNDERTAKING executed this..... day ofTwo thousand by M/sa Company incorporated under having its Registered Office at (hereinafter called the "Collaborator"/ "Associate", which expression shall include its successors, administrators, executors and permitted assigns) and M/s..... a company registered under the having its registered office at (hereinafter called the Contractor's Sub-vendor for NDCT, which expression shall include its successors, administrators, executors and permitted assigns) and M/s..... a company registered under the having its registered office at (hereinafter called the Contractor, which expression shall include its successors, administrators, executors and permitted assigns) in favor of NTPC Limited, having its Registered Office at NTPC Bhawan, Scope Complex, 7, Institutional Area, Lodhi Road, New Delhi-110003 INDIA (hereinafter called the "Employer" which expression shall include its successors, administrators, executors and assigns).

WHEREAS, the Employer having awarded to M/s[Contractor]....., a Contract by issue of Employer's Notifications of Award No. CS-1150-001 (R) -2-FC-NOA-7407 for First Contract, CS-1150-001 (R) -2-SC-NOA-7408 for second contract and CS-1150-001 (R) -2-TC-NOA-7409 for third contract all dated 05.03.2024 and the same having been unequivocally accepted by the Contractor, resulting into the Contract for EPC Package for SINGRAULI STPP STAGE-III (2x800MW).

AND WHEREAS the EPC Package for SINGRAULI STPP STAGE-III (2x800MW) includes design, supply, construction, testing and commissioning (including trial operation and Performance Guarantee tests) of the Natural Draught Cooling Tower (NDCT).

AND WHEREAS Clause 4.3.2 of Sub-Section-IA, Part-A, Section-VI of Bidding Document stipulates that Contractor/ Contractor's Sub-Vendor, if do not meet the requirements stipulated in Clause 4.3.1 of Sub-Section-IA, Part-A, Section-VI of the Bidding Documents should collaborate/ associate with a firm who in turn fully meets the stipulated requirements as per Clause 4.3.1 provided the Contractor/ Contractor's sub-vendor has executed projects involving RCC works of tall structures of minimum height of 100m using slip/jump form shuttering.

AND WHEREAS M/s.....(Contractor) himself does not meet the requirements of clause no. 4.3.1 of Sub-Section-IA, Part-A, Section-VI of Bidding Documents and has engaged M/s (Contractor's Sub-vendor) for the design, supply, construction, testing and commissioning (including trial operation and Performance & Guarantee tests) of the Natural Draught Cooling Tower.

AND WHEREAS M/s..... (Contractor's Sub-vendor) also does not meet the requirements of clause no. 4.3.1 of Sub-Section-IA, Part-A, Section-VI of Bidding Documents but has executed projects involving RCC works of tall structures of minimum height of 100m using slip/jump form shuttering and hence desires to Collaborate/Associate with M/s..... (Collaborator/Associate) who has designed, constructed and commissioned at least one(1) number Natural Draught Cooling Tower in RCC Construction of capacity not less than 30,000 m3/hr which has been in successful operation for at least one(1) year as on date of issue of NOA of EPC package by the Employer to the Contractor and the Contractor, Contractor's sub-vendor and the Collaborator/Associate are required to jointly execute and furnish at the time of placement of order, by the Contractor on its Sub- vendor (duly approved by the Employer), an irrevocable Deed of Joint Undertaking in favor of the Employer that they shall be held jointly and severally responsible and bound unto the Employer for successful execution & performance of the Natural Draught Cooling Tower to be designed, supplied, constructed and commissioned under the EPC Package for SINGRAULI STPP STAGE-III (2x800MW) fully meeting the parameters guaranteed as per the Contract.

NOW THEREFORE, THIS UNDERTAKING WITNESSETH AS UNDER:

1. That in consideration of the Award of the Contract by the Employer to the Contractor, we, the Contractor, Contractor's Sub-vendor and Collaborator/Associate, do hereby declare and undertake that we shall be jointly and severally responsible to the Employer for the successful execution & performance of the Natural Draught Cooling Tower under the aforesaid contract.
2. In case of any breach of the Contract committed by the Contractor for the scope related to the NDCT under the aforesaid contract, we, the Contractor's Sub-vendor and Collaborator/Associate, do hereby undertake, declare and confirm that we shall be fully responsible for the successful design, supply, construction, commissioning, testing and performance of the Natural Draught Cooling Tower and undertake to carry out all the obligations and responsibilities under the contract in order to discharge the Contractor's obligations and responsibilities stipulated in the Contract for the scope related to the NDCT. Further if the Employer sustains any loss or damage on account of any breach of the Contract by the Contractor for the scope related to the NDCT, we, the Contractor's Sub-vendor and Collaborator/Associate jointly and severally undertake to promptly indemnify and pay such losses/damages caused to the Employer on its written demand without any demur, reservation, contest or protest in any manner whatsoever.

This is without prejudice to any rights of the Employer against the Contractor under the Contract and/or guarantees. It shall not be necessary or obligatory for the Employer to first proceed against the Contractor before proceeding against the Contractor's Sub-

vendor and/or Collaborator/Associate, nor any extension of time or any relaxation given by the Employer to the Contractor would prejudice any rights of the Employer under this Deed of Joint Undertaking to proceed against the Contractor's Sub-vendor and/or Collaborator/ Associate.

3. Without prejudice to the generality of the above undertaking, the manner of achieving the objectives set forth above shall be as follows:

- (a) The Contractor's Sub-vendor and Collaborator/Associate will jointly and severally be responsible for design, supply, construction and commissioning (including carrying out the performance guarantee tests as well as meeting all stipulated technical requirements and guaranteed parameters) for Natural Draught Cooling Tower(s) to the satisfaction of the Employer.

Further, the Collaborator/Associate shall depute their technical experts from time to time to the Contractor's/ Contractor's Sub-vendor's works/ Employer's project site as required by Employer to facilitate the successful execution and performance of the Natural Draught Cooling Tower(s) as stipulated in the aforesaid Contract.

Further the Collaborator/Associate shall ensure proper design, supply, construction, commissioning and successful performance of the Natural Draught Cooling Tower(s) in accordance with the specifications and stipulations of the Contract and if necessary, the Collaborator/Associate shall advise the Contractor/ Contractor's Sub-vendor suitable modifications of design and implement necessary corrective measures to discharge the obligations under the Contract.

- (b) In the event of failure of demonstration of successful performance of the Natural Draught Cooling Tower(s) as set forth above, the Collaborator/Associate, Contractor's Sub-vendor and the Contractor shall promptly carry out all the measures at their own expense and shall promptly provide corrected designs to the Employer.

- (c) Implementation of the corrected designs and all other necessary repairs, replacements, rectifications or modifications to the Natural Draught Cooling Tower and payments of financial liabilities, penalties and fulfillment of all other obligations as provided under the Contract shall be the joint and several responsibilities of the Contractor, Contractor's Sub-vendor and Collaborator/Associate.

4. We, the Contractor/ Contractor's Sub-vendor and Collaborator/Associate do hereby undertake and confirm that this Undertaking shall be irrevocable and shall not be revoked till the expiry of defect liability period of the EPC contract for SINGRAULI STPP STAGE-III (2x800MW) awarded by the Employer on the Contractor and further stipulate that the Undertaking herein contained shall terminate after satisfactory completion of such defect liability period. In case of delay in completion of defect liability period, the validity of this Deed of Joint Undertaking shall be extended by such period of delay. We further agree that this undertaking shall be without any prejudice

to the various liabilities of the Contractor, including the Contract Performance Security as well as other obligations of the Contractor in terms of the Contract.

5. The Contractor, Contractor's Sub-vendor and Collaborator/Associate will be fully responsible for the quality of all equipment/ main assemblies/ components manufactured at their works or at their Vendor's works or fabricated/constructed at site, and their repairs or replacement, if necessary, for incorporation in the Natural Draught Cooling Tower and timely delivery thereof to meet the work schedule under the Contract.
6. In addition to the Contract Performance Security furnished by the Contractor, the Contractor's Sub-vendor and Collaborator/Associate shall each furnish "as Security" an on-demand Performance Bank Guarantee in favor of the Employer in a form acceptable to Employer as per provisions of the Bidding Documents. The value of each such Bank Guarantee shall be INR 65 million (Rupees Sixty-five million only) and it shall be guarantees towards the faithful performance/ compliance of this Deed of Joint Undertaking in accordance with the terms and conditions specified herein. The Bank Guarantees shall be unconditional, irrevocable and valid for ninety (90) days beyond the end of the Defect Liability period of the EPC Contract. In case of delay in completion of the defect liability period, the validity of this Bank Guarantee shall be extended by the period of such delay. The Bank Guarantee amount shall be promptly paid to the Employer on demand without any demur, reservation, protest or contest.
7. Any dispute that may arise in connection with this Deed of Joint Undertaking shall be settled as per the 'Settlement of Dispute' clause mentioned in the aforesaid Contract. This Deed of Undertaking shall be construed and interpreted in accordance with the Laws of India and the Courts of Delhi shall have exclusive jurisdiction.
8. We, the Contractor, Contractor's Sub-vendor, and Collaborator/Associate, agree that this Undertaking shall be irrevocable and shall form an integral part of the EPC contract for SINGRAULI STPP STAGE-III (2x800MW).
9. That this Deed shall be operative from (day of signing of this deed).

IN WITNESS WHEREOF, the Contractor, Contractor's Sub-vendor and Collaborator/Associate, through their authorized representatives, have executed these present and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

FOR M/S
(COLLABORATOR/ASSOCIATE)

WITNESS:

1.
(SIGNATURES)

.....
(SIGNATURE OF THE AUTHORISED
REPRESENTATIVE)

.....

NAME:

(NAME & OFFICIAL ADDRESS)

DESIGNATION :

COMMON SEAL OF THE COMPANY

.....

FOR ~~M/S~~.....

(CONTRACTOR'S SUB-VENDOR)

WITNESS:

1.

(SIGNATURES)

.....

(SIGNATURE OF THE AUTHORISED

REPRESENTATIVE)

.....

(NAME & OFFICIAL ADDRESS)

NAME :

DESIGNATION :

COMMON SEAL OF THE COMPANY

FOR M/S.....

(CONTRACTOR)

WITNESS:

1.

(SIGNATURES)

.....

(SIGNATURE OF THE AUTHORISED

REPRESENTATIVE)

.....

(NAME & OFFICIAL ADDRESS)

NAME :

DESIGNATION :

COMMON SEAL OF THE COMPANY

Note : * Contractor/Contractor's Sub-vendor and his Collaborator/Associate to strike out whichever is not applicable.

** Copy of priced purchase order for the equipment shall be furnished by Contractor.

TECHNICAL REQUIREMENTS



Annexure-C

SOIL DATA AND FOUNDATION SYSTEM

Employer has carried out geotechnical investigation in the proposed area. Logs of boreholes of proposed area are enclosed with this Annexure.

- a) The minimum founding level and the corresponding net allowable bearing pressure shall be as given in Table – 1 below.

Table-1

In case of foundation stratum is soil

Structure	Depth of Foundation	Net Allowable Bearing Capacity (t/sqm)		
		S=25mm	S=40mm	S=75mm
		Width upto 6m		Width>6m
Transformer yard U#2, Main Powerhouse U#2, Boiler and Mill U#2, ESP U#2, SWAS U#1&2, FGD area U#2, ID Fan U#2 (BH6-11, 17-21, 33-38, 47, 48, DBH 69, 70, 75, 76, 81-85, 98-103, 105-107, 109, 112,138-141)	1.0m below NGL	-	4	4
	2.0m below NGL	-	4	4
	3.0m below NGL	-	5	5
	4.0m below NGL	-	6	6
	5.0m below NGL	12	14	18
	6.0m below NGL	20	22	22
	7.0m below NGL	30	30	30
	7.5m below NGL	35	35	35
	8.0m or more than 8.0m below NGL	40	40	40
Transformer yard U#1, Main powerhouse U#1, Boiler and Mill U#1, ESP U#1 FGD U#1 (BH1-5, 13-16, 22-32, 39-44, 85, 86, DBH3, 4, 59, 71-74, 78-80, 86-95, 108, 110, 111, 116-121)	1.0m below NGL	-	6	6
	2.0m below NGL	10	12	12
	3.0m below NGL	12	15	18
	4.0m below NGL	20	25	25
	5.0m below NGL	25	30	30
	6.0m below NGL	35	35	35
	6.5m or more than 6.5m below NGL	40	40	40
Ash Silo (DBH128, BH89)	1.0m below NGL	-	15	15
	2.0m below NGL	-	25	25
	3.0m below NGL	-	35	35
	4.0m or more than 4.0m below NGL	-	40	40
Cooling Tower #1	1.0m below NGL	-	6	6
	2.0m below NGL	-	6	6
	3-4 m below NGL	-	7	7
	5.0m below NGL	-	12	16
	6.0m below NGL	-	15	20
	7.0m below NGL	-	35	35
	8.0m or more than 8.0m below NGL	-	40	40
Cooling Tower #2	2.0m below NGL	-	7	8
	3.0m below NGL	-	8	10
	4.0m below NGL	-	12	12
	5.0m below NGL	-	13	14
	6.0m below NGL	-	14	18
	7.0m below NGL	-	30	30
	8.0m or more than	-	35	35

SINGARAUli STPP
STAGE-III (2X800MW)
EPC PACKAGE

TECHNICAL SPECIFICATION
SECTION-VI, PART-B
BID DOC. NO:

SUB-SECTION
CIVIL WORKS
FOUNDATION SYSTEM

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