



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN – 05

Ref: PSER:SCT:KGN-C2101:TCN-05

Date: 20-04-2021

Sub	Tender Change Notice (TCN) - 05	
Job	CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6(1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.	
Ref	1.0	Tender no PSER:SCT:KGN-C2101:21
	2.0	BHEL's NIT, vide reference no PSER:SCT:KGN-C2101:8563 Date: 27-03-2021
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:KGN-C2101:TCN-01 Date: 05-04-2021
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:KGN-C2101:TCN-02 Date: 09-04-2021
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:KGN-C2101:TCN-03 Date: 16-04-2021
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:KGN-C2101:TCN-04 Date: 20-04-2021
	7.0	All other pertinent issues till date.

With reference to above, following points/ documents, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 The clarifications to bidder's queries are attached as **Annexure-A** to this TCN-05
- 2.0 Introduction of Bore Log Data Sheet to VOL-IF-TCC, are attached for tender purpose only.
- 3.0 Introduction of Drawing- Layout of FGD system (drawing no. 0-FW-000-02363, REV R03) to VOL-IF-TCC, is attached for tender purpose only.
- 4.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder shall submit no deviation certificate as per enclosed format only.
- 5.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

DY. MGR (SCT)

Encl : As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211691, 23211798, 23211796

CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6(1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.			
Tender no: PSER:SCT:KGN-C2101:21 TCN-05 (ANNEXURE-A)			
Sl. Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
1 Sl no. 9 under Amendment to GCC/SCC, ANNEXURE-A NOTICE INVITING TENDER	Clause no. 2.8.3, 2.8.4 and 2.8.5 of GCC shall be read as below: Clause no. 2.8.3: The contractor shall comply with all applicable State and Central Laws, Statutory Rules, Regulations, Notifications, etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employers Provident Act, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act, 1970-----	Rates quoted in the tender are on the basis of State Minimum wages where the work is being executed.	Tender clause are self-explanatory in this regard. All bidders are requested to visit site and acquire information regarding the minimum wages condition.
2 Clause No. 18 NOTICE INVITING TENDER	BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno-commercially qualified bidders.....	Reverse Auction (RA) should not be applicable	SHALL REMAIN AS PER TENDER
3 Sl no. 14 under Amendment to GCC/SCC, ANNEXURE-A NOTICE INVITING TENDER	Existing Clause 2.21 "ARBITRATION" of GCC has been amended as follows: 2.21 ARBITRATION & CONCILIATION 2.21.1 ARBITRATION: Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 2.21.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English.....	As per the latest honorable Supreme Court Judgement QUOTE: "A Party interested in the outcome of the award loses the right to appoint the Arbitrator" In view of the above it is suggested that we may select a neutral Arbitrator through IITArb (Indian Institute of Technical Arbitrators) or ICA (Indian Council of Arbitration) or through court.	Existing Tender clause remains unchanged.
4 Clause No. 3.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	SCOPE OF WORK 3.1 The work to be done under this specification comprises of construction of 02 nos. 180 M height & 03 nos 150M height RCC Single Flue Chimney complete in all respect excluding pile but including pile breaking, pilecap works, Chimney RCC wind shield, fabrication & erection of steel flue cans, installation of Borosilicate Glass Block Lining on Inner Surface of Steel Flue Can, erection of shop fabricated structural platforms, installation of electrical items in conformity with the approved layout etc to complete the chimney in all respect.....	Scope of bidder should be as per BOQ items	SHALL REMAIN AS PER TENDER. BIDDER'S ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
5 Clause No. 14.1.3 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	The bidder will have to..... The contractor shall also provide 1 (one) no computer operator and 1 (one) number service staff for miscellaneous service for BHEL's use at site / Kolkata for reconciliation, progress review & day-to-day planning purpose, documentation etc. These facilities are to be provided within 30 days from LOI date till completion of scheduled contract period.	Please delete this clause, It should be responsibility of BHEL	BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
6 Clause No. 6.3 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Land for labour colony shall be arranged by successful bidder at their own.....	We request BHEL to provide Land for labour colony on free of cost basis	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
7 Clause No. 7.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Contractor shall make all arrangements himself for the supply if construction water as well as potable water for labour and other personnel at the work site/ colony -----	Uninterrupted supply of Water for construction at three point to be provided within 100m of Chimney Site, 100m of fabrication yard and 50m of Batching Plant & Labour Colony (Free of cost). Connections should be provided with handing over of work front to successful bidder.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.

CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6(1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.			
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8 Clause No. 8.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	BHEL shall provide construction power on chargeable basis at 415V level at one point. The charges only for the actual energy consumed by the Contractor shall be recovered by the Employer based on prevalent rate of DISCOM for type of connection (HT/LT).....	Uninterrupted supply of Electricity (Free of cost) at Three point to be provided within 100 m of Chimney Site, 100m of fabrication yard and 50m of Batching Plant & Labour Colony. Connections should be provided with handing over of work front to BIL. Please also tell us the charges for power	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03. All bidders are also requested to visit site and acquire knowledge regarding site condition & locations.
9 Clause No. 12.7 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	PENALTIES ON VENDORS / SUB-CONTRACTORS AGAINST NON-COMPLIANCE OF QUALITY NORMS.....	These penalties are on higher sider; we request BHEL to delete this clause. Particularly, penalty mentioned in clause no. 12.5.21 & 12.5.22. penalty equivalent to 1% value of the item per day delay is not acceptable to BIL.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
10 Clause No. 14.1.3 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	The bidder will have to provide and install 2 no PC of HP/ DELL / HCL /LENEVO or equivalent make with window 10 (professional), 64 bit with roll back to 32 bit O/S and required software like MS Office 2010 Professional or higher, AutoCAD 2014 or higher-----	Please delete this clause	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
11 Clause No. 14.2.6 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	During construction contractor shall take an average Twenty colour digital photograph / slides each month (not less than four per week) of the works during progress through email only. However, if required, bidder to submit hard copies of photographs as and when required in line with instruction by BHEL site. In case of failure in providing such soft and/or hard copies photographs, an amount of Rs. 1,000/- per instance shall be deducted from contractor's RA bill.	Bidder will send photograph by email only.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
12 Clause No. 14.3.2 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Following Tentative Manpower with power plant construction background to be deployed at site by the successful vendor for their day-to-day supervision etc. as directed.	The deployment of personnel will be as per agreed schedule and/or as per site requirement.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
13 Clause No. 20.2.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Cement; Allowable wastage: One-point five percent (+1.5%) of the theoretical consumption shall be considered as allowable wastage.	Allowable wastage will be 3%.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
14 Clause No. 20.4.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Allowable wastage : (+3%) of the theoretical consumption shall be considered as allowable wastage.	Allowable wastage will be 5%.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
15 Clause No. 20.6.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Allowable wastage – 4 % (four percent) of the theoretical consumption shall be considered. Wastage is further classified as cut pieces and scrap measured as per actual weightment basis. Invisible wastage (loss of materials due to gas cutting, straightening of edges etc) shall be limited to 0.5 % (zero-point five percent) of theoretical consumption and shall be considered for reconciliation purposes only. But this invisible wastage shall be considered to be included in allowable wastage.	Allowable wastage will be 5%.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
16 Clause No. 24.4 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Following Major T&Ps to be arranged by contractor within the time as indicated:	These T&P will be provided as per site requirements.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.

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Tender no: PSER:SCT:KGN-C2101:21 TCN-05 (ANNEXURE-A)

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
17	Clause No. 26.3 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	START DATE / ZERO DATE The date of Start of work (Zero Date) of Contract Period for each package shall be date of handing over of front of any chimney to contractor as certified by the BHEL Engineer under the scope of for work of respective packages.	The Actual Date of Start of Contract Period (Zero Date) shall be date of handing over of site agreed in writing by BHEL & BIL Engineer after completion of following: - 1. Handing over of hindrance free area for site, fabrication yard & Batching Plant 2. Issue of Form – V 3. Issue of Approved for Construction Drawings for Excavation, Pile Cap/Raft & Chimney shell. Handover of work front for Chimney 1,2,3,4 & 5 will be signed separately & individually. The completion of each unit will be considered separately from work front handing over date.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
18	Clause No. 26.4 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	completion time.....	Completion time of Unit 5&7 should also be 17 Months	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
19	Clause No. 27 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	COMPLETION PERIOD : Package-1: The entire work under this scope shall be successfully completed within 23 (Twenty-Three) months from the date of Start of work. Package-2: The entire work under this scope shall be successfully completed within 20 (Twenty) months from the date of Start of work. Mobilisation period is 15 days from the date of LOI / intimation by Construction Manager BHEL, Kahalgaon Site whichever is later.	Package-1: The entire work under this scope shall be successfully completed within 26 (Twenty-Six) months from the date of Start of work. Package-2: The entire work under this scope shall be successfully completed within 23 (Twenty Three) months from the date of Start of work.	SHALL REMAIN AS PER TENDER. BIDDER'S ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
20	Clause No. 28 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	CERTIFICATE TOWARDS COMPLETION: The work under the scope of the contractor shall be deemed to have been completed in all respects only when so certified by CM, BHEL / NTPC. The decision of BHEL in this regard shall be final and binding on the contractor.	The protocol for inviting BHEL / NTPC officials is not defined in the tender. It may be considered to allow contractor / BIL to issue a RFI (Request for Inspection), as soon as any stage of Milestone is completed and the Client shall promptly inspect the completed works of that stage within 07 days of the receipt of such RFI NOTICE of completion of a mile stone and thereafter the Client shall issue a list of deficiencies, if any, in the contracted specifications of the executed work along with the time period as may be mutually agreed by both the parties, to remedy such deficiencies.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
21	Clause No. 29 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	EXTENSION OF TIME FOR COMPLETION: If the completion of work as detailed in the scope of work gets delayed beyond the contract / completion period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the contract.....	EOT/Time extension shall be decided by BHEL within 1 Months of receipt of EOT application submitted by BIL.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
22	Clause No. 30 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	MOBILIZATION ADVANCE/ INTEREST BEARING RECOVERABLE ADVANCE: Not applicable	To avoid the negative cash flow, please provide Interest Free Advance as follows: - 1. 5% advance (Interest Free) excluding GST with LOI/LOA & against submission of Advance Bank Guarantee for equivalent amou 2. 5% advance (Interest Free) excluding GST against mobilisation of following: 2.1. Setting of site office, store. 2.2. Labour camp for initial work. 2.3. Electrical installations and water pipeline & water storage. 2.4. Mobilisation of workers and staff for initial work. 2.5. Completion of formalities for Labour License.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
23	Clause No. 33.1 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Intermediate Milestones i.e. M1&M2 (Applicable for each unit separately)	Please delete this clause as this will create negative cash flow.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.

CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6(1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.				
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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
24	Clause No. 34 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	CONTRACT PRICE: The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of the work executed under any part of this contract including extra items, if any, but excluding any price variation, remains within +/- 15 % (plus/minus fifteen percent) of the awarded price	The quoted rates of each item will remain firm throughout the period of execution for reasons whatsoever, as long as variation in the total value of the work executed under any part of this contract including extra items, if any, but excluding any price variation, remains within +/- 10 % (plus/minus ten percent) of the awarded price. The quantity variation of individual items shall remain within +/- 15 %	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
25	Clause No. 36.4 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	1.5 % of gross bill amount shall be paid in the following manner on certification by BHEL engineer after compliance of each of following activity in each month. In case of non-fulfilment of respective activity by vendor in each month, no payment shall be made by BHEL against corresponding activity and no claim of bidder at a later date, whatsoever, in this regard shall be entertained by BHEL.	Please delete this clause as this will create negative cash flow.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
26	Clause No. 36.5 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Contractor's RA bill, complete & correct in all respects, certified by BHEL engineer, shall be paid after 45 days of receipt of bill with all supporting documents.	Contractor's RA bill, complete & correct in all respects, certified by BHEL engineer, shall be paid within 30 days of receipt of bill with all supporting documents. 70% Payment should be released within 7 days & balance 30% payment should be released within 30 days	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
27	Clause No. 37 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	PRICE VARIATION CLAUSE(PVC): Applicable as per GCC.	Should be applicable as per standard norms	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
28	Clause No. 38 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	OVER RUN CHARGES(ORC): Not applicable for this tender.	Should be applicable	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
29	Clause No. 44.3 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Guarantee period shall be 12 months from the date of start of guarantee period as per relevant clause of GCC	Please change Guarantee to Warranty. Only Warranty is applicable for Chimney work.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
30	Clause No. 3.19.2 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	Stack elevator to be supplied through BHEL / NTPC approved stack elevator manufacturer as furnished below: 1. Alikraft Engineers Pvt Ltd- Savli, Vadodara 2. Universal Construction Machinery- Pune.....	Please confirm that we can also supply elevator through the following parties: - 1. Alikraft Engineers (P) Ltd., Vadodra (Gujarat) 2. MEKASTER ENGG & EQPT (P) LTD. (GUJARAT) 3. Everest Elevator, Pune(Maharashtra) We are procuring regularly from these Vendors for NTPC Job.	Approval of additional manufacturer/supplier shall be taken-up with customer/BHEL during the execution, if required. The Contractor shall submit any such list/name of vendor with the credentials of respective vendor's to BHEL/NTPC for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the BHEL/NTPC for any of the vendor shall not relieve the Contractor from any of its obligations, duties or responsibilities under the Contract.
31	Clause No. 3.24 VOLUME-IF-TCC-CML REV-00 TECHNICAL CONDITIONS OF CONTRACT (SUPPLY & SERVICE)	MODE OF EVALUATION & Methodology for award of Packages: - The entire scope of tendered work is being split into two separate packages i.e. Package-1 (consisting of 3 nos chimney for Unit-5, Unit-6 & Unit-3&4(Common) and Package-2 (consisting of 2 nos Chimney for Unit-7 & Unit-1&2(Common)).....	As we have to be quote for Total 5 Nos. chimney. So this should be a single package for 5 nos. chimney	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-TCC-CML-REV-01 ISSUED VIDE TCN-03.
32	SI No. 9 of Preamble, VOLUME-III PRICE SCHEDULE, REV-00	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing, clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same. However, if separate rate for such item is available in the rate schedule, the same shall be considered.	Cleaning & demolition of old structure will be excluded from bidder scope of work.	SHALL REMAIN AS PER TENDER.

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Tender no: PSER:SCT:KGN-C2101:21 TCN-05 (ANNEXURE-A)			
Sl. Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
33 Item SL No.-E6(a) of Schedule -3 & 4 of VOLUME-III PRICE SCHEDULE, REV-00	Aviation obstruction lights (mounted on door panel openable from interior): a. High intensity flashing white light Type-A as per ICAO standard having an effective intensity of 4000 to 200,000 cd (minimum) depending upon back ground illuminance. Obstacle lights shall have a day time effective intensity of minimum 200000 cd. The intensity of lights shall be 20000 cd \pm 25% at twilight and shall reduce automatically to a night time intensity of 4000 cd \pm 25% through the use of photocell. shall be provided with all accessories, photocell, timer etc.	We will supply high intensity flashing light from Make-Avoids Technovators, Instapower /Binoy or equivalent.	Approval of additional manufacturer/supplier shall be taken-up with customer/BHEL during the execution, if required. The Contractor shall submit any such list/name of vendor with the credentials of respective vendor's to BHEL/NTPC for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the BHEL/NTPC for any of the vendor shall not relieve the Contractor from any of its obligations, duties or responsibilities
34 Form No.: F-15 (Rev 02), VOL-IE-FORMS & PROCEDURES	Contractor All risk (CAR) Policy	CAR Policy will be taken by BHEL	Kindly refer clause 43.0 of TCC & 2.18 of GCC which are self-explanatory in this regard.
35 Drawings	GA drawings of Chimneys	Please provide GA drawing of Chimneys	Shall be provided to successful bidder during execution
36 Bank Guarantee	Formats of Bank Guarantee's	Format will be duly vetted by our bankers & thereafter BG, SDBG & PBG will be submitted	Bidder's request is not acceptable. Shall Remain as per tender.
37 Bank Guarantees	Bank Guarantee extension & other action by BHEL	BHEL will give advance notice of 60 days to Vendor for any action to be taken by BHEL	Bidder's request is not acceptable.
38 Clause No. 27.0 OF NOTICE INVITING TENDER	NOT APPLICABLE FOR THIS TENDER	MSME Should be applicable. Please note that vendor is covered under MSME and our MSME registration number is UDYAM-MH-19-0001067.	SHALL REMAIN AS PER TENDER
39 GENERAL	----	Bore log data is not available in tender documents. Please provide the same.	Bore log data sheet related to chimney area is attached in this TCN-05. Bore hole/soil data is provided for general information and bidder shall have to ascertain the site condition at their own. BHEL will not be responsible for any variation in soil condition from the bore hole/ soil data provided herewith tender.
40 Clause No. 18 of NOTICE INVITING TENDER	BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender.....	As a company policy, we do not participate in the tenders with reverse auction clause. Hence, we request you to waive this stipulation from the tender specifications.	SHALL REMAIN AS PER TENDER
41 Schedule-2 of Price Schedule, VOLUME-III PRICE SCHEDULE, REV-00	Weightage of Package1: 0.5945077343 Weightage of Package2: 0.4054922657	The weightage of Package 1 and Package 2 as per Schedule-2 is not logical. Please note that since two separate orders (for each package) would be issued, the weightage mentioned here does not hold any impact. We thus request you to waive off this weightage here.	SHALL REMAIN AS PER TENDER
42 Sl. No. 3 of Schedule-3 & 4 of VOLUME-III PRICE SCHEDULE, REV-00	Breaking of pile head to cut off level and exposing pile reinforcement for embedment in pile cap including cutting, bending, placing, welding, disposal of debris within a lead up to 1 km etc. all complete as per specification, drawing and as directed by the engineer-in-charge. (Installation & Testing of Pile under Pile Vendor scope)	Please provide the cut-off level of piles.	Detailed cut-off level shall be provided after receipt of final input. However, the cut-off level shall be in the range of 6-7m from FGL based on the preliminary data received.
43 General	-----	We note that the following items in the BOQ would be supplied by BHEL on free of charge basis: (a) Cement (at a single point located near each chimney) (b) Reinforcement steel (at a single point near base of each chimney) (c) Structural steel of grade E250 conforming to IS:2062 (at a single point near base of each chimney) (d) Borosilicate glass blocks including adhesive / membranes, primer, mixing machines (at a single point near base of each chimney) We understand that pile foundation work is excluded from bidder's scope. Bidder's scope will commence from pile cap and upwards and includes breaking of pile head to cut off level as per available BOQ. Please confirm if our understanding is correct.	Items which are to be issued by BHEL free of cost are already mentioned in the Price Schedule. Refer clause no 17.1 of TCC which is self-explanatory regarding the location of issue of free issue materials by BHEL. Refer clause no 3.0 of TCC which is self-explanatory regarding the scope of work.
44 Sl. No. A26 of Schedule-3 & 4 of VOLUME-III PRICE SCHEDULE, REV-00	Transportation from store & -----	In addition to borosilicate glass blocks, adhesive, primer and onsite supervision by the borosilicate glass block lining supplier, we understand that the mixing machines required for achieving a consistent and high quality mixed adhesive during borosilicate glass block lining installation shall also be issued by BHEL as free supply items at site (at a single point located near base of each chimney). This is not explicitly mentioned in the tender specification / BOQ. Hence, please confirm.	Mixing machine shall be provided to the contractor by BHEL on free of cost basis. Handling of Mixing Machine at site shall be in contractor's scope.

CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6(1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.			
Tender no: PSER:SCT:KGN-C2101:21 TCN-05 (ANNEXURE-A)			
Sl. Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
45 Sl. No. 26 v) and vi) of Schedule-3 & 4 of VOLUME-III PRICE SCHEDULE, REV-00	Components made of titanium (Grade 2 as per ASME B265) & Components made of C276.	Please inform the thickness of C276 and titanium steel to be considered. In addition, please furnish the sketch / drawing for Titanium and C276 sections.	Shall be provided to successful bidder during execution
46 Sl. No. 26 v) and vi) of Schedule-3 & 4 of VOLUME-III PRICE SCHEDULE, REV-00	Components made of titanium (Grade 2 as per ASME B265) & Components made of C276.	We request BHEL to allow us for fabrication of structural steel (pertaining to the mentioned clause) at site only.	All steel structures shall be fabricated in factory, transported and erected at site. Tanks, silos etc. can be brought at site in several pieces and can be joined/welded at site. Chimney flue liners can either be fabricated at factory in segments, transported and welded at site before erection or fabricated at site. For Chimney flue liners, to prevent flue gas leakages, the applicable field joints shall necessarily be welded.
47 Clause no 26.4 of Volume-IF-TCC CML, REV-00	Completion time from Zero Date	Overall completion period of 23 months (for 5 nos. of chimneys) from the date of handing over of clear site by BHEL after completion of pile / foundation work of the RCC chimneys looks to be impractical and is very difficult to comply. We request BHEL to accept 18 months as the completion period for the Unit-5 Chimney and then additional 3 months for each of the Unit-6, Unit-7, Units 1&2 and Units 3&4 chimneys, which makes the total completion period as 30 months for all the 5 chimneys.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-CML-REV-01 ISSUED VIDE TCN-03.
48 Clause no 3.24 of Volume-IF-TCC CML,REV-00	Method of Award	Since the weightage mentioned in Schedule 2 is not logical, mode of evaluation & methodology of award of packages mentioned in this clause is also not practical. Kindly revisit this stipulation.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-CML-REV-01 ISSUED VIDE TCN-03.
49 Clause no 33 of Volume-IF-TCC CML,REV-00	LIQUIDATED DAMAGE/ PENALTY	Milestone L/D is not acceptable to us. We request for its deletion.	SHALL REMAIN AS PER TENDER. BIDDERS ARE REQUESTED TO REFER REVISED VOLUME-IF-CML-REV-01 ISSUED VIDE TCN-03.
50 Clause no 2.21 of Volume-IB-GCC- Service	Arbitration.	Arbitration should be by joint arbitration procedure as per Indian Arbitration and Conciliation Act, 1996 as amended in 2015. Please confirm.	SHALL REMAIN AS PER TENDER
51 Clause no 2.22.2 of Volume-IB-GCC- Service	Retention amount	We do not accept adjustment of retention amount of this contract against any due arising out of any other contract(s). We request you to please note the same.	Bidder's request is not acceptable. Tender condition shall prevail
52 Clause no 2.7.2 of Volume-IB-GCC- Service	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.	Bidder's request is not acceptable. Tender condition shall prevail
53 GENERAL	"--	Plan and sectional views of Chimney(s) are not available in the tender specification. Kindly furnish the same.	Shall be provided to successful bidder during execution.
54 GENERAL	"--	Please furnish the plant layout showing the location of the chimneys.	Plant layout is under finalisation. However, draft copy of the latest plot plan showing location of chimney has been attached Vide this TCN-05. Rate revision/compensation will not be admissible on account of change of location of chimney.

BORE LOG DATA SHEET

BORE HOLE NO.10

Co-ordinates

E=3292
S=1906

Field Test	Nos	Samples	Nos	Commencement Date : 08/09/2020
Penetrometer (SPT)	23	Undisturbed (UDS)	10	Completion Date : 10/09/2020
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.
Vane (V)		Disturbed (DS)	14	Level Of Ground : 34.738 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 0.3 m.

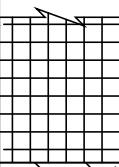

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm							Ref. No	Depth (m)
0.00m										
Filled up soil consists of brownish grey, silty clay / clayey silt with brick bats & kankar.									DS-1	0.50
		2	2	3					SPT-1	1.00-1.45
									DS-2	2.00
2.50m										
Stiff, brownish grey, clayey silt with traces of yellow spot.									UDS-1	2.50-2.95
		3	4	5					SPT-2	2.95-3.40
									DS-3	4.00
		4	5	5					SPT-3	4.50-4.95
									UDS-2	5.50-5.95
		4	5	6					SPT-4	5.95-6.40
7.00m										
Stiff to very stiff, yellowish brown, clayey sandy silt with traces of rusty spot & kankar.									DS-4	7.00
		5	6	7					SPT-5	7.50-7.95
									UDS-3	8.50-8.95
		5	6	8					SPT-6	8.95-9.40
									DS-5	10.00
		6	8	10					SPT-7	10.50-10.95
									UDS-4	11.50-11.95
		8	10	12					SPT-8	11.95-12.40
14.00m										
Very stiff, brownish grey, silty clay / clayey silt with sand mixture, rusty spots & traces of kankar.									DS-6	13.00
		9	11	14					SPT-9	13.50-13.95
									UDS-5	14.50-14.95
		8	12	17					SPT-10	14.95-15.40
									DS-7	16.00
		9	13	17					SPT-11	16.50-16.95
17.90m									UDS-6	17.50-17.95

BORE LOG DATA SHEET

BORE HOLE NO.10

Co-ordinates $E=3292$
 $S=1906$

Field Test	Nos	Samples	Nos	Commencement Date : 08/09/2020
Penetrometer (SPT)	23	Undisturbed (UDS)	10	Completion Date : 10/09/2020
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.
Vane (V)		Disturbed (DS)	14	Level Of Ground : 34.738 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 0.3 m.

DESCRIPTION	SYMBOL	N-VALUE				SAMPLES	
		EACH DIVN. = 15cm				Ref. No	Depth (m)
17.90m Very stiff, brownish grey, silty clay / clayey silt with sand mixture, rusty spots & traces of kankar.		8	12	16	28	SPT-12	17.95-18.40
						DS-8	19.00
19.50m		10	15	29	44	SPT-13	19.50-19.95
						*UDS-7	20.50-20.95
		12	16	25	41	SPT-14	21.10-21.55
						DS-9	22.00
		8	15	24	39	SPT-15	22.50-22.95
						*UDS-8	23.50-23.95
		10	18	27	45	SPT-16	24.10-24.55
						DS-10	25.00
		11	19	29	48	SPT-17	25.50-25.95
						*UDS-9	26.50-26.95
Hard, brownish grey, clayey silt with sand mixture & traces of rusty spot. Observed concretion of silt.		12	22	31	53	SPT-18	27.10-27.55
						DS-11	28.00
		13	25	34	59	SPT-19	28.50-28.95
						*UDS-10	29.50-29.95
		15	27	37	64	SPT-20	30.05-30.50
						DS-12	31.00
		11	19	26	45	SPT-21	31.50-31.95
						DS-13	32.50
		15	20	28	48	SPT-22	33.00-33.45
						DS-14	34.00
N.B. - '*' means sample could not be recovered.		17	21	30	51	SPT-23	35.00-35.45
35.45m							

BORE LOG DATA SHEET

BORE HOLE NO.18

Co-ordinates $E=3515$
 $S=1630$

Field Test	Nos	Samples	Nos	Commencement Date : 16/09/2020
Penetrometer (SPT)	23	Undisturbed (UDS)	6	Completion Date : 19/09/2020
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.
Vane (V)		Disturbed (DS)	19	Level Of Ground : 36.864 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 2.0 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm							Ref. No	Depth (m)
0.00m										
Soft to medium, brownish grey, silty clay / clayey silt with kankar.									DS-1	0.50
		1	1	2				3	SPT-1	1.00-1.45
									DS-2	2.00
								6	UDS-1	2.50-2.95
		3	3	3					SPT-2	2.95-3.40
									DS-3	4.00
4.00m										
Medium, brownish grey, silty clay with traces of yellow spot.										
		3	3	4				7	SPT-3	4.50-4.95
5.95m										
Stiff, brownish grey, silty clay with traces of yellow spot.									UDS-2	5.50-5.95
		4	4	5				9	SPT-4	5.95-6.40
									DS-4	7.00
		5	5	6				11	SPT-5	7.50-7.95
9.00m										
Stiff to very stiff, yellowish brown, clayey sandy silt with traces of rusty spot & kankar.									UDS-3	8.50-8.95
		6	6	8				14	SPT-6	8.95-9.40
									DS-5	10.00
		5	6	11				17	SPT-7	10.50-10.95
									UDS-4	11.50-11.95
		6	8	13				21	SPT-8	11.95-12.40
									DS-6	13.00
		8	10	15				25	SPT-9	13.50-13.95
15.60m										
Hard, yellowish brown, clayey silt with traces of rusty spot & kankar.									*UDS-5	14.50-14.95
		10	12	16				28	SPT-10	15.15-15.60
17.00m										
Hard, brownish grey, silty clay clayey silt with kankar & rusty spots. Observed concretion of silt.									DS-7	16.00
		12	14	17				31	SPT-11	16.50-16.95
17.90m										
									*UDS-6	17.50-17.95

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 07/10/2020

Sheet No:

CETEST

BORE LOG DATA SHEET

BORE HOLE NO.18

Co-ordinates E=3515 S=1630

Field Test

Nos

Samples

Nos

Commencement Date : 16/09/2020

Completion Date : 19/09/2020

Bore Hole Diameter : 150 mm.

Level Of Ground : 36.864 M.

Water Struck At :

Standing Water Level : 2.0 m.

Penetrometer (SPT)

23

Undisturbed (UDS)

6

Cone (Pc)

Penetrometer (SPT)

23

Disturbed (DS)

19

Vane (V)

Water Sample (WS)

0

DESCRIPTION

SYMBOL

N-VALUE

EACH DIVN. = 15cm

SAMPLES

Ref. No

Depth (m)

17.90m

Hard, brownish grey, silty clay / clayey silt with kankar & rusty spots. Observed concretion of silt.

10

11

19

30

SPT-12

18.15-18.60

DS-8

19.00

11

13

21

34

SPT-13

19.50-19.95

DS-9

20.50

12

15

23

38

SPT-14

21.00-21.45

DS-10

22.00

7

11

19

30

SPT-15

22.50-22.95

DS-11

23.50

7

10

17

27

SPT-16

24.00-24.45

DS-12

25.00

8

12

18

30

SPT-17

25.50-25.95

DS-13

26.50

10

14

20

34

SPT-18

27.00-27.45

DS-14

28.00

11

15

20

35

SPT-19

28.50-28.95

DS-15

29.50

12

16

22

38

SPT-20

30.00-30.45

DS-16

31.00

12

16

21

37

SPT-21

31.50-31.95

DS-17

32.50

13

17

23

40

SPT-22

33.00-33.45

DS-18

34.00

DS-19

34.50

16

21

30

51

SPT-23

35.05-35.50

32.50m

Hard, yellowish grey, clayey silt with traces of rusty spot & kankar.

N.B. - '*' means sample could not be recovered.

35.50m

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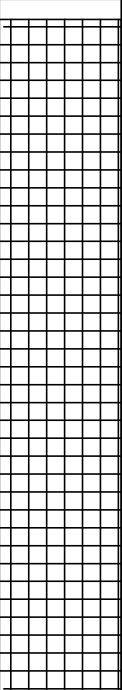
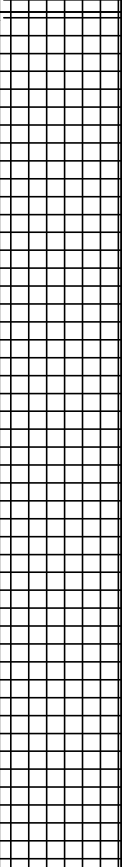
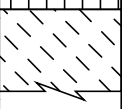
BH-18/Sheet-2

BORE LOG DATA SHEET

BORE HOLE NO.19

Co-ordinates E=3496
S=1652

Field Test	Nos	Samples	Nos	Commencement Date : 12/09/2020
Penetrometer (SPT)	23	Undisturbed (UDS)	10	Completion Date : 15/09/2020
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.
Vane (V)		Disturbed (DS)	16	Level Of Ground : 37.833 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.8 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm							Ref. No	Depth (m)
<div>0.00m</div> <div>Soft to medium, brownish grey, silty clay with traces of yellow spot.</div>									DS-1	0.50
		1	1	1				2	SPT-1	1.00-1.45
									DS-2	2.00
		1	1	2				3	UDS-1	2.50-2.95
									SPT-2	2.95-3.40
									DS-3	4.00
		2	2	2				4	SPT-3	4.50-4.95
									UDS-2	5.50-5.95
		2	2	3				5	SPT-4	5.95-6.40
									DS-4	7.00
<div>7.50m</div> <div>Stiff to very stiff, brownish grey, silty clay with kankar & rusty spots.</div>										
		3	5	6				11	SPT-5	7.50-7.95
									UDS-3	8.50-8.95
		4	6	7				13	SPT-6	8.95-9.40
									DS-5	10.00
		5	8	10				18	SPT-7	10.50-10.95
									UDS-4	11.50-11.95
		5	9	11				20	SPT-8	11.95-12.40
									DS-6	13.00
		7	12	16				28	SPT-9	13.50-13.95
<div>17.00m</div> <div>Hard, brownish grey, silty clay / clayey silt with sand mixture & rusty spots.</div> <div>17.90m</div>									DS-7	14.30
									*UDS-5	14.50-14.95
		8	11	15				26	SPT-10	15.10-15.55
									DS-8	16.00
		8	10	17				27	SPT-11	16.50-16.95
									UDS-6	17.50-17.95

BORE LOG DATA SHEET

BORE HOLE NO.19

Co-ordinates	E=3496 S=1652
--------------	------------------

Field Test	Nos	Samples	Nos	Commencement Date :	12/09/2020
Penetrometer (SPT) Cone (Pc) Vane (V)	23	Undisturbed (UDS)	10	Completion Date :	15/09/2020
		Penetrometer (SPT)	23	Bore Hole Diameter :	150 mm.
		Disturbed (DS)	16	Level Of Ground :	37.833 M.
		Water Sample (WS)	0	Water Struck At :	
				Standing Water Level :	1.8 m.

DESCRIPTION	SYMBOL	N-VALUE				SAMPLES	
		EACH	DIVN.	=	15cm	Ref. No	Depth (m)
17.90m <							

BORE LOG DATA SHEET

BORE HOLE NO.38

Co-ordinates	E=3659 S=1684
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Field Test	Nos	Samples	Nos	Commencement Date :	17/01/2021
Penetrometer (SPT) Cone (Pc) Vane (V)	23	Undisturbed (UDS)	9	Completion Date :	19/01/2021
		Penetrometer (SPT)	23	Bore Hole Diameter :	150 mm.
		Disturbed (DS)	15	Level Of Ground :	35.652 M.
		Water Sample (WS)	0	Water Struck At :	
				Standing Water Level :	1.15 m.

DESCRIPTION	SYMBOL	N-VALUE								SAMPLES	
		EACH	DIVN. = 15cm							Ref. No	Depth (m)
Filled up soil consists of clayey silt with brick bats & boulders.										DS-1	0.50
		1	2	2				4		SPT-1	1.00-1.45
										DS-2	2.00
Medium, grey, clayey silt with brownish patches.								5		UDS-1	2.50-2.95
		2	3	2						SPT-2	2.95-3.40
										DS-3	4.00
								6			
		2	3	3						SPT-3	4.50-4.95
Medium, brownish grey, silty clay / clayey silt. Observed kankar.								8		UDS-2	5.50-5.95
		3	4	4						SPT-4	5.95-6.40
										DS-4	7.00
								9			
		3	4	5						SPT-5	7.50-7.95
Stiff to very stiff, brownish grey, silty clay / clayey silt. Observed kankar.								18		*UDS-3	8.50-8.95
		6	8	10						SPT-6	9.00-9.45
										DS-5	10.00
								16			
		16	7	9						SPT-7	10.50-10.95
Very stiff, light grey, clayey silt with sand mixture & kankar.								18		UDS-4	11.50-11.95
		6	8	10						SPT-8	11.95-12.40
								13		DS-6	13.00
		6	6	7						SPT-9	13.50-13.95
Stiff to very stiff, brownish grey, clayey silt with traces of kankar.								15		UDS-5	14.50-14.95
		6	7	8						SPT-10	14.95-15.40
										DS-7	16.00
								18			
		5	8	10						SPT-11	16.50-16.95
										*UDS-6	17.50-17.95

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

BORE LOG DATA SHEET

BORE HOLE NO.38

Co-ordinates

E=3659
S=1684

Field Test

Nos

Samples

Nos

Commencement Date : 17/01/2021

Completion Date : 19/01/2021

Bore Hole Diameter : 150 mm.

Level Of Ground : 35.652 M.

Water Struck At :

Standing Water Level : 1.15 m.

Penetrometer (SPT)

23

Undisturbed (UDS)

9

Cone (Pc)

Penetrometer (SPT)

23

Disturbed (DS)

15

Vane (V)

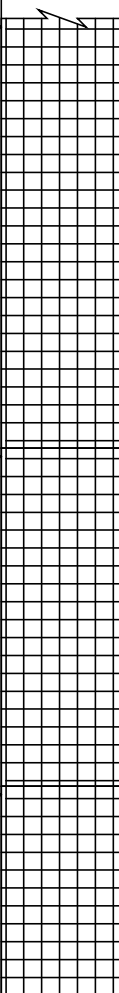
Water Sample (WS)

0

DESCRIPTION	SYMBOL	N-VALUE				SAMPLES	
		EACH DIVN. = 15cm				Ref. No	Depth (m)
<div>17.80m</div> <div>Very stiff, brownish grey to light yellowish brown, clayey silt with sand mixture.</div>		6	8	11	19	SPT-12	18.00-18.45
						DS-8	19.00
		6	9	10	19	SPT-13	19.50-19.95
						UDS-7	20.50-20.95
		7	8	13	21	SPT-14	20.95-21.40
						DS-9	22.00
		6	9	13	22	SPT-15	22.50-22.95
						*UDS-8	23.50-23.95
		7	9	15	24	SPT-16	24.00-24.45
						DS-10	25.00
<div>23.00m</div> <div>Very stiff, light yellowish brown, clayey silt with traces of sand mixture.</div>		8	10	16	26	SPT-17	25.50-25.95
						DS-11	28.00
		9	12	16	28	SPT-18	27.00-27.45
						DS-12	29.50
		10	12	15	27	SPT-19	28.50-28.95
						DS-13	31.00
		12	14	18	32	SPT-20	30.00-30.45
						DS-14	32.50
		13	16	19	35	SPT-21	31.50-31.95
						DS-15	34.20
<div>26.50m</div> <div>Very stiff, yellowish grey, clayey silt with sand mixture. Observed concretion of silt.</div>		10	16	23	39	SPT-22	33.00-33.45
<div>30.00m</div> <div>Hard, yellowish grey, clayey silt with sand mixture. Observed concretion of silt.</div>		11	19	25	44	SPT-23	35.05-35.50
<div>35.50m</div> <div>N.B. - '*' means sample could not be recovered.</div>							

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Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar										CETEST	
Job No : 4388			Created by : SKD			Created on : 25/01/2021			Sheet No:		
BORE LOG DATA SHEET				BORE HOLE NO.39				Co-ordinates			E=3646 S=1710
Field Test	Nos	Samples		Nos	Commencement Date :		17/01/2021				
Penetrometer (SPT)	23	Undisturbed (UDS)		9	Completion Date :		19/01/2021				
Cone (Pc)		Penetrometer (SPT)		23	Bore Hole Diameter :		150 mm.				
Vane (V)		Disturbed (DS)		15	Level Of Ground :		35.349 M.				
		Water Sample (WS)		0	Water Struck At :						
				Standing Water Level :		1.2 m.					
DESCRIPTION				SYMBOL	N-VALUE					SAMPLES	
					EACH DIVN. = 15cm					Ref. No	Depth (m)
17.80m					5	6	8	14	SPT-12	17.95-18.40	
									DS-8	19.00	
Stiff to very stiff, brownish grey, clayey silt / silty clay with sand mixture & kankar.					5	7	9	16	SPT-13	19.50-19.95	
									UDS-7	20.50-20.95	
					6	6	11	17	SPT-14	20.95-21.40	
									DS-9	22.00	
22.50m					6	8	10	18	SPT-15	22.50-22.95	
									*UDS-8	23.50-23.95	
Very stiff, yellowish brown, clayey silt. Observed traces of sand mixture.					6	8	11	19	SPT-16	24.00-24.45	
									DS-10	25.00	
					8	9	12	21	SPT-17	25.50-25.95	
26.20m									*UDS-9	26.50-26.95	
Very stiff, yellowish grey, clayey silt with sand mixture. Observed brown patches.					9	10	18	28	SPT-18	27.00-27.45	
									DS-11	28.00	
28.50m					9	14	18	32	SPT-19	28.50-28.95	
									DS-12	29.50	
					12	18	24	42	SPT-20	30.00-30.45	
									DS-13	31.00	
Hard, yellowish grey, clayey silt with sand mixture. Observed brown patches.					12	18	26	44	SPT-21	31.50-31.95	
									DS-14	32.50	
					15	20	25	45	SPT-22	33.00-33.45	
									DS-15	34.30	
N.B. - '*' means sample could not be recovered.					22	25	27	52	SPT-23	35.05-35.50	
35.50m											

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

CETEST

BORE LOG DATA SHEET

BORE HOLE NO.44

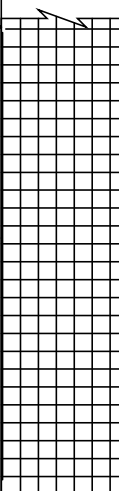
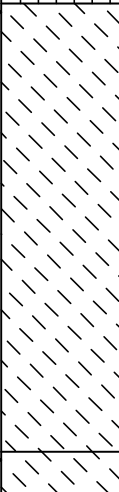
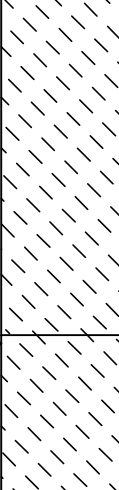
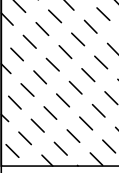
Co-ordinates E=2941 S=1900

Field Test	Nos	Samples	Nos	Commencement Date : 07/01/2021 Completion Date : 08/01/2021 Bore Hole Diameter : 150 mm. Level Of Ground : 35.498 M. Water Struck At : Standing Water Level : 1.55 m.									
Penetrometer (SPT)	23	Undisturbed (UDS)	9										
Cone (Pc)		Penetrometer (SPT)	23										
Vane (V)		Disturbed (DS)	15										
		Water Sample (WS)	0										

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm							Ref. No	Depth (m)
0.00m									DS-1	0.50
Filled up soil consists of clayey silt with brick bats & boulders.		3	2	2				4	SPT-1	1.00-1.45
1.80m									DS-2	2.00
Medium, grey, silty clay.		2	3	2				5	UDS-1	2.50-2.95
									SPT-2	2.95-3.40
3.90m									DS-3	4.00
		3	5	5				10	SPT-3	4.50-4.95
									UDS-2	5.50-5.95
		3	4	6				10	SPT-4	5.95-6.40
									DS-4	7.00
Stiff to very stiff, light yellowish brown, clayey silt / silty clay with traces of kankar.		4	5	7				12	SPT-5	7.50-7.95
									*UDS-3	8.50-8.95
		5	6	7				13	SPT-6	9.00-9.45
									DS-5	10.00
		4	4	9				13	SPT-7	10.50-10.95
									UDS-4	11.50-11.95
12.30m		5	8	9				17	SPT-8	11.95-12.40
									DS-6	13.00
		8	10	14				24	SPT-9	13.50-13.95
Stiff to very stiff, yellowish brown, clayey silt with grey patches. Observed kankar.									UDS-5	14.50-14.95
		10	14	16				30	SPT-10	14.95-15.40
									DS-7	16.00
		9	13	15				28	SPT-11	16.50-16.95
17.80m									UDS-6	17.50-17.95

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Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar										CETEST			
Job No : 4388			Created by : SKD			Created on : 25/01/2021			Sheet No:				
BORE LOG DATA SHEET				BORE HOLE NO.44				Co-ordinates			E=2941 S=1900		
Field Test		Nos	Samples		Nos	Commencement Date :		07/01/2021					
Penetrometer (SPT)		23	Undisturbed (UDS)		9	Completion Date :		08/01/2021					
Cone (Pc)			Penetrometer (SPT)		23	Bore Hole Diameter :		150 mm.					
			Disturbed (DS)		15	Level Of Ground :		35.498 M.					
Vane (V)			Water Sample (WS)		0	Water Struck At :							
					Standing Water Level :					1.55 m.			
DESCRIPTION				SYMBOL	N-VALUE					SAMPLES			
					EACH DIVN. = 15cm					Ref. No		Depth (m)	
17.80m Stiff to very stiff, yellowish brown, clayey silt with grey patches. Observed kankar.					29					SPT-12	17.95-18.40		
					10 12 17								
					DS-8						19.00		
					8 13 14						SPT-13	19.50-19.95	
					30						*UDS-7	20.50-20.95	
					8 13 17						SPT-14	21.00-21.45	
					DS-9						22.00		
					28						SPT-15	22.50-22.95	
					10 12 16								
					22.95m								
Hard, brownish grey, silty clay / clayey silt with yellowish patches.					31					*UDS-8	23.50-23.95		
					9 12 19						SPT-16	24.00-24.45	
					DS-10						25.00		
					37						SPT-17	25.50-25.95	
					40						*UDS-9	26.50-26.63	
					11 15 25						SPT-18	27.00-27.45	
					27.90m								
					43						DS-11	28.00	
					10 16 27						SPT-19	28.50-28.95	
					41						DS-12	29.50	
Hard, light yellowish brown, clayey silt. Observed grey patches. Also observed a sand pocket in SPT-19.					26					SPT-20	30.00-30.45		
					12 15 26								
					DS-13						31.00		
					55						SPT-21	31.50-31.95	
					15 25 30								
					32.00m								
					61						DS-14	32.50	
					19 27 34						SPT-22	33.00-33.45	
					DS-15						34.10		
					68						SPT-23	35.05-35.50	
N.B. - '*' means sample could not be recovered.					37						35.50m		
					20 31 37								

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

CETEST

BORE LOG DATA SHEET

BORE HOLE NO.45

Co-ordinates E=2948
S=1930

Field Test	Nos	Samples	Nos	Commencement Date : 04/01/2021	
Penetrometer (SPT)	23	Undisturbed (UDS)	8	Completion Date : 06/01/2021	
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.	
Vane (V)		Disturbed (DS)	16	Level Of Ground : 35.796 M.	
		Water Sample (WS)	0	Water Struck At : Standing Water Level : 1.4 m.	

DESCRIPTION	SYMBOL	N-VALUE								SAMPLES	
		EACH DIVN. = 15cm								Ref. No	Depth (m)
0.00m Filled up by concrete materials with brick bats.										DS-1	0.50
1.00m		2	2	2				4		SPT-1	1.00-1.45
Medium, brownish grey, clayey silt.								5		DS-2	2.00
		2	2	3						UDS-1	2.50-2.95
								7		SPT-2	2.95-3.40
		2	3	4						DS-3	4.00
5.50m								8		SPT-3	4.50-4.95
Stiff to very stiff, light yellowish brown, clayey silt with traces of sand mixture.		3	4	4						*UDS-2	5.50-5.95
								10		SPT-4	6.00-6.45
										DS-4	7.00
		4	5	5						SPT-5	7.50-7.95
								14		UDS-3	8.50-8.95
		4	5	9						SPT-6	8.95-9.40
								13		DS-5	10.00
		5	6	7						SPT-7	10.50-10.95
13.50m								16		UDS-4	11.50-11.95
		6	8	8						SPT-8	11.95-12.40
								18		DS-6	13.00
		7	8	10						SPT-9	13.50-13.95
Very stiff, light yellowish brown, clayey silt with traces of kankar. Observed sand mixture.								18		UDS-5	14.50-14.95
		8	9	9						SPT-10	14.95-15.40
								22		DS-7	16.00
17.80m		9	8	14						SPT-11	16.50-16.95
										*UDS-6	17.50-17.95

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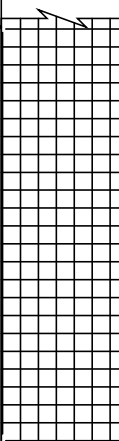
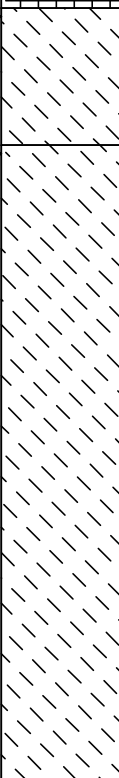
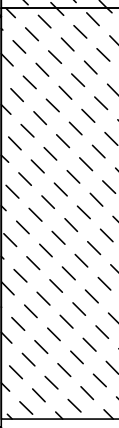
BORE LOG DATA SHEET

BORE HOLE NO.47

Co-ordinates $E=3847$
 $S=2077$

Field Test	Nos	Samples	Nos	Commencement Date : 31/12/2020
Penetrometer (SPT)	23	Undisturbed (UDS)	9	Completion Date : 02/01/2021
Cone (Pc)		Penetrometer (SPT)	23	Bore Hole Diameter : 150 mm.
Vane (V)		Disturbed (DS)	15	Level Of Ground : 36.354 M.
		Water Sample (WS)	0	Water Struck At :
				Standing Water Level : 1.95 m.

DESCRIPTION	SYMBOL	N-VALUE							SAMPLES	
		EACH DIVN. = 15cm							Ref. No	Depth (m)
0.00m										
Filled up by coal dust with ash, brick bats etc.									DS-1	0.50
		6	4	8				12	SPT-1	1.00-1.45
									DS-2	2.00
2.50m									*UDS-1	2.50-2.95
Medium, brownish grey, silty clay / clayey silt. Observed kankar.		1	2	2				4	SPT-2	3.00-3.45
									DS-3	4.00
		2	2	3				5	SPT-3	4.50-4.95
5.50m									UDS-2	5.50-5.95
Stiff to very stiff, light brownish grey, clayey silt with traces of kankar.		3	5	5				10	SPT-4	5.95-6.40
									DS-4	7.00
		4	6	7				13	SPT-5	7.50-7.95
11.20m									UDS-3	8.50-8.95
Very stiff, yellowish brown, clayey silt with traces of sand mixture. Observed kankar.		5	7	8				15	SPT-6	8.95-9.40
									DS-5	10.00
		4	7	10				17	SPT-7	10.50-10.95
17.80m									*UDS-4	11.50-11.95
		6	6	9				15	SPT-8	12.05-12.50
									DS-6	13.00
		7	8	11				19	SPT-9	13.50-13.95
									UDS-5	14.50-14.95
		8	10	13				23	SPT-10	14.95-15.40
									DS-7	16.00
		7	10	11				21	SPT-11	16.50-16.95
									UDS-6	17.50-17.95

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar										CETEST		
Job No : 4388			Created by : SKD			Created on : 25/01/2021			Sheet No:			
BORE LOG DATA SHEET				BORE HOLE NO.47				Co-ordinates			E=3847 S=2077	
Field Test		Nos	Samples		Nos	Commencement Date :		31/12/2020				
Penetrometer (SPT)		23	Undisturbed (UDS)		9	Completion Date :		02/01/2021				
Cone (Pc)			Penetrometer (SPT)		23	Bore Hole Diameter :		150 mm.				
Vane (V)			Disturbed (DS)		15	Level Of Ground :		36.354 M.				
			Water Sample (WS)		0	Water Struck At :						
					Standing Water Level :					1.95 m.		
DESCRIPTION				SYMBOL	N-VALUE					SAMPLES		
					EACH DIVN. = 15cm					Ref. No		Depth (m)
Very stiff, yellowish brown, clayey silt with traces of sand mixture. Observed kankar.					6	9	13	22			SPT-12	17.95-18.40
											DS-8	19.00
					8	11	13	24			SPT-13	19.50-19.95
											UDS-7	20.50-20.95
					10	12	15	27			SPT-14	20.95-21.40
											DS-9	22.00
								32			SPT-15	22.50-22.95
											*UDS-8	23.50-23.61
								35			SPT-16	24.00-24.45
											DS-10	25.00
								38			SPT-17	25.50-25.95
Hard, yellowish brown, clayey silt. Observed kankar.								44			*UDS-9	26.50-26.62
					13	20	24				SPT-18	27.00-27.45
											DS-11	28.00
					12	22	27	49			SPT-19	28.50-28.95
											DS-12	29.50
					14	20	32	52			SPT-20	30.00-30.45
											DS-13	31.00
								54			SPT-21	31.50-31.95
											DS-14	32.50
					13	22	31	53			SPT-22	33.00-33.45
											DS-15	34.20
N.B. - '*' means sample could not be recovered.								56			SPT-23	35.05-35.50
					14	23	33					

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

CETEST

BORE LOG DATA SHEET

BORE HOLE NO.48

Co-ordinates E=3274 S=1919

Field Test	Nos	Samples	Nos	Commencement Date : 11/01/2021 Completion Date : 13/01/2021 Bore Hole Diameter : 150 mm. Level Of Ground : 35.045 M. Water Struck At : Standing Water Level : 0.8 m.									
Penetrometer (SPT)	23	Undisturbed (UDS)	8										
Cone (Pc)		Penetrometer (SPT)	23										
Vane (V)		Disturbed (DS)	16										
		Water Sample (WS)	0										

DESCRIPTION	SYMBOL	N-VALUE								SAMPLES	
		EACH DIVN. = 15cm								Ref. No	Depth (m)
0.00m Filled up soil consists of clayey silt with ash & boulders. 0.60m										DS-1	0.50
Medium, grey, clayey silt. Observed kankar. 4.20m		2	2	2				4		SPT-1	1.00-1.45
										DS-2	2.00
		2	3	2				5		*UDS-1	2.50-2.95
										SPT-2	3.00-3.45
Medium, light brownish grey, clayey silt. 6.50m		3	2	4				6		DS-3	4.00
										SPT-3	4.50-4.95
		2	3	3				6		UDS-2	5.50-5.95
										SPT-4	5.95-6.40
Stiff, grey, clayey silt. Observed sand mixture. 14.50m								9		DS-4	7.00
		3	4	5						SPT-5	7.50-7.95
								10		*UDS-3	8.50-8.95
		3	5	5						SPT-6	9.05-9.50
								12		DS-5	10.00
		4	5	7						SPT-7	10.50-10.95
Very stiff, brownish grey, clayey silt / silty clay. Observed calcareous nodules. 17.80m		5	6	8				14		UDS-4	11.50-11.95
										SPT-8	11.95-12.40
								13		DS-6	13.00
		4	5	8						SPT-9	13.50-13.95
								17		UDS-5	14.50-14.95
		6	8	9						SPT-10	14.95-15.40
								22		DS-7	16.00
	8	9	13						SPT-11	16.50-16.95	
									UDS-6	17.50-17.95	

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Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

CETEST

E=3274

S=1919

BORE LOG DATA SHEET

BORE HOLE NO.48

Field Test

Nos

Samples

Nos

Commencement Date : 11/01/2021

Completion Date : 13/01/2021

Bore Hole Diameter : 150 mm.

Level Of Ground : 35.045 M.

Water Struck At :

Standing Water Level : 0.8 m.

Penetrometer (SPT)

23

Undisturbed (UDS)

8

Cone (Pc)

Penetrometer (SPT)

23

Disturbed (DS)

16

Vane (V)

Water Sample (WS)

0

DESCRIPTION

SYMBOL

N-VALUE

EACH DIVN. = 15cm

SAMPLES

Ref. No

Depth (m)

17.80m

Very stiff, brownish grey, clayey silt / silty clay. Observed calcareous nodules.

10 10 15

25

SPT-12

17.95-18.40

20.95m

Hard, brownish grey, clayey silt / silty clay. Observed calcareous nodules.

9 12 18

30

SPT-13

19.50-19.95

22.30m

Hard, yellowish grey, clayey silt with sand mixture. Observed kankar.

10 15 20

35

UDS-7

20.50-20.95

28.00m

Hard, light yellowish brown, clayey silt with kankar.

9 16 20

36

SPT-14

20.95-21.40

35.42m

N.B. - '*' means sample could not be recovered.

10 17 23

40

DS-9

22.00

12 16 26

42

SPT-15

22.50-22.95

11 19 27

46

*UDS-8

23.50-23.60

13 22 30

52

SPT-16

24.00-24.45

12 21 35

56

DS-10

25.00

14 28 41

69

SPT-17

25.50-25.95

13 25 49

74

DS-11

26.50

19 39 50

≥100

SPT-18

27.00-27.45

7.0 cm Pentn.

SPT-19

28.50-28.95

DS-12

28.00

SPT-20

30.00-30.45

DS-13

29.50

SPT-21

31.50-31.95

DS-14

31.00

SPT-22

33.00-33.45

DS-15

32.50

SPT-23

35.05-35.42

DS-16

34.20

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BH-48/Sheet-2

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar

Job No : 4388

Created by : SKD

Created on : 25/01/2021

Sheet No:

CETEST

Co-ordinates E=3857
S=2056

BORE LOG DATA SHEET

BORE HOLE NO.49

Field Test

Nos

Samples

Nos

Commencement Date : 02/01/2021

Completion Date : 04/01/2021

Bore Hole Diameter : 150 mm.

Level Of Ground : 37.089 M.

Water Struck At :

Standing Water Level : 1.95 m.

Penetrometer (SPT)

23

Undisturbed (UDS)

8

Cone (Pc)

Penetrometer (SPT)

23

Disturbed (DS)

16

Vane (V)

Water Sample (WS)

0

DESCRIPTION

SYMBOL

N-VALUE

EACH DIVN. = 15cm

SAMPLES

Ref. No

Depth (m)

0.00m

Filled up by coal dust with fly ash.

2

7

3

10

DS-1

0.50

SPT-1

1.00-1.45

DS-2

2.00

2.40m

Medium, brownish grey, silty clay / clayey silt.

2

1

3

4

UDS-1

2.50-2.95

SPT-2

2.95-3.40

DS-3

4.00

SPT-3

4.50-4.95

6.00m

Stiff, brownish grey, silty clay / clayey silt.

3

5

5

10

*UDS-2

5.50-5.95

SPT-4

6.00-6.45

DS-4

7.00

7.00m

Stiff to very stiff, yellowish grey, clayey silt with traces of kankar.

4

5

6

11

SPT-5

7.50-7.95

UDS-3

8.50-8.95

SPT-6

8.95-9.40

DS-5

10.00

SPT-7

10.50-10.95

12.00m

Very stiff, light yellowish brown, silty clay / clayey silt with traces of kankar.

4

7

10

17

*UDS-4

11.50-11.95

SPT-8

12.00-12.45

DS-6

13.00

SPT-9

13.50-13.95

15

UDS-5

14.50-14.95

SPT-10

14.95-15.40

DS-7

16.00

SPT-11

16.50-16.95

21

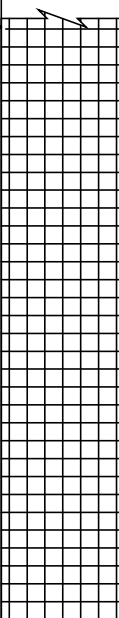
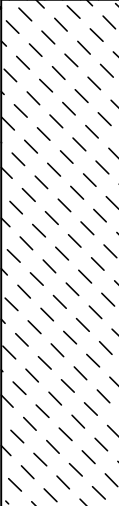
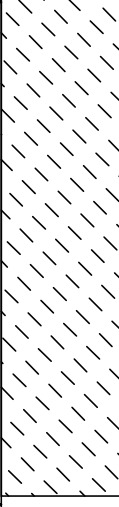
*UDS-6

17.50-17.95

17.80m

Page A98/A436

BH-49/Sheet-1

Project : Geotech. Inv. Work for FGD System at Kahalgaon STPP, Bihar										CETEST		
Job No : 4388			Created by : SKD			Created on : 25/01/2021			Sheet No:			
BORE LOG DATA SHEET				BORE HOLE NO.49				Co-ordinates			E=3857 S=2056	
Field Test	Nos	Samples		Nos	Commencement Date :		02/01/2021					
Penetrometer (SPT)	23	Undisturbed (UDS)		8	Completion Date :		04/01/2021					
Cone (Pc)		Penetrometer (SPT)		23	Bore Hole Diameter :		150 mm.					
Vane (V)		Disturbed (DS)		16	Level Of Ground :		37.089 M.					
		Water Sample (WS)		0	Water Struck At :							
					Standing Water Level :					1.95 m.		
DESCRIPTION				SYMBOL	N-VALUE				SAMPLES			
					EACH DIVN. = 15cm				Ref. No		Depth (m)	
17.80m Very stiff, light yellowish brown, silty clay / clayey silt with traces of kankar.					7	9	15	24			SPT-12	18.00-18.45
											DS-8	19.00
					8	10	17	27			SPT-13	19.50-19.95
											UDS-7	20.50-20.95
					8	9	13	22			SPT-14	20.95-21.40
											DS-9	22.00
					10	12	15	27			SPT-15	22.50-22.95
											*UDS-8	23.50-23.62
					11	13	17	30			SPT-16	24.00-24.45
											DS-10	25.00
24.45m Hard, yellowish grey, clayey silt with traces of sand mixture. Observed kankar.					10	12	24	36			SPT-17	25.50-25.95
											DS-11	26.50
					12	15	25	40			SPT-18	27.00-27.45
											DS-12	28.00
					11	14	23	37			SPT-19	28.50-28.95
											DS-13	29.50
					12	19	25	44			SPT-20	30.00-30.45
30.00m Hard, brownish, clayey silt with kankar.											DS-14	31.00
					15	20	29	49			SPT-21	31.50-31.95
											DS-15	32.50
					16	20	35	55			SPT-22	33.00-33.45
											DS-16	34.40
N.B. - '*' means sample could not be recovered.					18	25	39	64			SPT-23	35.05-35.50
35.50m												

59520-000-M3-0
001 000000

- REFERENCE DRAWINGS:-
1. SITE PLAN
 2. LIFT HOUSE
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- LIST OF BUILDING/FACILITIES:-
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- LEGEND:-
- 1. ALL DIMENSIONS ARE IN METRES AND ELEVATIONS IN METERS
 - 2. ELEVATION CORRESPONDS TO RL(X)0.00
 - 3. LOCATION/SIZES OF VARIOUS FACILITIES/BUILDINGS OTHER THAN BHEL SCOPE ARE INDICATIVE ONLY
 - 4. LOCATION/SIZES OF VARIOUS FACILITIES/BUILDINGS IN BHEL SCOPE ARE INDICATIVE
 - 5. BHEL SCOPE SHALL BE INDICATED DURING DETAIL ENGINEERING
 - 6. FILL OF FGD FACILITIES SHALL BE AS PER LEVEL MARKED IN RESPECTIVE AREA
 - 7. DIMENSIONS/COORDINATES MARKED WITH + ARE APPROXIMATE/AS PER SURVEY DRAWING
 - 8. CHANGE IN FILL FROM 24.00 TO 24.00 NEAR LIFT HOUSE/STAGE IS TECHNICALLY ACCEPTABLE TO BHEL SUBJECT TO ACCEPTANCE OF COMMERCIAL IMPUGNATION BY BHEL
- NOTES:-
1. ALL DIMENSIONS ARE IN METRES AND ELEVATIONS IN METERS
 2. ELEVATION CORRESPONDS TO RL(X)0.00
 3. LOCATION/SIZES OF VARIOUS FACILITIES/BUILDINGS OTHER THAN BHEL SCOPE ARE INDICATIVE ONLY
 4. LOCATION/SIZES OF VARIOUS FACILITIES/BUILDINGS IN BHEL SCOPE ARE INDICATIVE
 5. BHEL SCOPE SHALL BE INDICATED DURING DETAIL ENGINEERING
 6. FILL OF FGD FACILITIES SHALL BE AS PER LEVEL MARKED IN RESPECTIVE AREA
 7. DIMENSIONS/COORDINATES MARKED WITH + ARE APPROXIMATE/AS PER SURVEY DRAWING
 8. CHANGE IN FILL FROM 24.00 TO 24.00 NEAR LIFT HOUSE/STAGE IS TECHNICALLY ACCEPTABLE TO BHEL SUBJECT TO ACCEPTANCE OF COMMERCIAL IMPUGNATION BY BHEL

DRAFT FOR TENDERING
PURPOSE

NTPC DRAWING NO : 4200-108-001-RPT-PW-9-010A
CUSTOMER: NTPC LIMITED.
PROJECT: KAMALGAN STAGE 1 & II
(4x210MW + 3x500MW)

LAYOUT OF FGD SYSTEM

0-FW-000-02363 1 OF 1 03

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	CONSTRUCTION OF 5 NOS SINGLE FLUE RCC CHIMNEY PACKAGE-1 (CONSISTING OF CHIMNEY OF UNIT-5 (1 NO 150 M TALL), UNIT-6((1 NO 150 M TALL) & UNIT 3&4(1 NO 180 M TALL)) AND PACKAGE-2 (CONSISTING OF CHIMNEY OF UNIT-7 (1 NO 150 M TALL) & UNIT 1&2(1 NO 180 M TALL)) WITH BOROSILICATE GLASS BLOCK LINING SYSTEM ON MS FLUE CAN (EXCLUDING PILE) FOR FGD SYSTEM AT 4X210 MW STAGE-I & 3X500 MW STAGE-II NTPC KAHALGAON STPS , BIHAR.	
Ref	1.0	Tender no PSER:SCT:KGN-C2101:21.
	2.0	BHEL's NIT, vide reference no PSER:SCT:KGN-C2101:8563 Date: 27-03-2021
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:KGN-C2101:TCN-01, dated 05-04-2021
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:KGN-C2101:TCN-02, dated 09-04-2021.
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:KGN-C2101:TCN-03, dated 16-04-2021.
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:KGN-C2101:TCN-04, dated 20-04-2021.
	7.0	BHEL's TCN-05, vide reference no PSER:SCT:KGN-C2101:TCN-05, dated 20-04-2021.
	8.0	All other pertinent issues till date.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted/uploaded offer/documents in accordance with tender instructions with acceptance of the terms & conditions of the tender by us and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)