

**TALABIRA – CIVIL,
STRUCTURAL &
ARCHITECTURAL
WORKS OF ROAD &
DRAIN**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

CIVIL, STRUCTURAL & ARCHITECTURAL WORKS
ENTIRE ROADS & DRAINS (EXCL MAIN POWER
BLOCK AREA): - COMPLETE ROAD WORKS WITH
RCC DRAINS INCLUDING BITUMEN WORKS
ALONG WITH KERB STONE &
SHOULDER/WALKWAY & RCC BOX CULVERTS &
HUME PIPES WHEREVER APPLICABLE, LAYING
OF SAND BED AND PAVER BLOCK FOR
WALKWAYS OF ROADS ETCAT 3 x 800 MW NLC
TALABIRA TPP (NTTPP), JHARSUGUDA, ODISHA
STATE, INDIA

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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Chapter - I: PROJECT INFORMATION

1.0	PROJECT INFORMATION	
1.1	INTRODUCTION AND CLIMATIC CONDITION	
Sl. No.	Description	Details
1.	Project Title	3 x 800MW NLC Talabira Thermal Power Project (NTTPP)
2.	Customer	NLC India Limited (NLCIL)
3.	Location	The project proposed to be located near Kumbhari and Tareikela villages on south west of Brijraj Nagar town on Sambalpur Rourkela highway in Jharsuguda district and ash disposal area is located near Thelkolai village in Sambalpur district.
4.	Nearest Airport	Jharsuguda airport at a distance of 21 km, Sambalpur airport at a distance of 35 km Bhubaneswar at a distance of 350 km and Raipur airport is at a distance of approx. 290 km.
5.	Access By Road/Major Cities	<p>Nearest Road - Sambalpur – Jharsuguda highway after crossing Bhedan River via state PWD road</p> <p>Nearest Village - Kumbhari and Tareikela villages on south west of Brijraj Nagar town on Sambalpur Rourkela highway in Jharsuguda district</p> <p>Nearest Town - Jharsuguda (approx. 11 km)</p> <p>Nearest Railway Station - Jharsuguda on Howrah-Nagpur main (trunk) section is at a distance of 11 km</p> <p>Nearest Seaport - Paradeep (Approx. 450 km) and Kolkata (Approx. 550 km)</p> <p>State capital - Bhubaneswar (350 km)</p>
6.	Temperature	a. Mean Ambient Temperature Maximum 33.1°C

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		<p>Minimum 20.7°C Average 27.5°C</p> <p>b. Extreme Ambient Temperature Maximum 48°C Minimum 6°C</p> <p>c. Mean Wet-bulb Temperature - 26.3°C</p>
7.	Seismic Zone	The project site lies in zone III as defined in IS: 1893.
8.	Wind Speed	In accordance with IS-875, for a basic wind speed of 44 m/s, up to a height of 10 meters above mean ground level. Pre-dominant Wind direction is from South-West.

1.2	INSTRUCTIONS TO BIDDERS
1.2.1	The Bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder.
1.2.2	Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.
1.2.3	The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.
1.2.4	The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorized, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the 'Engineer' or his duly authorized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.
1.2.5	No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.

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1.2.6	Bidders may fix up their site visit in consultation with below mentioned contact person:	
	Name:	Mr. Subrata Kumar Adak
	Designation:	Addl GM (Project Director)
	Email:	subrata.adak@bhel.in
	Ph no:	7347031209
	Name:	Mr. Chittaranjan Samal
	Designation:	Sr Manager
	Email:	csamal@bhel.in
	Ph no:	8331936594

Note: - The bidder is advised to visit and examine the site of **WORKS** and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the **CONTRACT**. All costs for and associated with site visits shall be borne by the bidder.

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2.0	Scope of Works:
2.1	Civil, Structural & Architectural works of Entire Roads & Drains (Excl Main Power Block Area): - Complete road works with RCC Drains including bitumen works along with kerb stone & shoulder/walkway & RCC Box Culverts & Hume Pipes wherever applicable, laying of sand bed and Paver Block for Walkways of roads etc at 3 X 800 MW NLC TALABIRA TPP (NTTPP), Jharsuguda, Odisha State, India.
2.2	<p>The brief scope of work (but not limited to the following): -</p> <p>Civil, Architectural and Structural works for Road & Drains as detailed below.</p> <p>(i) Road works including bitumen works.</p> <p>(ii) RCC Drain.</p> <p>(iii) Kerb Stone & Shoulder/walkways.</p> <p>(iv) Box Culverts & Hume Pipe.</p> <p>(v) Laying of Sand bed and Paver Blocks for walkway.</p> <p>Note:</p> <p>1. Any other works not mentioned above, but required for completion of the package in total, deemed to have been included in the bidder scope under this contract.</p>
2.3	BHEL at its discretion may include other area works limited to 15% of awarded contract value, which are not mentioned in above scope of works. Contractor shall execute such works as desired and as directed by BHEL Engineer. The item rates & contract conditions shall remain unchanged for such works.
2.4	The work under this contract shall be carried out as per BOQ Cum Rate Schedule and in compliance of tender conditions including technical specifications and approved drawings/documents.
2.5	GENERAL
2.5.1	Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
2.5.2	The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings.
2.5.3	Further this is to be noted that the drawings and the documents furnished along with this specification are the sole property of BHEL. It must not be used directly or indirectly in any way detrimental to the interest of the company.
2.5.4	Furnishing all labor, materials, supervision, construction plans, equipment, supplies, transport, to and fro the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handing over

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	the works in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
2.5.5	All the works areas shall be adequately flood lighted to the satisfaction of the Engineer-in-Charge when the work is in progress during the night shifts. LED flood lights and mobile tower lights shall be installed for proper illumination at night to ensure safe and serious working.
2.5.6	Drawings showing enough details for the construction as per the specification shall be furnished to the contractor in a phased manner as far as possible. Planning and RFC Drawings shall be issued progressively as per site requirement. Agency has to plan and execute the works in close co-ordination with BHEL EIC. Agency shall deploy experienced engineer/agency for evaluation of BOM from the drawings for further review/approval by BHEL Engg. /EIC time to time well in prior of starting a new work area at site
2.5.7	<p>All necessary arrangement for safety like Hard Barricading around deep structures with scaffolding pipes and providing of safety net on the slope of excavated area is in contractor's scope. Contractor shall comply with all safety requirements as per statutes, BHEL and Customer specifications as applicable for execution of works. Safety rules and guidelines of BHEL and Customer are provided elsewhere.</p> <p>The contractor shall also deploy PVC/MS barricading with fluorescent stickers mentioning agency's name in addition to the hard barricading with proper signages as instructed by BHEL.</p>
2.5.8	The Customer may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor in the same way as if pointed out by the BHEL Engineer, without any cost implication to BHEL.
2.5.9	Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
2.5.10	The area of work shall be cleared of all vegetation, rubbish and other objectionable matter and materials removed shall be burnt or otherwise disposed of as directed by the Engineer-in-Charge. No separate payment for these operations shall be made. The cost of all these operations shall be deemed to have been included in the unit rates rendered for the different items under bill of quantities.
2.5.11	Carrying out topographic survey of the entire and establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.

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	<p>It is the responsibility of the contractor to deploy experienced surveyors well acquainted with latest versions of auto-cad for correct plotting and representation of line, levels, contours and co-ordinates, auto-cad drawings for civil works. The contractor shall take all precautions to maintain same levels of all civil structures with respect to the Bench Mark Pillars (installed by BHEL).</p> <p>For works on emergency basis/ special assignments as per project requirement under the instruction of BHEL EIC, the agency shall deploy the surveyor with no extra cost to BHEL.</p>
2.5.12	Arranging for joint checking (with BHEL / BHEL's Customer / Consultant) of all site construction activities, Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection as per approved FQP by BHEL.
2.5.13	<p>Medical/First aid center/medicine purchased for emergency/ Doctor purpose along with ambulance services with fuel and operator (round the clock) shall be arranged by BHEL for handling medical emergencies. Cost against these facilities shall be distributed/ shared among the vendors working in Project site proportionately based on contract value.</p> <p>However, till the time the first aid arrangements & ambulance are arranged by BHEL, the contractor to suitably arrange for necessary emergency/first aid facilities for their personnel.</p>
2.5.14	The complete works shall be carried out as per BOQ cum Rate schedule. If any work covered in the scope of contract cannot be executed using items available in BOQ, additional / extra items shall be made and rates for such items shall be worked out as per GCC clause 2.15.7. However, contractor shall be bound to execute all the works under the scope of the contract and decision whether an extra item is applicable or not, shall be taken by BHEL Engineer which will be binding on the contractor.
2.5.15	Any activity which is necessarily required for satisfactory execution of any item of BOQ in line with technical specifications shall be deemed to be included in BOQ item even if it is not described in the item description and no extra payment shall be made against such activity.
2.5.16	Contractor shall take up housekeeping activity on regular basis to keep the site clear of rubbish/ debris.
2.5.17	All necessary inputs with respect to all the changes carried out during the execution, for preparation of 'As built Drawings' to be submitted by Contractor to BHEL for submitting the As built drawings to NLCIL.
2.5.18	The necessary precautionary measures shall be adopted by contractor to prevent water logging and dewatering as required in the project area, as the project site is surrounded by Bhedan river in three sides, while carrying out the site works. Dewatering as required in the project area shall be done by the contractor.
2.5.19	Contractor shall ensure at all times that his work area & approach/ access roads are free from accumulation of water, so that the materials are safe and the erection/ progress schedule are not affected. No separate claim in this regard shall be admitted by BHEL. No separate payments for dewatering of surface water or catchments water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL.

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	Dewatering and drying out of the existing water bodies before commencement of filling works is in the scope of the Bidder. No separate payment shall be released for this work and the quoted price is deemed to be inclusive of the same. Bidder to visit the site to acquaint himself about the conditions of the existing water bodies and quote suitably.
2.5.20	Documentation and Reporting: The Contractor shall maintain accurate records of material supplies, including delivery challans, invoices, and stock registers. These records shall be submitted to BHEL on monthly basis maintaining proper format of records in consultation with BHEL site.
2.5.21	Quantity Assessment of Supply Items: - Supply of BOI material shall be based on assessment of the project status/requirement and shall be done only after written clearance of BHEL's Engineer-In-Charge. The supply quantities shall be calculated based on available drawings and work fronts. Contractor shall be the custodian of the BOI supplied items. In case, contractor fails to execute/install/fix/etc. the BOI items for recorded reasons, the contractor shall be liable to handover the materials in good usable condition to BHEL Stores. Further, if the contractor denies to/doesn't handover the materials on the instruction of BHEL-In Charge, payment made against such supplies shall be recovered from the contractor. The decision of Engineer-In-Charge Shall be final and Binding to the contractor.
2.5.22	Reconciliation of Supply: The final quantities of BOI materials supplied shall be reconciled upon the final execution of the total scope of work. The measurement against supply portion shall be reconciled after final execution of total work and the actual executed quantities as per BOQ items shall be considered for final measurement for recording in measurement book.
2.5.23	The contractor has to intimate, share atleast two months in advance regarding any quantity variation in BOQ items for review by BHEL.
2.5.24	All necessary arrangement for safety like Hard Barricading around deep structures with scaffolding pipes and providing of safety net on the slope of excavated area is in bidder's scope.
2.5.25	Necessary support for obtaining statutory approval like cutting trees/ vegetation, etc. from State/ Central Govt. authorities, as applicable shall be extended by the bidder. However, Bidder scope shall not include payment of any Statutory fees, if any, to be paid to the Govt. authorities/ statutory bodies.
2.5.26	Tentative Technical Staff Requirement: Required experienced Engineers and Supervisors in sufficient numbers for execution of the site works and other functions like quality, safety, store & purchase, material management, planning, finance, administration etc. are to be provided as per site requirement. However, tentative staff requirement is as below: <u>A – Civil Works</u>

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- **Project Manager/ Project In charge** – 01 Head with minimum 15 Years' experience in Industrial Construction Projects preferably in Power Plant Civil & Architectural Works etc.
- **Asst. Project Managers** – 01 Heads with minimum 12 Years' experience in Industrial Construction Projects preferably in Power Plant Civil & Architectural Works etc.
- **Experienced Civil Engineers** – 02 heads
- **Experienced Foreman / Supervisors** – 4 heads

B- Common for Planning, Billing, Quality, Safety, Administration & Miscellaneous Works:

- **Planning & Billing Engineers** – 01 heads
- **Stores, Gate Pass** – 02 heads
- **Accounts & Administration** – 01 head
- **Quality Control Engineer** – 02 heads (**Safety Engineer** – As per HSE Plan)
- **Surveyor** – 01 head capable to handle total station
- **Licensed Electrician, Mechanic** — As per requirement.
- **Security Guards (Round the Clock)** – As per requirement.

Note:

1. **Dedicated deputation of Project-In-Charge, Planning & Billing Engineers, Quality Control Engineer, Safety Head is must during the entire duration of execution.**
2. **Contractor shall deploy such Technical Staff (as mentioned above) as per directions of BHEL Engineer within 07 days from the date of intimation from BHEL Site.**
3. **In case of non-compliance, penalty shall be imposed as decided by Engineer In-charge. Such penalty shall be deducted from the corresponding month's RA Bill (RA Bill of the month where technical staffs were not deployed as per BHEL's requirement.)**
4. **Maximum Penalty can be up to Rs. 1,00,000 per Man-Month (unless a higher penalty is mentioned in other part of tender document.)**
5. **Recovery can also be done on pro-rata basis as per no. of days of short deployment in the month.**

D – Tentative Breakup of Manpower Requirement for Civil & Structural Works:

Experienced Carpenters & Helpers	Approx. 75 nos.
Experienced Mason, Bar Benders & Helpers	Approx. 40 nos.
Other manpower like Painters, Supervisors, Operators, Helpers, etc.	Approx. 35 nos.
Total	Approx. 150 Nos.

Note: -

Manpower requirement shown in the above-mentioned list is peak period suggestive requirement only. Deployment of manpower shall be progressive to meet the project schedule. However, manpower mobilization schedule as mutually agreed in Monthly Progress Review(F-14) at site,

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	shall be decided(increased/decreased) based on front availability, drawing availability and erectable target completion to meet project milestones without additional financial implication to BHEL.
2.5.27	Deputation of above man-power shall be jointly decided at site in line with construction Schedule. In case of any dispute, the decision of BHEL shall be final binding on you.
2.5.28	Engineer/ supervisor for other functions like store & purchase, material management, finance, administration etc. are to be provided as per site requirement and not considered in above list.
2.5.29	BHEL reserves the right to reject or approve the list of personnel proposed by the contractor. The persons whose bio-data have been approved by BHEL will have to be posted at site and deviation in this regard will not be permitted unless specific & reasonable justification is made.
2.5.30	In addition to above, a well experienced qualified engineer to be designated, as ‘Project Co-coordinator’, shall be deployed by the contractor. Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc. to contractor’s own team during the complete execution period of contract. The contractor shall not transfer/shift areas for the deployed staff without prior permission of BHEL.
2.6	DESIGN MIX
2.6.1	Initially Mix design for concreting shall be provide by BHEL, based on Mix Design Report Contractor shall conduct trial mixes. The approved design mix shall be followed by the bidder. However, in case any mix design is required to be carried out due to change in brand of cement/change in source of raw materials during any stage of the project, the same shall be in bidder’s scope and to be carried out from NCCBM / IITs / NITs / other reputed laboratories approved by CUSTOMER/BHEL. Contractor has to ensure adding of high grade PCE based admixture to minimize the cement content in line with ASTM C 494 as advised by BHEL time to time without any additional cost.
2.6.2	Before commencement of work, Contractor has to satisfy/ ensure the design mix proportion through conducting trial mix. Contractor shall not be absolved from the responsibility of quality of concrete works as per relevant specification, standard and to ensure satisfactory performance as per terms and conditions of contract. Any issue raised regarding design mix after successful completion of trial mix shall not be entertained and contractor shall not be entitled for any cost or damages.
2.7	Field Quality Assurance:
2.7.1	The contractor shall be responsible for day-to-day quality checks for civil, structural and architectural works including concrete and other building materials in line with approved Field Quality Plan (FQP) and Manufacturing Quality Plan (MQP) during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/CUSTOMER and as per FQP/MQP approved by BHEL/CUSTOMER.
2.7.2	Setting Up of Laboratory Works:

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	<p>The contractor shall set up laboratory in the close vicinity of the work site as per required field QA & QC laboratory set up and as the directions of engineer-in-charge. The laboratory must have qualified technicians to carry out all tests and shall be equipped with latest testing equipment in sufficient number to carry out all the tests as required under a contract. The contractor should ensure that the equipment is available well in advance of starting of the work to avoid stoppage of work on this account. All the tests shall be carried out by the contractor in the presence of the Engineer's representative and a joint record of all observations and results thereof shall be maintained, and available with the Engineer. Bidder shall tie up only with BHEL / Customer approved third party Lab for advance testing which are not feasible at site laboratory set-up.</p> <p>The laboratory set-up should consist of one AC lab (Approx. size 4.5mtr x 6mtr) for temperature and humidity control as required during testing of cement and other materials and one non-AC lab (Approx. Size 4.5 mtrx4.5 mtr.) in the field to carry out all relevant tests. Laboratory equipment as per requirement and as per NLCIL specification to be arranged by the contractor within quoted rate for conducting day to day tests. The contractor may tie up with approved/registered inspection agencies for setting up test lab at site as described above.</p>																																			
2.7.3	<p>Field and laboratory testing procedures for materials follow Indian Standard Specifications with necessary equipment’s like as given in table below. In addition to the below equipments, the contractor shall mobilise the equipments specified in the technical Specification in order to carry out all required tests and quality control work as per the specification and/or as directed by the engineer.</p> <table><tr><th>SL NO</th><th>NAME OF TEST</th><th>NAME OF EQUIPMENT</th><th>SIZE OF EQUIPMENT</th><th>IS REF.</th></tr><tr><td></td><td>Concrete Testing Equipment</td><td></td><td></td><td></td></tr><tr><td>1</td><td>Initial & final setting time, Consistency of cement</td><td>Vicat Apparatus with desk pot</td><td>Standard</td><td>IS 5513</td></tr><tr><td>2</td><td>Shrinkage of cement, Auto Clave Test</td><td>Le Chatelier's apparatus Auto Clave Equipment</td><td>Standard</td><td>IS 5514</td></tr><tr><td>3</td><td>Abrasion value test</td><td>Los Angeles testing machine</td><td>Standard</td><td>IS 2386</td></tr><tr><td>4</td><td>Aggregate Impact value test</td><td>Aggregate Impact testing machine with blow counter</td><td>Standard</td><td>IS 9377</td></tr><tr><td>5</td><td>Aggregate crushing value test</td><td>Crushing value apparatus</td><td>Standard</td><td>IS 2386</td></tr></table>	SL NO	NAME OF TEST	NAME OF EQUIPMENT	SIZE OF EQUIPMENT	IS REF.		Concrete Testing Equipment				1	Initial & final setting time, Consistency of cement	Vicat Apparatus with desk pot	Standard	IS 5513	2	Shrinkage of cement, Auto Clave Test	Le Chatelier's apparatus Auto Clave Equipment	Standard	IS 5514	3	Abrasion value test	Los Angeles testing machine	Standard	IS 2386	4	Aggregate Impact value test	Aggregate Impact testing machine with blow counter	Standard	IS 9377	5	Aggregate crushing value test	Crushing value apparatus	Standard	IS 2386
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	6	Flakiness index	Thickness gauge for measuring flakiness index	Standard	IS 2386
	7	Elongation Index	Elongation gauge	Standard	IS 2386
	8	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5,10 & 15 liters cylinders	
	9	Workability of concrete	Slump cone	Standard, at least 04 no's	IS 456
	10	Specific gravity of aggregates	Pycnometer	Standard, at least 02 no's	IS 383
	11	Cement mortar cube vibrating	Motorised vibration machine for cement testing	Standard	IS 4031
	12	Course aggregate Sieve analysis (Concrete & Road Works)	Sieve set	450mm dia GI Frames Size: 125 mm, 90 mm, 75 mm, 63 mm, 53 mm, 37.5mm, 40 mm, 26.5 mm, 19mm, 20 mm, 16 mm, 13.2mm, 12.5 mm, 10 mm, 9.5mm, 6.7mm, 4.75 mm, Pan and cover	IS 383
	13	Fine aggregate sieve analysis	Sieve set	200 mm dia Brass sieves; Size 4.75 mm, 2.36 mm, 1.18 mm 600 micron, 300 micron, 150 micron, 75 micron, 75 micron, Pan and cover	IS 383
	14	Sieve Shaker	Motorized Sieve shaker	Mfg. Catalogue	
	15	Silt content check	Sand silt content beaker	Standard	

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	16	Cube Strength	Compression testing Machine	Standard	IS 456
		Soil Testing Equipment			
	1	Atterberg Limit Test	Atterberg Limit Test apparatus	Standard	IS 2720
	2	Field Compaction Test	Core Cutter / Sand Replacement Method	Rammer, 6 no's of std. core cutter mould, dolly	IS 2720
	3	Proctor density test	Std proctor Compaction apparatus	Standard	IS 2720
	4	Moisture Content	Rapid moisture meter	Standard, at least 04 no's	IS 2720
2.7.4	<p><u>Maintenance and Upkeep</u></p> <p>The contractor shall be responsible for the maintenance and proper upkeep of the laboratory premises, including the regular cleaning of water tanks, toilets, and ensuring a clean, neat, tidy, and hygienic work environment to the satisfaction of BHEL.</p> <p>The contractor should ensure that the equipment is available well in advance of starting of the work to avoid stoppage of work on this account. Timely calibration and regular maintenance shall be the responsibility of the contractor. Any damage to testing equipment during operation or any problem arises during execution stage shall be rectified by contractor immediately including replacement, if required at his own cost.</p> <p>In the event the contractor fails to conduct tests/ checks in a timely manner—whether due to the absence of their personnel or other reasons—the competent authority of BHEL reserves the right to impose penalty or engage another suitable agency to carry out the necessary tests/ checks.</p> <p>Any additional costs incurred by BHEL for such tests/ checks, including overhead charges, shall be borne by the successful bidder.</p> <p><u>Documentation and Reporting</u></p> <p>The contractor shall maintain a dual documentation system, encompassing digital and physical formats. This includes test requests, sample records, test data sheets, equipment logs, calibration records, non-conformance reports, and corrective action reports.</p> <ul style="list-style-type: none"> • Digital Records: Maintained through the online system, with regular backups and security measures. • Physical Records: Properly filed and stored in the laboratory for easy verification. <p>Daily test reports must be submitted in prescribed formats via the online system and in hard copy, supplemented by weekly summaries and monthly progress reports.</p>				

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All necessary files, papers, consumables, and stationery required for laboratory documentation shall be provided by the bidder.

Data and Report Management System

The Service Provider shall implement and maintain a secure, comprehensive data and report management system accessible to BHEL and customer representatives. The system shall include:

- Real-time test data entry and result monitoring.
- Digital documentation of all test reports.
- Tracking of sample status and test progress
- Generation of test reports in approved formats.
- Digital storage and retrieval of historical test data.
- Integration with BHEL's quality management system, if required.

Confidentiality must be strictly maintained, with all data and information secured and not shared or removed without prior written permission from BHEL.

Testing Standards and Calibration

All testing services shall be conducted in strict compliance with BHEL/ customer-approved Field Quality Plans (FQPs) and relevant standards, including Indian Standards (IS), ASTM Standards, or other specified international standards. Testing methodologies must adhere to prescribed procedures, ensuring accuracy and precision in results. The Service Provider shall maintain all necessary reference standards, the latest IS codes, ASTM standards, testing manuals (in soft copy), and calibration certificates at the laboratory. Equipment calibration shall be regularly conducted through NABL-accredited laboratories, ensuring traceability of measurements.

2.7.5 Experienced QA/QC engineers/ Lab Technician/ Lab Assistant shall be arranged by contractor for their scope of work.

CV with a covering letter from the Contractor (certifying that the candidate has been interviewed and all supporting documents verified) in line with the requirements along with copy of proof of identity and address, academic and professional qualifications and experience shall be submitted to BHEL for approval before deployment to project site.

Interview (Physical/telephonic/Video Conferencing) shall be conducted by BHEL before acceptance / approval of the personnel, if so desirous. Verification of certificates of selected candidates from concerned institutions/board will be carried out by the Contractor (If required by BHEL) at the cost of the Contractor.

Approval or Rejection of the candidates shall be sole discretion of BHEL and shall be binding on the Contractor. In case of rejection of any candidate by BHEL, Contractor shall submit the details of alternate candidates without any delays and no claim for compensation / time extension in this regard will be entertained.

Post deployment approval shall not be permitted nor any deviation accepted. The candidate shall be required to produce all original certificates for verification purpose. Any mismatch will render to the rejection of candidate

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	<p>The following modality shall be followed for the above: -</p> <ul style="list-style-type: none">a) The Quality Manpower shall report directly to BHEL Project Site Quality Head.b) Contractor shall deploy only skilled and highly experienced personnel and seek prior approval of BHEL-Region Quality Department before deployment. <p>Periodic examination of deployed quality manpower functioning shall be conducted by BHEL-Region Quality Department.</p>
2.7.6	All other tests related to MDD for backfilling, road sub-base, etc, slump, cube for concrete and mortar, water, etc have to be carried out by the contractor from above mentioned laboratories as advised by BHEL/Customer without any extra cost to BHEL.
2.7.7	The following specifications of PCE-type high performance super plasticizer shall be used for concrete works as per BOQ item.
2.7.8	<p>High performance super plasticizer PCE-based water reducing admixture of Type-G/F as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30%.</p> <p>The performance compliance of the Super-plasticizer should be ensured based on the following tests:</p> <ul style="list-style-type: none">a) Marsh cone test for optimum dosage of admixture with specific brand of cement.b) Slump retention test of concrete.c) Water reduction capability test by doing trial mix.d) Rheological properties of fresh concrete on trial mix.
2.7.9	In case ambient temperature is greater than 32 Degree Celsius, Placement temperature should be controlled with necessary temperature correction of concrete by introducing Chiller Plant along with Batching Plant or by adopting ice concrete. If ice is used, the ice water source test report shall be provided for review and approval of BHEL/Customer prior to use. (Note: - Contractor may make alternative arrangement for temperature control of fresh concrete.)
2.7.10	All T&P and all IMTEs, which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition.
2.8	ROYALTY/ SEIGNIORAGE CHARGES
2.8.1	<p>ROYALTY/ SEIGNIORAGE CHARGES FOR EXCAVATION INSIDE PROJECT PREMISES AND FOR EXCAVATION OF OVERBURDEN EARTH FROM TALABIRA MINES</p> <ul style="list-style-type: none">i. The contract price shall be excluding Royalty for excavation inside Project premises, if any and for excavation of overburden earth from Talabira mines. The Bidder need not quote for the same in his price.ii. Royalty/ seigniorage charges (if any) for excavation inside project premises and for excavation of overburden earth from Talabira mines, if it becomes applicable, as per

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: SCOPE OF WORKS

	<p>Govt. of Odisha Notification shall be reimbursable to the bidder by BHEL for the quantum of earth work done on submission of necessary documentary evidence as proof of payments/ challans as required by BHEL for reimbursement by the contractor for making such payments as per statutory provisions and this reimbursement shall be over and above the contract price.</p> <p>If there is a demand by statutory bodies at a later date from the contractor for payment of royalty for excavation inside project premises and for excavation of overburden earth from Talabira mines, the same will be reimbursed to the contractor at actual against submission of documentary evidence and any penalty levied by the statutory bodies in this regard will be to contractor's account.</p>
2.8.2	<p>ROYALTY FOR CONSTRUCTION MATERIALS</p> <ol style="list-style-type: none">The Bid Price shall be inclusive of any Royalties or Seigniorage Fee or Cess or other charges payable on the quarried or mined metal, minerals, or minor minerals, as the case may be, at the rate(s) prevailing as on due date of Bid Submission.The contract price shall be including all applicable Royalty for Construction materials as per the rates in clause no. 2.8.1 i and the Bidder to quote their price accordingly. The Royalty amount will not be reimbursed by BHEL.In the event of there being a statutory increase in the rates of royalty charges/ fresh levy of royalty on materials, the increase/ fresh levy shall be reimbursed to the Contractor upon submission of original challan of having made the payments at revised rates and necessary proof of payments as required by M/s NLCIL for reimbursement and realization of reimbursement from NLCIL to BHEL.In the event of there being a decrease in such rates, the decrease shall be recovered from the Contractor.The increase or decrease in Royalty shall be w.r.t the rate as per enclosed notification as referred in Clause no. 2.8.1 i above.The total reimbursement of increase or decrease in royalty charges or new levies (positive or negative) as specified above, to be paid or recovered, shall however be calculated on the quantity of materials actually considered while making the royalty payments to the concerned authorities, or the theoretical consumption of these materials (calculated on the basis of the volume of concrete or fill accepted for payment), whichever is less, and on the basis of documentary evidence of Govt. Notification.However, the Contractor will settle claims, if any, on account of over charge by the State Authorities.If there is a demand by statutory bodies at a later date from BHEL/ contractor for payment of royalty for construction materials, the same will be paid by contractor or recovered from Contractor and paid by BHEL. BHEL's decision regarding modality of payment for the demand is with BHEL & binding on the Contractor. Any penalty levied by the statutory bodies in this regard or any other reason on account of royalty/ seigniorage fee for Construction materials will be to contractor's account.

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	<p>ix. The component of Royalties or Seigniorage Fee or Cess or other charges, if applicable in a running account bill, shall only be released by the Purchaser to the Contractor on submission of the following documents in original</p> <p style="padding-left: 40px;">A) In case the Contractor is the primary license holder of the quarry / mines:</p> <p style="padding-left: 80px;">i) Vehicle wise challan / transit permit and proof of payment of royalty, and</p> <p style="padding-left: 80px;">ii) Any other document required as per the relevant Acts/Rules of the concerned state.</p> <p style="padding-left: 40px;">B) In case the Contractor is the purchaser of soil/earth, sand, stone/aggregates, metals, minerals or minor minerals:</p> <p style="padding-left: 80px;">i) Purchase voucher and vehicle wise challan / transit permit and proof of payment of royalty, and</p> <p style="padding-left: 80px;">ii) Any other document required as per the relevant Acts/Rules of the concerned state.</p> <p>x. In case the Contractor fails to provide the required proof of royalty payment with the RA bill then an amount based on the prevailing rates of the royalty shall be deducted from the respective RA bill, which shall be refunded to the Contractor on submission of proof of royalty payment. However, if the Contractor fails to provide the proof of royalty payment within a period of 60 days from the date of RA bill, BHEL shall issue a notice to the Contractor giving 30 days' time for submission of the proof of royalty payment. In case of non-submission of the proof of payment of royalty by the Contractor, the amount so deducted shall be deposited by BHEL to the concerned authority.</p> <p>In the absence of production of challan, the actual prevailing rate for royalty/ seigniorage fee as per the Odisha Government Gazette Notification shall be withheld from RA bill/ final bill and on production of challan, payment of relevant portion will be released.</p>
2.9	<p>In construction projects of this magnitude, all the areas/ approaches may not be ready. In such cases consolidation of ground, arrangement of sleepers/ sand bag filling, construction of temporary approach roads for all their work. etc. for safe operation and movement of T&P/ equipment including cranes/ trailers/ transit mixers/ rigs/ tippers etc. as applicable shall be the responsibility of the contractor at his cost. No separate payment or compensation on this account shall be payable.</p>
2.10	<p>HIERARCHY:</p>
2.10.1	<p>In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows:</p> <ol style="list-style-type: none"> 1. Items Description in BOQ Cum Rate Schedule 2. Technical Conditions of Contract (TCC) 3. Technical Specifications for Customer (Section-C) 4. BHEL's Standard Specification (Section-D)

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description	Scope		Remarks
		BHEL	Bidder	
3.1	Establishment:			
3.1.1	For Construction Purpose:			
a	Open space for office (as per availability within project premises)	Yes		Free of cost as provided by NLCIL on as is where is basis
b	Open space for storage (as per availability within project premises)	Yes		Free of cost as provided by NLCIL on as is where is basis
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipment, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc.		Yes	
f	Firefighting equipment like buckets, extinguishers etc.		Yes	
g	Fencing of storage area, office, canteen etc. of the bidder		Yes	
h	Development of land provided for office, storage, fabrication yard, etc.		Yes	
3.1.2	For living purpose of the bidder:			
a	Open space for labour colony		Yes	Space to be arranged by Bidder at his own cost and make his own arrangements for shelter and transportation of laborers as per requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2	Electricity:			
3.2.1	Electricity for construction purposes			

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description	Scope		Remarks
		BHEL	Bidder	
PART I				
a	Single point source (In general) For detail, refer clause no. 3.11	Yes		On chargeable basis. Refer clause 3.10
b	Further distribution for the work to be done which include supply of materials and execution		Yes	At bidder's own cost
c	Distribution of Electricity for the office, stores, canteen, of the bidder which include supply of materials and execution		Yes	At bidder's own cost
d	Supply, installation and connection of energy meter including operation and maintenance		Yes	At bidder's own cost. Calibration certificate to be provided
e	Duties and deposits including statutory clearances for the above		Yes	At bidder's own cost
f	Demobilization of all the facilities after completion of works		Yes	At bidder's own cost
3.2.2	Electricity for living accommodation for the bidder's staff, engineers, supervisors, labour Hutment etc:-			
a	Single point source		Yes	At bidder's own cost
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	At bidder's own cost
c	Payment/Duties and deposits including statutory clearances if applicable		Yes	At bidder's own cost
3.3	Water Supply:			
3.3.1	For construction purposes:			Contractor to draw water from Bhedan river
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
3.3.2	Water supply for bidder's office, stores, canteen etc.			Contractor to draw water from Bhedan river
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	Water supply for Living Purpose			Contractor has to make his own arrangement
a	Making the water available at single point		Yes	
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4	Lighting			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc. during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5	Communication facilities for site operations of the bidder			
a	Telephone, fax, internet, intranet, e-mail , etc.		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description	Scope		Remarks
		BHEL	Bidder	
3.6	Demobilization of all the above facilities		Yes	
3.7	Erection Facilities			
3.7.1	Engineering works for construction:			
a	Providing the erection/constructions drawings for all the scope/equipment covered under this scope	Yes		
b	Drawings for construction methods	Yes	Yes	In consultation with BHEL
c	As-built drawings where ever deviations observed and executed and also based on the decisions taken at site		Yes	Changes are to be marked in drawing & handover to BHEL on completion of work.
d	Preparation of site execution schedules and other input requirements as per Form-14.	Yes	Yes	In consultation with BHEL
e	Review of performance and revision of site execution schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
f	Weekly construction / erection schedules based on Sl. No. d		Yes	In consultation with BHEL
g	Daily work plan based on Sl. No. d		Yes	In consultation with BHEL
h	Periodic visit of the senior official of the bidder to site to review the progress so that works is completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
3.8	Land/Open Space:			

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.8.1	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 erection agencies. 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. 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.
3.8.2	Contractor shall maintain one centralized store cum bar bending yard at his own cost. Hard surfacing of this yard and all round drain shall be carried out by the contractor at his own cost within the quoted rate. The construction of cement storage sheds for unloading of cement bags, stacking properly in the storage sheds drain shall be carried out by the contractor at his own cost within the quoted rate.
3.8.3	Security of stores & work place shall be in Contractor's scope.
3.8.4	On completion of work, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and all debris shall be removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
3.9	Labour and Staff Colony: Following are in the Bidder's scope of work for labour & staff colony:
3.9.1	BHEL shall not provide any space or residential accommodation to the contractor for his staff or labour and the contractor has to make his own arrangements at his cost. Labour colony is to be developed by bidder for all the labourers required to be deployed for the works. Bidder has to identify the land for labour colony at their cost and no land will be given by BHEL for labour colony purpose. The contractor to develop/ construct labour colony/ hutment fulfilling the minimum requirements as specified in the "HSE Plan for Site Operations by Subcontractors" enclosed along with this tender as well as meeting the statutory norms. Ownership of the labour hutment shall be of the contractor and contractor shall keep BHEL indemnified from any statutory obligations/ legal compliances w.r.t. labour hutment establishment during as well as after the completion of contract.
3.9.2	Land for labor colony shall be arranged by Contractor at their own cost as per availability outside project area. Necessary levelling/ dressing of land shall be done by the contractor. All arrangement for electricity and drinking/service water to be arranged by the contractor within his quoted price. The contractor shall provide adequate water arrangement for drinking/ washing/ bathing with required toilets, drainage system, and electrification etc. in labour colony at his own cost.

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.9.3	Development of Bidder's temporary staff colony and labour colony having adequate no. of rest rooms along with toilets & fencing etc.
3.9.4	All Civil and Structural work associated with drinking and service water for Bidder's labour and other personnel at the work site/colony/offices including pump houses, pipes, overhead tank, tube wells etc.
3.9.5	Providing and maintaining facilities for safety, welfare, drinking water and sanitation, hygiene, biennial health check-up etc. for construction workers at their workplaces as well as at labour & staff colonies.
3.9.6	Development and maintenance of above facilities for construction workers deployed by the Contractor shall solely rest with the Contractor.
3.9.7	<p>Installation of necessary amenities- and temporary infrastructure for construction activities at Project site locations.</p> <p>Following are the minimum amenities to be provided by the bidder within the quoted price including removal/disposal of the same in environment friendly manner after its intended use/completion of scope of work:</p> <ol style="list-style-type: none"> a. Labour rest sheds near work spot. b. Canteen facility creation. c. Drinking water facility. d. Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. e. Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements. f. Recreational facilities, etc.
3.9.8	<p>Bidder shall comply with the following for workmen accommodation</p> <ul style="list-style-type: none"> • General Layout of Sheds at Worker's Establishment • Standard guidelines for labour colony or worker accommodation. • Typical layout for workmen sheds. <p>For above documents refer Chapter-XI: TECHNICAL SPECIFICATIONS AND DRAWINGS</p>
3.10	Construction Power:
3.10.1	Construction power (three phase, 415V/440V) will be provided to the contractor on chargeable basis at one single point by BHEL. The contractor shall make his own arrangement for further distribution with necessary isolator/LCB etc.

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3.10.2	In general, Construction power will be provided to the contractor on chargeable basis at one single point. However, based on request of Contractor and requirement of project, BHEL Site in charge, at his discretion, may provide construction power at multiple point, if feasible. If, BHEL provides electricity at more than one point, it will be responsibility of the contractor to provide all the support necessary for enabling BHEL for extending such provision to contractor.
3.10.3	Contractor to note that BHEL shall complete the arrangements for Construction Power Supply after about seven months from the commencement of contract period. Till then, the contractor should make his own arrangement for alternative source of power supply through deployment of adequate number of DG sets/usage of diesel operated machines, at their cost. No separate payment shall be applicable for this.
3.10.4	Further, as there are bound to be interruptions in regular power supply, power cut/load shedding as in any construction sites, contractor should make his own arrangement for alternative source of power supply through deployment of adequate number of DG sets/usage of diesel operated machines, at their cost during the power breakdown /failure to get urgent and important work to go on without interruptions. No separate payment shall be made for any contingency arrangement made by contractor, due to delay / failure in providing electricity.
3.10.5	The Construction Power consumed by the contractor shall be chargeable based on prevalent rate of DISCOM (OERC guidelines). The existing rates are provided below: Demand Charge: Rs.250/KVA/ Month Energy Charge: For Load Factor $\leq 60\%$: 585.00 Paise/kVAh For Load Factor $> 60\%$: 475.00 Paise/kVAh
3.10.6	The above rates are indicative only. This rate may vary from time to time and the prevailing rates during execution shall be applicable.
3.10.7	Any duty, deposit involved in getting the Electricity shall be borne by the bidder.
3.10.8	The contractor has to Provide necessary meter for measuring the power consumption. In case of any dispute, BHEL engineer's decision shall be final and binding on contractor. The meter used by the contractors shall be duly calibrated.
3.10.9	Necessary "Capacitor Banks" to improve the Power factor to a minimum of 0.9 shall be provided by the contractor at his cost. On account of the contractor's failure in maintaining the power factor as required by customer, penalty if any, levied by customer will be recovered from contractor's bills.

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3.10.10	<p>The contractor shall make his own arrangement for further distribution of power, taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc. and safety of personnel. Sometimes it may become necessary to relocate some of the installations to facilitate work by other agencies or by him.</p> <p>Distribution of supply shall be done by the contractor using underground cables. The contractor shall be responsible to provide complete LT distribution with Fuseless system including the supply of all materials like cables, necessary isolators/LCB, Switch boards, industrial receptacles/sockets, pipes, etc. observing the safety rules laid down by electrical authority of the State / BHEL / their customer with appropriate statutory requirements.</p> <p>All cables being used for construction power shall be armoured only. Buried cable shall be suitably identified by the route markers.</p>
3.10.11	BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.
3.10.12	Contractor has to make their own arrangements for electricity requirement for labour colony at his own cost.
3.11	Construction water:
3.11.1	<p>BHEL shall establish pumping system for drawing water from Bhedan river for Construction purposes after about seven months from the commencement of contract period. On establishment of the system, Contractor shall draw water from BHEL's single point source for water supply. All Necessary pumps & accessories, pipes for drawing water from the given point and for further distribution shall be arranged by the contractor only at their cost.</p> <p>Till establishment of such construction water supply is made by BHEL, the contractor should make his own arrangement for alternative source of water suitable for construction purpose at their cost. No separate payment shall be applicable for this.</p>
3.11.2	The Contractor should make arrangements for storage of sufficient quantity of water required for work. The agency should also construct sumps (if required) of suitable size for storage of construction water as per their requirement for use for execution and construction purposes.
3.11.3	Contractor to satisfy himself that the water drawn by him is fit for construction/ consumption and adequately treat such water at his cost when it is not found fit for the said purposes.
3.11.4	In case of non-availability of water, the contractor shall make his own arrangements of water suitable for construction purpose to have uninterrupted work. No separate payment shall be made for any contingency arrangement made by contractor.
3.12	RECORDS TO BE MAINTAINED AT SITE

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Chapter – III: FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)

3.12.1	Record of Quantity of free/Chargeable items issued by BHEL must be maintained during contract execution. Also reconciliation statement to be prepared at regular intervals
3.12.2	<p>The below mentioned Records/ Log-books/ Registers applicable to be maintained.</p> <ul style="list-style-type: none">i. Hindrance Register.ii. Site Order Book.iii. Test Check of measurements.iv. Cement Supply and Consumption Daily Registerv. Records of Test reports of Field tests.vi. Records of manufacture's test certificates.vii. Records of disposal of soil/ rock generated during and after the work completion.viii. Records of disposal of scraps generated during and after the work completion.ix. List of T&Ps and MMEs

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Chapter – IV: T&PS AND MMES TO BE DEPLOYED BY CONTRACTOR

4.0	Tools and Plants:	
4.1	Nos. of T&Ps to be deployed at site shall be decided w.r.t. monthly plan and review format (F-14) based on site requirement. Below given Nos. are tentative for planning purposes by the bidder.	
Sl. No.	Description of T&P	Quantity
A	T&Ps for Civil Works	
1	Concrete Transit Mixer	02 Nos.
2	Batching Plant (30 Cum/Hr.) with Sufficient Capacity of Silos.	01 No.
3	Hydraulic Excavator /Poclain	02 Nos
4	Poclain with rock breaker arrangement	As per Requirement
5	Concrete Pump of Suitable Capacity with Sufficient lift in order to pour concrete (45-60cum/hr)	2 nos
6	Mini excavator with dozing blade and auger arrangements and mini bucket arrangements	As per Requirement
7	Back Hoe Loader (JCB)	01 Nos.
8	Dumper (with capacity 16 to 25 Cum) However, may need more as per requirement.	4 Nos.
9	Concrete Boom placer min. 35m long	As per Requirement
10	Vibrators (electrical/diesel)	As per Requirement
11	Self-priming Dewatering pump of various capacity (Diesel/Electric) From 2 HP to 7.5 HP	As per Requirement
12	Curing / dewatering pump – 1.5 / 2 HP	As per Requirement
13	De-watering pump (diesel operated)	As per Requirement
14	Pneumatic rock breaker with jack hammer	As per Requirement
15	Ply Shuttering board with adequate scaffolding supporting structure – (Old steel shuttering plates will not be allowed).	As per requirement & as per the direction of Engineer In charge.
16	Farana crane (Required Capacity)	01 No.

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	*Note- Hydra is not allowed at project site	
17	Trailer (min 20MT Capacity)	01 No.
18	Tractor mounted grader/ loader	As per requirement
19	Scaffolding Pipes, Clamps / Swivel Couplers (One/Two Way), Props, Jacks, Screw Heads, MS Pipes, Wooden Battens, Planks, Bullies, H Frames, Tie Rods with Nuts, Adjustable Achro Span (Considering Individual Areas)	As per requirement
20	Reinforcement bending machine	As per requirement
21	Reinforcement cutting machine	As per requirement
22	Plate compactor	01 Nos.
23	Earth Compactor- 3MT Capacity	01 Nos.
24	Total Station with prim and stand	01 Nos.
25	Auto level & staff	02 Nos.
26	Vibro roller	As per requirement
27	Dozer (D-80) capacity	As per requirement
28	Water Tanker with sprinkler attachment	01 No.
29	All equipment for area Lightning like LED/Halogen bulbs and Portable light Towers etc.	As per Requirement
30	Computer with printing/photocopy & CD writing facility	As per Requirement
31	Man lift crane of Minimum 20m reach	As per Requirement
32	DG Set of 125 KVA Capacity	01 No.
33	DG Set of 250 KVA Capacity	As per Requirement
34	Fully mechanized paver fitted with electronic sensors	As per requirement
35	Reinforcement scrap straightening machine	As per requirement
36	Portable Welding machine	As per requirement
37	Builder Hoist	As per requirement

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38	Electric winch 5T capacity	As per requirement
39	Movable tower crane	As per requirement
40	Plate vibrators for slab concrete	As per requirement
41	T&Ps for hard rock blasting arrangements (controlled blasting)	As per Requirement
42	SPANNERS / EYE BOLTS (OF ALL SIZES)	As per requirement
43	Wooden/Concrete sleeper 1.5-2.0 Mtr length	As per requirement
44	Sufficient quantity of steel ladders for approach up to the top of each erected column to be required during erection of columns.	As per requirement
45	Suspended working platform Size :7mX1mX0.5m, Rated load 800 kg to 1000 Kg (For Cladding Fixing Works)	As per requirement
46	Theodolite of required accuracy	01 No
47	Air compressor/blower (electric/diesel operated)	As per requirement
48	Hydraulic Jack set for Tank Erection	As per requirement
49	Fill pump	As per requirement
50	Hydraulic Test pumps/ Hand pumps Along with Suitable/ different ranges of calibrated Pr. gauges	As per requirement
51	Shot Blasting Cleaning set up with copper slag	As per requirement
52	Stud Welding Machine	As per requirement
53	UT Machine	As per requirement
4.2	Measuring and Monitoring Equipment (MMEs): To be finalized as per site requirement.	
4.3	T&Ps shown in the above-mentioned list is suggestive requirement. However, mobilization schedule as mutually agreed at site for major T&Ps, have to be adhered to. Numbers/time of requirement will be reviewed from time to time at site and contractor will provide required T&Ps/equipment to ensure completion of entire work within schedule/target date of completion without any additional financial implication to BHEL. Contractor will give advance intimation & certification regarding capacity etc. prior to dispatch of heavy equipment. Also, on completion of the respective activity, demobilization of T&Ps in total or in part can be done with the due approval of Engineer-In-	

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Chapter – IV: T&PS AND MMES TO BE DEPLOYED BY CONTRACTOR

	Charge. Retaining of the T&Ps during the contract period will be mutually agreed in line with construction requirement.
4.4	The contractor shall arrange crane operator, diesel, petrol and other consumables including electrical / water / air connections required for the tools and plants, equipment etc. Preventive and routine maintenance of T & P are also to be arranged by the contractor at his cost without any delay. Required number of experienced mechanics and helpers for routine maintenance of the above T&Ps shall be provided by the contractor within his quoted rate.
4.5	Any heavy equipment (Crane, Winch machine etc.) manufactured less than 15 years from the current year shall be only allowed to be used at project site. Pre-Safety Inspection of the equipment by safety Deptt. Shall be done before mobilizing the equipment at project site.
4.6	Other terms and conditions regarding T&Ps to be deployed by Contractor, shall be as per clause No. 4.2 of SCC

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: T&PS AND MMES TO BE PROVIDED BY BHEL

5.0	LIST OF T&P TO BE PROVIDED BY BHEL FREE OF HIRE CHARGES ON SHARING BASIS:
5.1	BHEL shall not provide any T&Ps for this scope of work. All T&Ps required for handling of items / materials to be arranged by bidder.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE

6.0	Time Schedule and Mobilization:																														
6.1	<p>Initial Mobilization and Time Schedule:</p> <p>After issue of LOA (though Fax/courier/email) the contractor shall report to the Construction Manager/Site In-Charge of BHEL at site within seven (07) days from date of LOA and submit detailed mobilization plan to start work within 15 days from date of LOA; unless instructed by BHEL to differ start of work in writing.</p> <p>The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of 24 Months (Twenty-Four Months) from the date of start of work in a manner required by BHEL to match with the project schedule.</p> <p>Date of Start of work shall be considered as 15 days after date of LOA or as instructed by BHEL in writing.</p>																														
6.2	<p>Schedule of Completion:</p> <p>The entire work under the scope of this contract shall be carried out in such a manner that the following listed major milestones are achieved as per completion schedule given against each activity & released for erection by other agency.</p> <table><tr><td>S. No.</td><td>Activity</td><td>Schedule of completion from start of work</td></tr><tr><td>6.2.1</td><td>Road Work: -</td><td></td></tr><tr><td>6.2.1.1</td><td>WBM Completion -10000 cum (M1)</td><td>Within 08th Month</td></tr><tr><td>6.2.1.2</td><td>PCC/DLC Completion – 5000 cum</td><td>Within 10th Month</td></tr><tr><td>6.2.1.3</td><td>PQC Completion – 5000 cum (M2)</td><td>Within 15th Month</td></tr><tr><td>6.2.1.4</td><td>WBM Completion -Balance Quantity</td><td>Within 15th Month</td></tr><tr><td>6.2.1.5</td><td>PCC/DLC Completion -Balance Quantity</td><td>Within 18th Month</td></tr><tr><td>6.2.1.6</td><td>PQC Completion -Balance Quantity</td><td>Within 21th Month</td></tr><tr><td>6.2.2</td><td>Drain Work Completion</td><td>Within 22th Month</td></tr><tr><td>6.2.3</td><td>Completion of balance finishing works like paver, shoulder, culverts,etc and Handing Over</td><td>Within 24th Month</td></tr></table>	S. No.	Activity	Schedule of completion from start of work	6.2.1	Road Work: -		6.2.1.1	WBM Completion -10000 cum (M1)	Within 08th Month	6.2.1.2	PCC/DLC Completion – 5000 cum	Within 10 th Month	6.2.1.3	PQC Completion – 5000 cum (M2)	Within 15th Month	6.2.1.4	WBM Completion -Balance Quantity	Within 15 th Month	6.2.1.5	PCC/DLC Completion -Balance Quantity	Within 18 th Month	6.2.1.6	PQC Completion -Balance Quantity	Within 21 th Month	6.2.2	Drain Work Completion	Within 22 th Month	6.2.3	Completion of balance finishing works like paver, shoulder, culverts,etc and Handing Over	Within 24 th Month
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE

6.3	The above schedule is only tentative. The above schedule shall be advanced, if there are requirements to advance the project schedule and the civil works in the scope of the contractor is to be advanced to meet the project requirement. No extra payment whatsoever shall be paid on this account.													
6.4	<p>The Contractor shall submit a detailed L-2 schedule for execution of the complete works covered under the scope of this tender at the BHEL site within fifteen (15) days from the date of issuance of the Letter of Acceptance (LOA).</p> <p>The L-2 schedule shall be reviewed and approved by the BHEL site. The L-2 schedule, duly approved by the BHEL Site-In-Charge/ Construction Manager, shall be a pre-requisite for signing of the contract.</p> <p>The Contractor shall make all efforts to achieve the targets stipulated in the detailed (L-2) schedule and shall deploy and augment the required resources, as necessary, to meet the approved schedule.</p>													
6.5	In order to meet the above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, Contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL Engineer.													
6.6	<p>Intermediate milestones:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 15%;">6.6.1</td><td colspan="2">Two Major Intermediate Milestones are identified as M1 and M2 above.</td></tr> <tr> <td style="text-align: center;">Milestones</td><td style="text-align: center;">Activity</td><td style="text-align: center;">Schedule of completion from start of work</td></tr> <tr> <td style="text-align: center;">M1</td><td>WBM Completion -10000 cum (M1)</td><td>Within 08th Month</td></tr> <tr> <td style="text-align: center;">M2</td><td>PQC Completion – 5000 cum (M2)</td><td>Within 15th Month</td></tr> </table>		6.6.1	Two Major Intermediate Milestones are identified as M1 and M2 above.		Milestones	Activity	Schedule of completion from start of work	M1	WBM Completion -10000 cum (M1)	Within 08 th Month	M2	PQC Completion – 5000 cum (M2)	Within 15 th Month
6.6.1	Two Major Intermediate Milestones are identified as M1 and M2 above.													
Milestones	Activity	Schedule of completion from start of work												
M1	WBM Completion -10000 cum (M1)	Within 08 th Month												
M2	PQC Completion – 5000 cum (M2)	Within 15 th Month												
6.7	<p>Provision of Penalty in case of slippage of Intermediate Milestones: In case of slippage of Two Major Intermediate Milestones, mentioned as M1 & M2 above, delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to F-14.</p>													
6.7.1	In case of slippage of these identified Intermediate Milestones, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones.													

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE

6.7.2	In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 2% of executable contract value, will be withheld.
6.7.3	In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 3% of executable contract value, will be withheld.
6.7.4	Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.
6.7.5	Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment (corresponding RA Bill) and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.
6.7.6	Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion/ closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be.
6.7.7	In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.
6.7.8	*Executable Contract Value - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.
6.7.9	Common activities shall be completed in Phase wise manner/ Instruction of Engineer within the Contractual time.
6.7.10	Above milestone dates has to be completed in parallel.
6.7.11	Bidders are requested to submit Resource deployment plan Area wise with detail program in line with above schedule in the form of Bar Chart/ MS project planer along with their offer.
6.8	COMPLETION OF WORK AND COMMENCEMENT OF GUARANTEE PERIOD
6.8.1	The works shall be completed to the entire satisfaction of the Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labor hutments and other things shall be removed and the site and work cleared of rubbish

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE

	and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
6.8.2	BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the Engineer. Such work however shall not be treated as have been completed until the remaining / pending works are executed to the satisfaction of Engineer.
6.8.3	The Engineer shall certify to the contractor the date on which the work is completed and the date thereof for commencement of Guarantee Period. Guarantee Period shall be as given in GCC.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VII: TERMS OF PAYMENT

7.0	Terms of Payment:
7.1	Progressive Payment/ Final Payment: The payments for works under the scope of this contract shall be as per clause no 2.6; 2.22; 2.23 of General Conditions of Contract and Volume-IB, Chapter-X of SCC.
7.1.1	<p><u>Documents required for RA Bill:</u></p> <ul style="list-style-type: none"> • GST Complied Invoice of the work done as per approved BBU. • WAM -6 for RA Bill. • Jointly signed Measurement sheet. • Power of Attorney before submission of Bill. • Validity of Bank Guarantees as applicable under the contract. • Certified Quality Documents and Protocols as per FQP. • HR/IR compliance documents: <ul style="list-style-type: none"> i. Wages payment sheet as per applicable minimum wages. ii. Proof of PF contribution submission. iii. Proof of ESI/ WC contribution submission iv. Proof of Bonus payment as per Bonus Act if applicable. v. Proof of EL payment if applicable. vi. Any other statutory document if applicable. vii. Royalty challan and statutory documents shall be submitted along with RA Bills for processing of Bills.
7.1.2	<p><u>Documents required for Final Bill:</u></p> <p>The final bill is drawn as soon as the entire work is completed. From the final amount due, all amounts already claimed up to the previous running account bill will be deducted. It should be ensured that in the final bill the following additional particulars have been provided:</p> <ul style="list-style-type: none"> • Final Bill in WAM-7 Format. • ‘No claim’ certificate from the contractor. • Clearance certificates where ever applicable viz. Clearance Certificates from Customer, various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department etc. • Final Material re-conciliation statement duly approved by BHEL. • Indemnity Bond as per prescribed format.

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Chapter – VII: TERMS OF PAYMENT

	<ul style="list-style-type: none">• Royalty challan• Deviation statement showing the difference between the actuals and as per the contract.• Final Delay Analysis.
7.2	<p>SECURED RECOVERABLE ADVANCES:</p> <p>Interest Free Secured Mobilization Advance as per GCC Clause No. 2.13.1 will be payable under exceptional circumstances on approval of BHEL Construction Manager at Site. Interest Free Mobilization Advance shall be disbursed in specifically mentioned stages of major resource mobilization as specified hereunder:</p> <ol style="list-style-type: none">1. For Mobilization of Hydraulic Excavator 1 Nos., JCB – 1 No., Dumper-2 Nos. – 2%2. For Mobilization of Concrete Batching Plant, Concrete Pump of Suitable Capacity-1 No & Transit Mixers (1 nos)- 2%3. For Installation and Erection of Site Infrastructure by contractor i.e. site office, stores – 1%. <p>Note:</p> <ol style="list-style-type: none">1. BHEL Site-CM/Project Director shall be the deciding authority for assessing the admissibility of advance payment to contractor.2. In case contractor do not fulfil the agreed conditions of payment of 1st mobilization advance, BHEL Construction Manager will have the authority to not allow the 2nd mobilization advance to contractor.

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Chapter – VIII: TAXES AND DUTIES

8.0	TAXES & DUTIES
8.1	<p>The contractor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.</p> <p>However, provisions regarding GST on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p>
8.2	GST (Goods and Services Tax)
8.2.1	<p>GST as applicable on output supply (goods/services) are excluded from contractor's scope; therefore, contractor's price/rates shall be exclusive of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.</p>
8.2.2	<p>The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Contractor.</p>
8.2.3	<p>Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.</p>
8.2.4	<p>Contractor has to submit GST registration certificate of the concerned state. Contractor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.</p>
8.2.5	<p>Contractor/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.</p>
8.2.6	<p>Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: TAXES AND DUTIES

8.2.7	Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.
8.2.8	<p>Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Contractor: -</p> <ul style="list-style-type: none">a. Supply of goods and/or services have been received by BHEL.b. Original Tax Invoice has been submitted to BHEL.c. Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.d. In cases where e-invoicing provision is applicable, vendor/contractor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.e. Contractor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return.f. Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the contractor.g. Contractor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.
8.2.9	Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from contractor's bill or otherwise as deemed fit.
8.2.10	TDS as applicable under GST law shall be deducted from contractor's bill.
8.2.11	Contractor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permits, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.
8.2.12	Contractor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: TAXES AND DUTIES

	other liability on account of failure of contractor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.
8.2.13	In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Contactor's due payment.
8.2.14	Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contactor.
8.2.15	In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the contractor.
8.2.16	<p><u>Variation in Taxes & Duties:</u></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contactor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>
8.3	<p><u>Income Tax:</u></p> <p>TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.</p>
8.4	<p><u>BOCW Act & Cess Act</u></p> <p>BOCW Cess is not to be borne by contractor. Refer Annexure-I for BOCW Act & Cess Act.</p>

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Chapter – VIII: TAXES AND DUTIES

8.4 BOCW Act & Cess Act

8.4.1 BOCW Cess is not to be borne by contractor. Refer Annexure-I for BOCW Act & Cess Act.

Annexure-I:	
Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:	
1.	It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
2.	It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3.	It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4.	It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may, by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5.	It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
6.	It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII: TAXES AND DUTIES

	Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
7.	It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
8.	BOCW remittance should be made only after obtaining prior consent from BHEL. Contractor shall make remittance of the BOCW Cess as per the Act in consultation with BHEL as per the rates in force (presently 1%). BHEL shall reimburse the same upon production of documentary evidence.. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.
9.	-void-
10.	It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.
11.	<p>Bidders may please note that though the quoted price is exclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 8 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed,</p> <p>Non-compliance to Provisions of the BOCW Act & BOCW Welfare Cess Act is not acceptable. In case of any non-compliance, BHEL reserves the right to withhold any sum as it deems fit. Only upon total compliance with the BOCW Act and the discharge of total payment of Cess (in consultation with BHEL) under the BOCW Cess Act by the Contractor, BHEL shall consider refund of the amounts.</p>

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Chapter – VIII: TAXES AND DUTIES

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| 12. | The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. |
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Chapter-IX: MATERIALS

9.0	MATERIAL
9.1	Material to be issued by BHEL (Free of Cost) unless otherwise specified in BOQ cum Rate Schedule a. Cement b. Reinforcement Steel and MS Round Bar (Earthing Rod)
9.2	All other materials required for proper completion of job shall be provided by the contractor and is deemed to be inclusive in the quoted price. Bidder's scope also includes following:
9.2.1	ACCEPTANCE CRITERIA FOR SUB VENDORS FOR ALL CIVIL ITEMS (Except for Cement, Reinforcement steel, Structural Steel materials) a. It should confirm to relevant Indian/international Standards. b. It should be of reputed makes supplied to similar construction/ infrastructure projects. c. The Contractor should furnish documentary evidence to prove (a) and (b) above. For make / sub vendor for specific civil items, BHEL / Customer's approval shall be final and binding on contractor.
9.2.2	Furnishing samples of all materials required by the BHEL Engineer for testing/inspection and approval for use in the works. The samples may be retained by the Engineer for final incorporation in the works. The Approved BOI categorization plan shall be followed.
9.2.3	Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
9.2.4	Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
9.2.5	The contractor shall provide the owner/BHEL such an assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
9.2.6	Contractor shall set up suitable storage facilities for Cement, sand, bolts, aggregate, reinforcement steel, structural steel, handrail, grating, foundation bolts, shuttering item, inserts, water proofing material, admixture, cladding sheets, other BOI's etc. and all are stored properly as per IS recommendation/technical specifications/ manufacturer recommendation. Wastage due to inadequacy/lapses/negligence of storage will be on account of contractor.
9.2.7	BHEL free supplies shall be provided only for incorporation in the permanent works of the project.

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Chapter-IX: MATERIALS

9.2.8	<p>Embedments/ inserts required for the works in general shall be supplied by the contractor and payment shall be made as per corresponding item in BOQ.</p> <p>If BHEL provides Structural Steel for embedments/ inserts from scraps (if available), payment shall be made as per corresponding item in BOQ. Contractor shall use the scrap materials for embedment/inserts etc. after necessary store issue formalities and shall be accounted for in monthly reconciliation. If BHEL provides fabricated embedments/ inserts as supplied by BHEL manufacturing units, payment for fixing of those shall be made as per corresponding item in BOQ.</p>
9.2.9	<p>In general, the steel will be issued to the agency in standard lengths. In any instance of supply of non-standard lengths of steel or supply of 8mm, 10mm & 12mm dia. Reinforcement steel in coil form, no extra claims will be entertained against any such issues of Non-standard lengths of steel and de-coiling of 8mm, 10mm & 12mm dia. Steel.</p> <p>Areas of work requiring cut to length steel in order to minimize scrap generation and wastage, has to be specifically identified in consultation with BHEL site engineer and contractor shall furnish the requirement to BHEL well in advance of such requirement.</p>
9.2.10	<p>If any matching sections of steel are not available with BHEL, contractor may arrange these sections from Customer approved suppliers and the landing cost of these sections at site will be reimbursed based on production of supporting documents like Tax invoice, MTC, etc. and any other billing documents as required by BHEL.</p> <p>This Clause shall be operated if required, at the discretion of BHEL.</p>
9.3	<p>HANDLING OF MATERIAL ISSUED BY BHEL:</p> <p>Refer Chapter-VI “Material Handling, Storage & Preservation” of SCC</p>
9.3.1	<p>Cement, Reinforcement Steel, (wherever specified as free issue by BHEL) required for the tender scope shall be procured by BHEL and issued to contractor free of cost (As FOC Item). However, unloading, handling / storage of Cement, Gratings and Reinforcement steel procured by BHEL for this tender scope at site, Contractor's Stores, issuance of materials from BHEL Stores and further transportation from Stores to work area (including loading and unloading) will be in the scope of contractor. No Extra payment shall be made for this work.</p>
9.3.2	<p>The contractor shall take care of material issued by BHEL and shall protect the same from damage and weathering. Contractor shall construct waterproof cement store (capacity minimum 300 MT/ 6000 Bags) for storing and stacking of cement issued by BHEL free of cost.</p>
9.3.3	<p>The theoretical weight of each bag of cement for issued purposes will be considered as 50kg, the contractor shall be accountable for the cement issued to the contractor on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement.</p>

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9.3.4	The empty cement bags duly accounted for against issue shall be the contractor's property and the same shall be disposed as per statutory regulation prevailing in the project.
9.3.5	The contractor shall satisfy himself of the quality and quantity of supplied cement at the time of taking delivery from BHEL stores. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL stores.
9.3.6	Contractor will be responsible for sampling and testing of cement as per Indian Standard / Specification / approved quality plan in the testing laboratory established by the contractor.
9.3.7	No cement will be issued on free basis for bought out item like Hume pipe, Interlocking Paver block, Fly ash brick, etc or any other BOI which involves cement and is procured from outside of plant premises. However, cement for mortar for fixing of these items if required will be issued on free basis.
9.3.8	One month shall be the limit for the maximum quantity of BHEL issued cement that would be with the contractor at any point of time when work is in progress (excluding what has already been incorporated in the works). Necessary arrangements for first in first out must be maintained.
9.3.9	Contractor will be responsible for unloading the cement as soon as the arrival of cement in the weather proof cement storage sheds/ Silo's having dense impervious bituminous or concrete floors which shall be kept swept clean at all times. The storage arrangements shall be fully completed and approved by the owner before any cement is delivered to site. The construction of cement storage sheds as per the requirement of BHEL, unloading of cement bags, stacking properly in the storage sheds, removal of the sheds after the completion of the work are in the scope of bidder. Though the cement is unloaded directly at the contractor storage shed, it will be deemed to be considered that the cement was issued from BHEL stores. Necessary documents are to be submitted by the contractor to the BHEL stores for having received cement.
9.3.10	The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However, in case of non-availability of any specific material / section(s) which delays the completion of work, such cases shall be recorded separately in monthly planning format (F14) and shall be considered for time extension of contract.
9.3.11	Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.

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9.3.12	Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials, issued to contractor, accounting for surplus/scrap material returned etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.
9.3.13	The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.
9.3.14	BHEL reserves the right to recover from the contractor any loss of material issued by BHEL arising out of damage/ theft or any other causes during verification/stacking or at any time under the custody of the contractor.
9.3.15	BHEL issued materials, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.
9.3.16	The contractor shall maintain proper store account for all the BHEL issued materials and shall give Three (03) copies of monthly-computerized reconciliation statement of such account showing total receipt, consumption and balance at site to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. Contractor shall also maintain Cement register and other free issue item register and update on daily basis and share with BHEL
9.3.17	Before commencement of work, Contractor has to satisfy/ensure the above design mix proportion through conducting trial mix. Contractor shall not be absolved from the responsibility of quality of concrete works as per relevant specification, standard and to ensure satisfactory performance as per terms and conditions of contract. Any issue raised regarding design mix after successful completion of trial mix shall not be entertained and contractor shall not be entitled for any cost or damages.
9.4	Issue of Cement
9.4.1	Cement as received from the manufacturer/ stockiest will be issued free of cost to the contractor. The theoretical weight of each bag of cement for issued purposes will be considered as 50 kg, the contractor shall be accountable for the cement issued to the contractor on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement.
9.4.2	In case cement is issued through bulkers being supplied from manufacturer/stockiest; the same shall be emptied in cement silos of batching plant and necessary assistance shall be provided by contractor.

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9.4.3	In case BHEL supplies cement through Bulker, Bidder has to store cement in Silos of Suitable capacities as decided by Engineer in charge. Silos Capacities shall be finalized mutually.		
9.4.4	The empty cement bags duly accounted for against issue shall be the contractor's property and the same shall be disposed as per statutory regulation prevailing in the project.		
9.5	Issue and Return of Cement, Reinforcement Steel, MS Round Bar (Earthing Rod) and Structural Steel. Refer Chapter-VI "Material Handling, Storage & Preservation" of SCC		
9.6	Consumption and Wastage of Cement, Reinforcement Steel, Structural Steel and MS Round Bar (Earthing Rod): Refer Chapter-VI "Material Handling, Storage & Preservation" of SCC		
9.7	Recovery of Materials (Penal Rates): If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly RA Bills as per following penal rates (excluding GST):		
9.7.1	Sl. No.	Materials	Penal Rate (Rs.)
	1	Cement (PPC)	5500/- per MT
	2	Cement (OPC)	6500/- per MT
	3	Reinforcement Steel / Earthing Rod	60,000/- per MT
9.7.2	Penal Rate will be 1.05 times the actual cost to BHEL or Rate mentioned in Table 9.7.1 above, whichever is higher, shall be imposed.		

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Chapter-X: BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS

10.0 This Chapter consists of Part A & Part B of Volume II “Price bid”:

<u>CONTENTS</u>	
Description	Remarks
PART A: Instructions to the Bidders	Instructions
PART B: % weightage for amount of individual items of Schedule of quantity	Bill of Quantities and % Weightage of Individual Items
PART C:- Total Price for entire scope of Work	This part is implanted in the E- Procurement portal entitled as “Vol-II Price Bid”.

<u>Part A:</u>	<u>Instructions to the Bidders</u>
1.	<u>Bidders shall quote Total Price for the entire scope of work in Rupees in VOL II PRICE BID at BHEL E-procurement Portal.</u> Any other entry elsewhere in the offer of the bidder shall be treated as Null and Void. The total value shall be automatically calculated on E-portal
2.	Bidder shall quote the total price in “Price Bid”.
3.	BHEL has fixed the % weightages of individual items of BOQ Cum Rate Schedule w.r.t. the total price of Price Bid Vol-II.
4.	Based on the pre-fixed weightages and quantities in the BOQ cum Rate Schedule, item rate of individual items shall be derived by BHEL. This item rate shall be used to calculate the total amount of an item.
5.	For the convenience of bidders, BHEL has issued an excel sheet with all requisite formulae as detailed above. However, this excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.
6.	Bidders to note that this is an ‘Item rate contract’. Payment shall be made for the actual quantities of work executed at the Unit rate arrived at as per serial no. 4 above.
<u>PART B:</u>	% weightage of individual items of BOQ CUM RATE SCHEDULE w.r.t. the total price (as quoted by the bidder in “Part C of Vol-II-Price Bid”)- attached separately.

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Chapter-XI: TECHNICAL SPECIFICATIONS AND DRAWINGS

11.0 Following Technical Specifications shall be integral parts of this tender

11.	Following Technical Specifications shall be integral parts of this tender (attached separately):
11.1.	SECTION-B: PROJECT INFORMATION
11.2.	SECTION-C: CUSTOMER CONTRACT SPECIFIC TECHNICAL REQUIREMENTS
11.3.	SECTION-D: GENERAL TECHNICAL REQUIREMENTS
11.4.	PLOT PLAN DRAWING
11.5.	GENERAL LAYOUT OF SHEDS AT WORKER'S ESTABLISHMENT
11.6.	TYP.LAYOUT FOR WORKMEN SHED
11.7.	STANDARD GUIDELINES FOR LABOUR COLONY OR WORKER ACCOMODATION
11.8.	CUSTOMER GENERAL CONDITIONS
11.9.	CUSTOMER SAFETY REQUIREMENTS
11.10.	ODISHA MINING MINREAL ROYALTY
11.11.	BHEL'S STANDARD HSE PLAN

NOTES:

- Contractor has to make him well conversant with the Customer and BHEL's Technical Specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail.
- Above documents have been uploaded Separately.