

**TALABIRA RAW WATER
RESERVOIR**

VOLUME - IA

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Civil, Structural and Architectural works of Raw Water Reservoir & its associated works , Raw Water Pump House Rain Water Harvesting Pond, Rain water pump house & its associated works, Pipe pedestals, duct banks, pull pits, road crossings, any other civil work pertaining to raw water and rain water harvesting systemat 3 x 800 MW NLC TALABIRA TPP (NTTPP), Jharsuguda, Odisha, INDIA

BHARAT HEAVY ELECTRICALS LIMITED



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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 (NTTTP)
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>

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Chapter – I: PROJECT INFORMATION

6.	Temperature	<p>a. Mean Ambient Temperature Maximum 33.1°C 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.	
1.2.6.	Bidders may fix up their site visit in consultation with below mentioned contact person:	
	Name:	Mr. Subrata Kumar Adak

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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

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Chapter – II: SCOPE OF WORKS

2.0	Scope of Works:
2.1.	<p>The scope of works shall comprise of Civil, Structural and Architectural works of but not be limited to the following;</p> <ol style="list-style-type: none"> 1. Raw Water Reservoir & its associated works . 2. Raw Water Pump House . 3. Rain Water Harvesting Pond. 4. Rain water pump house & its associated works. 5. Pipe pedestals, duct banks, pull pits, road crossings etc. 6. Any other civil work pertaining to raw water and rain water harvesting system.
2.1.1.	In case of consortium bidding, the consortium partner qualifying of B-2.2 criteria of PQR shall necessarily carry out the work of LDPE/HDPE lining in Reservoir.
2.2.	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.
2.3.	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.
2.4.	GENERAL
2.4.1.	Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
2.4.2.	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.
2.4.3.	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.
2.4.4.	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.
2.4.5.	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.

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2.4.6.	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 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.
2.4.7.	The necessary precautionary measures shall be adopted by contractor to prevent water logging and dewatering as required in the work area, as the project site is surrounded by Bhedan river in three sides, while carrying out the site works.
2.4.8.	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 subsoil, surface water or catchments water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL.
2.4.9.	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. Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, and contractor's material storage area etc. at his cost.
2.4.10.	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.
2.4.11.	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.
2.4.12.	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.
2.4.13.	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.
2.4.14.	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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2.4.15.	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.
2.4.16.	<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>
2.4.17.	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.
2.4.18.	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.
2.4.19.	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.
2.4.20.	Contractor shall take up housekeeping activity on regular basis to keep the site clear of rubbish/ debris.
2.4.21.	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.	<p>Technical Staff Requirement</p> <p>Required experienced Engineers and Supervisors of 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: -</p> <ul style="list-style-type: none"> • Project Manager – 01 Head with 5 Years' experience in Civil & Architectural Works etc. • Asst. Project Managers – 01 Heads with 3 Years' experience in Industrial Foundation, Building & Power Plant Civil & Architectural Works

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	<ul style="list-style-type: none"> • Experienced Civil Engineers – 03 heads • Experienced Foreman / Supervisors – 6 heads • Planning & Billing Engineers – 02 head • Stores, Gate Pass – 02 head • Accounts & Administration – 01 head • Quality Control Engineer – 02 head • Safety Engineer/Steward – As per HSE Plan • Surveyor – 02 head capable to handle total station • Operator, Licensed Electrician, Mechanic - As per requirement • Security Guards (Round The Clock) – As per requirement.
2.6.	DESIGN MIX
2.6.1.	The Contractor shall get mix design approved from Govt. Engineering College / NABL accredited laboratories. The design mix shall be made as per IS 456/10262 latest revision and specification using the cement as per technical specification and advance action should be taken by the contractor for Mix design approval using the locally available coarse & fine aggregates, before commencement of the concreting works. The contractor shall get the design mix proportions approved by BHEL/BHEL's Customer/Consultant. The design mix proportion shall be used for concreting at this project.
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: 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 /

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	<p>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.	Contractor shall arrange for latest testing equipments as per requirement in line with attached Annexure-I.
2.8.	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.
2.9.	<p>METHOD OF MEASUREMENT</p> <p>Mode of measurement shall be as per relevant IS 1200 in conjunction of IS code 3385. In case the same is also not available, the standard procedure adopted in CPWD shall be adopted. In case, the same is also not available in CPWD, the measurement of the work done will be based on the mutual agreement between BHEL and contractor. In all the above cases, the interpretation of BHEL will be final and binding to the contractor. Measurement guidelines as a ready reference is also available in the technical specification</p>
2.10.	ROYALTY/ SEIGNIORAGE CHARGES
2.10.1.	<p>ROYALTY/ SEIGNIORAGE CHARGES FOR EXCAVATION INSIDE PROJECT PREMISES AND FOR EXCAVATION OF OVERBURDEN EARTH FROM TALABIRA MINES</p> <ol 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 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>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>
2.10.2.	ROYALTY FOR CONSTRUCTION MATERIALS

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	<p>i. 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.</p> <p>ii. The contract price shall be including all applicable Royalty for Construction materials as per the rates in clause no. 2.10.2 i and the Bidder to quote their price accordingly. The Royalty amount will not be reimbursed by BHEL.</p> <p>iii. 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.</p> <p>iv. In the event of there being a decrease in such rates, the decrease shall be recovered from the Contractor.</p> <p>v. The increase or decrease in Royalty shall be w.r.t the rate as per enclosed notification as referred in Clause no. 2.10.2 i above.</p> <p>vi. 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.</p> <p>vii. However, the Contractor will settle claims, if any, on account of over charge by the State Authorities.</p> <p>viii. 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.</p> <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>
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	<p style="text-align: center;">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>
<p>2.11.</p>	<p>HIERARCHY:</p>
<p>2.11.1.</p>	<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. IS Standard 5. 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 PART I	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			On chargeable basis. Refer clause 3.12
a	Single point source (In general) For detail, refer clause no. 3.11	Yes		

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3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
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	
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	

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3.0				
FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
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	
3.6.	Demobilization of all the above facilities		Yes	
3.7.	Erection Facilities			
3.7.1.	Engineering works for construction:			

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3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL (SCOPE MATRIX)				
Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
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:			
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 erections 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 pant, 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			

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	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.
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.
3.10.	Installation of necessary amenities- and temporary infrastructure for construction activities at Project site locations.

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	<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"> i. Labour rest sheds near work spot. ii. Canteen facility creation. iii. Drinking water facility. iv. Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. v. Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements.
<p>3.11.</p>	<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 shed <p>For above documents refer Chapter-XI: TECHNICAL SPECIFICATIONS AND DRAWINGS</p>
<p>3.12.</p>	<p>Construction Power:</p>
<p>3.12.1.</p>	<p>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.</p>
<p>3.12.2.</p>	<p>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.</p>
<p>3.12.3.</p>	<p>Contractor to note that BHEL shall complete the arrangements for Construction Power Supply after about nine months from the commencement of contract period. However, in the meantime, BHEL will also make alternate temporary arrangements to provide Construction Power Supply to contractor.</p> <p>Till such temporary arrangement is made by BHEL, 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.</p>
<p>3.12.4.</p>	<p>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.</p>

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

3.12.5.	<p>The Construction Power consumed by the contractor shall be chargeable based on prevalent rate of DISCOM (OERC guidelines). The existing rates are provided below:</p> <p>Demand Charge: Rs.250/KVA/ Month</p> <p>Energy Charge:</p> <p>For Load Factor $\leq 60\%$: 585.00 Paise/kVAh</p> <p>For Load Factor $>60\%$: 475.00 Paise/kVAh</p>
3.12.6.	The above rates are indicative only. This rate may vary from time to time and the prevailing rates during execution shall be applicable.
3.12.7.	Any duty, deposit involved in getting the Electricity shall be borne by the bidder.
3.12.8.	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.
3.12.9.	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.
3.12.10.	<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>
3.12.11.	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.
3.12.12.	Contractor has to make their own arrangements for electricity requirement for labour colony at his own cost.
3.13.	Construction water:
3.13.1.	Construction Water (Raw water) required for site requirements shall be drawn from the Bhedan river at a point jointly identified by Contractor and BHEL Engineer in charge. The required pumps & accessories, pipes for drawing water from the given point and for further

TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

	distribution shall be arranged by the contractor at their cost to ensure supply of water without interruptions. No extra payment shall be made under this account.
3.13.2.	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.
3.13.3.	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.
3.13.4.	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.
3.13.5.	BHEL shall establish pumping system for drawing water from Bhedan river for Construction purposes. 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.
3.14.	RECORDS TO BE MAINTAINED AT SITE
3.14.1.	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
3.14.2.	The below mentioned Records/ Log-books/ Registers applicable to be maintained. <ul style="list-style-type: none">a. Hindrance Register.b. Site Order Book.c. Test Check of measurements.d. Cement Supply and Consumption Daily Registere. Records of Test reports of Field tests.f. Records of manufacture's test certificates.g. Records of disposal of soil/ rock generated during and after the work completion.h. Records of disposal of scraps generated during and after the work completion.i. List of T&Ps and MMEs

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

4.0	T&PS AND MMES TO BE DEPLOYED BY CONTRACTOR																																										
4.1.	<p>Tools and Plants:</p> <p>In line with scope of work, availability of below mentioned T&Ps are to be mobilized within 1 month from the Start of Work based on front availability at site. However, in case clear Workfront is not available from BHEL/Customer, then necessary joint record may be prepared between BHEL and agency showing justification for mobilization at a later date.</p> <p>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.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 10%; text-align: center;">Sl. No.</th> <th style="width: 60%; text-align: center;">Description of T&P</th> <th style="width: 30%; text-align: center;">Tentative Requirement</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>Hydraulic Excavator /Poclain</td> <td style="text-align: center;">10 Nos.</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>Dumper/ Tipper</td> <td style="text-align: center;">50 Nos.</td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Dozer</td> <td style="text-align: center;">4 Nos.</td> </tr> <tr> <td style="text-align: center;">4.</td> <td>Grader</td> <td style="text-align: center;">4 Nos.</td> </tr> <tr> <td style="text-align: center;">5.</td> <td>Water Tanker with sprinkler attachment</td> <td style="text-align: center;">8 Nos.</td> </tr> <tr> <td style="text-align: center;">6.</td> <td>Vibro roller (8-10T)</td> <td style="text-align: center;">4 Nos.</td> </tr> <tr> <td style="text-align: center;">7.</td> <td>Trailer of required capacity</td> <td style="text-align: center;">1 Nos</td> </tr> <tr> <td style="text-align: center;">8.</td> <td>JCB</td> <td style="text-align: center;">2 Nos.</td> </tr> <tr> <td style="text-align: center;">9.</td> <td>Batching plant (min capacity 20-30 cum/hr)</td> <td style="text-align: center;">1 Nos.</td> </tr> <tr> <td style="text-align: center;">10.</td> <td>Concrete Transit Mixer (6 cum capacity)</td> <td style="text-align: center;">2 Nos.</td> </tr> <tr> <td style="text-align: center;">11.</td> <td>Concrete Pump (15 Cum/Hr min capacity)/Boom placer if required</td> <td style="text-align: center;">1 Nos.</td> </tr> <tr> <td style="text-align: center;">12.</td> <td>Pick and Carry Crane /Farana 12-14T</td> <td style="text-align: center;">2 Nos.</td> </tr> <tr> <td style="text-align: center;">13.</td> <td>Self-priming Dewatering pump of capacity (Diesel/ Electric) From 2 HP to 15 HP</td> <td style="text-align: center;">6 Nos.</td> </tr> </tbody> </table>	Sl. No.	Description of T&P	Tentative Requirement	1.	Hydraulic Excavator /Poclain	10 Nos.	2.	Dumper/ Tipper	50 Nos.	3.	Dozer	4 Nos.	4.	Grader	4 Nos.	5.	Water Tanker with sprinkler attachment	8 Nos.	6.	Vibro roller (8-10T)	4 Nos.	7.	Trailer of required capacity	1 Nos	8.	JCB	2 Nos.	9.	Batching plant (min capacity 20-30 cum/hr)	1 Nos.	10.	Concrete Transit Mixer (6 cum capacity)	2 Nos.	11.	Concrete Pump (15 Cum/Hr min capacity)/Boom placer if required	1 Nos.	12.	Pick and Carry Crane /Farana 12-14T	2 Nos.	13.	Self-priming Dewatering pump of capacity (Diesel/ Electric) From 2 HP to 15 HP	6 Nos.
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	14.	Pneumatic rock breaker with jack hammer , if required	As per requirement
	15.	Precast Concrete Tile Making Machine	10 Nos
	16.	Earth Compactor- 3MT Capacity	As per requirement
	17.	Automatic Welding Machine for HDPE/LDPE lining	5 Nos
	18.	Total Station	3 Nos
	19.	Auto level & staff	6 Nos
	20.	DG Set of 60-125 KVA Capacity	As per Requirement
	21.	Construction Cable and Water Pipe Line	As per Requirement
	22.	Reinforcement bending machine	As per requirement
	23.	Reinforcement cutting machine	As per requirement
	24.	Shuttering materials	As per requirement
	25.	Tractor mounted grader/ loader	As per requirement
	26.	Earth Compactor- 3MT Capacity	As per requirement
	27.	Welding Machine	As per requirement
4.2.	Measuring and Monitoring Equipment (MMEs): To be finalized as per site requirement.		
4.3.	<p>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. In addition to the above, any other tools and plants required for execution of the above work are in contractor's scope. 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-Charge. Retaining of the T&Ps during the contract period will be mutually agreed in line with construction requirement.</p>		

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

4.4.	In the event of need of change of type of any of major T&Ps, approval shall be taken from BHEL Engineer in-charge prior to mobilization. The decision of Number of T&P required due to replacing the enlisted T&P as per above table, shall be taken after analyzing the production capacity and suitability of both the T&Ps.
4.5.	Contractor shall submit the T&P mobilization schedule indicating the quantity and duration of deployment on monthly basis for the entire contract period in mutual concurrence with BHEL Engineer at the time of commencement of work.
4.6.	The contractor shall arrange experienced 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, technicians and helpers for routine and breakdown maintenance of the all T&Ps shall be provided by the contractor within his quoted rate.
4.7.	Other terms and conditions regarding T&Ps to be deployed by Contractor, shall be as per clause No. 4.2 of SCC.

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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.
5.2.	However, if in any unforeseen circumstances, requirement of any T&Ps (available with BHEL at site) arises, on request of bidder the same may be provided on chargeable basis but BHEL reserves the right of provision of such T&Ps. Charges shall be applied as per BHEL norms and guidelines and direction of engineer in-charge.

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Chapter – VI: TIME SCHEDULE

6.0	Time Schedule and Mobilization:																														
6.1.	<p>Initial Mobilization and Time Schedule:</p> <p>After issue of LOA (through 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 30 Months (Thirty 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 border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 10%;">S.no.</th> <th style="width: 50%;">Activity</th> <th style="width: 20%;">Completion Schedule from date of start of work</th> <th style="width: 20%;">Remarks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>Completion of Filling – 10 Lakh CUM</td> <td style="text-align: center;">12th Month</td> <td style="text-align: center;">M1</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>Completion of Filling – 18 Lakh CUM</td> <td style="text-align: center;">21th Month</td> <td></td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Completion of Pre-cast tile fixing on bed and handing over for water charging</td> <td style="text-align: center;">20th Month</td> <td style="text-align: center;">M2</td> </tr> <tr> <td style="text-align: center;">4.</td> <td>Completion of Raw water Pump house</td> <td style="text-align: center;">24th Month</td> <td></td> </tr> <tr> <td style="text-align: center;">5.</td> <td>Entire completion of Road on top of Dyke, Turfing</td> <td style="text-align: center;">28th Month</td> <td></td> </tr> <tr> <td style="text-align: center;">6.</td> <td>Completion and handing over of Reservoir and Raw water pump house, Rain water harvesting pond.</td> <td style="text-align: center;">30th Month</td> <td></td> </tr> </tbody> </table>			S.no.	Activity	Completion Schedule from date of start of work	Remarks	1.	Completion of Filling – 10 Lakh CUM	12 th Month	M1	2.	Completion of Filling – 18 Lakh CUM	21 th Month		3.	Completion of Pre-cast tile fixing on bed and handing over for water charging	20 th Month	M2	4.	Completion of Raw water Pump house	24 th Month		5.	Entire completion of Road on top of Dyke, Turfing	28 th Month		6.	Completion and handing over of Reservoir and Raw water pump house, Rain water harvesting pond.	30 th Month	
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6.3.	<p>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.</p>																														

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Chapter – VI: TIME SCHEDULE

6.4.	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.
6.5.	The contractor shall submit a detailed area/ structure wise L3 schedule within 15 days from LOA in consultation with BHEL based on the tentative schedule provided as per the clause 6.2. The major activities as mentioned against the work schedule given in clause 6.2 are to be indicated in detailed schedule which will be prepared by the bidder. The detailed L3 schedule shall be approved by BHEL and same shall be implemented. Bidder shall submit L3 schedule to meet the agreed project schedule covering various mile stone activities and their split up details such as construction, procurement of materials, fabrication & erection activities. This schedule shall also clearly indicate the interface facilities/ inputs to be provided by BHEL/ Customer and the dates by which such facilities/ inputs are required. The schedule shall be acceptable to BHEL for meeting their mile stone targets/ schedule.
6.6.	Intermediate milestones: Two Major Intermediate Milestones are identified as M1 and M2 in the table in clause 6.2
6.7.	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.
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.
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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: TIME SCHEDULE

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.
6.8.	Common activities shall be completed in Phase wise manner/ Instruction of Engineer within the Contractual time.
6.9.	Above milestone dates has to be completed in parallel.
6.10.	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.
6.11.	COMPLETION OF WORK AND COMMENCEMENT OF GUARANTEE PERIOD
6.11.1.	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. Site and work cleared of rubbish and all waste materials shall be delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
6.11.2.	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.
6.11.3.	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> <ol style="list-style-type: none"> i. GST Complied Invoice of the work done as per approved BBU. ii. WAM -6 for RA Bill. iii. Jointly signed Measurement sheet. iv. Power of Attorney before submission of Bill. v. Validity of Bank Guarantees as applicable under the contract. vi. Certified quality document as per FQP. vii. Royalty challan viii. HR/IR compliance documents: <ul style="list-style-type: none"> ▪ Wages payment sheet as per applicable minimum wages. ▪ Proof of PF contribution submission. ▪ Proof of ESI/ WC contribution submission ▪ Proof of Bonus payment as per Bonus Act if applicable. ▪ Proof of EL payment if applicable. ▪ Any other statutory document if applicable.
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 Installation and Erection of Site Infrastructure by contractor i.e. site office, stores – 1%. 2. For Mobilization of Hydraulic Excavator – 4 nos., Dumper/Tipper- 24 nos., Dozer – 2 nos. Vibro roller-1 Nos.- 2% 3. For Additional Mobilization of Hydraulic Excavator – 2 nos., Dumper/Tipper- 24 nos., Dozer – 2 nos. Vibro roller-1 Nos.- 2.0%
7.3.	NO CLAIM WHAT SO EVER MAY BE, WILL BE ENTERTAINED UNDER THIS CONTRACT, AFTER DULY SIGNING THE FINAL BILL ALONG WITH MEASUREMENT BOOKS AND ACCEPTED BY BHEL.

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Chapter-VIII : TAXES & 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>
8.2.7	<p>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.</p>

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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> <ol style="list-style-type: none">Supply of goods and/or services have been received by BHEL.Original Tax Invoice has been submitted to BHEL.Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.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.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.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.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 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/altere/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.

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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>

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

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	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 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.

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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.	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, 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.
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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9.0	MATERIAL
9.1.	<p>Material to be issued by BHEL (Free of Cost) unless otherwise specified in BOQ cum Rate Schedule</p> <ol style="list-style-type: none"> a. Cement b. Reinforcement Steel and MS Round Bar (Earthing Rod) c. Structural Steel.
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.	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.
9.2.2.	Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
9.2.3.	Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
9.2.4.	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.
9.3.	<p>HANDLING OF MATERIAL ISSUED BY BHEL:</p> <p>Refer Chapter-VI "Material Handling, Storage & Preservation" of SCC</p>
9.3.1.	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.

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9.3.2.	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.
9.3.3.	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.
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

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	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.
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.

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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.		
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)	6500/- per MT
	2	Cement (OPC)	7000/- per MT
	3	Reinforcement Steel / Earthing Rod	60,000/- per MT
	5	Structural Steel (Plates, Rolled Sections etc.)	68000/- per MT

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	6	Structural Steel Gratings	1,10,000/- 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

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 “Part-C of Vol-II Price Bid”.

<u>Part A:</u>	<u>Instructions to the Bidders</u>
1.	Bidders shall quote Total Price for Scope of work in Rupees in VOL II PRICE BID at BHEL E-procurement Portal. 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.	BHEL has fixed the % weightages as in “Part-B” for the amount of individual items of BOQ Cum Rate Schedule w.r.t. the total price of Price Bid Vol-II.
3.	Based on the pre-fixed % weightages, amount of individual items shall be derived by BHEL. This amount shall not be rounded off.
4.	Based on the quantities of individual item and the amount arrived in Sl. No. 3 above, item rate of individual items shall be derived by BHEL. This item rate shall be rounded off up to two decimal places and shall be used to calculate the total amount of an item.
5.	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. 3 above.
<u>PART B:</u>	% weightage for amount 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

Following drawings and documents are attached:

11.	Following Technical Specifications shall be integral parts of this tender (attached separately):
11.1.	SECTION-A SCOPE OF WORK
11.2.	SECTION-B: PROJECT INFORMATION
11.3.	SECTION-C: CUSTOMER CONTRACT SPECIFIC TECHNICAL REQUIREMENTS
11.4.	SECTION-D: GENERAL TECHNICAL REQUIREMENTS
11.5.	ANNEXURE-I- LAB EQUIPMENTS
11.6.	GENERAL LAYOUT OF SHEDS AT WORKER'S ESTABLISHMENT
11.7.	TYP.LAYOUT FOR WORKMEN SHED
11.8.	STANDARD GUIDELINES FOR LABOUR COLONY OR WORKER ACCOMODATION
11.9.	CUSTOMER GENERAL CONDITIONS
11.10.	ODISHA MINING MINERAL ROYALTY
11.11.	CUSTOMER SAFETY REQUIREMENTS
11.12.	BHEL T&P HIRING CHARGES
11.13.	NOTES: <ul style="list-style-type: none">• 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.