VOLUME - IA

Technical Conditions of Contract (TCC) for Fabrication, Erection, Testing & Commissioning of DM WATER STORAGE TANK.

FOR

265 TPH Steam Generation Package for

Bina Petchem and Refinery Expansion Project (BPREP), BPCL Bina, Madhya Pradesh

BHARAT HEAVY ELECTRICALS LIMITED

Maharatna Company	**TECHNICAL CONDITIONS OF CONTRACT (TCC)**	Ref No: TCC No: HY/HPEP/SC-PROJECTS/2026-27/TCC/BINA/ DM TANK/01, Rev.00
		Rev. No. 00

TECHNICAL CONDITIONS OF CONTRACT (TCC)

FOR

FABRICATION, ERECTION, TESTING & COMMISSIONING OF DM WATER STORAGE TANK FOR 265 TPH STEAM GENERATION PACKAGE AT BINA PETCHEM AND REFINERY EXPANSION PROJECT (BPREP), BINA, MADHYA PRADESH

Revisions: Refer to record of revisions	Prepared By:	Checked By:	Approved By:	Date
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Sl. No	DESCRIPTION	Chapter
Volume-IA	**Contract specific details**	
1	Project Information	Chapter-I
2	Scope of Work	Chapter-II
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III
4	T&Ps and MMEs to be deployed by Contractor & Sharing	Chapter-IV
5	Time Schedule	Chapter-V
6	Terms of Payment	Chapter-VI
7	BOCW	Chapter-VII
8	TENTATIVE/ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ	Chapter-VIII
9	General	Chapter-IX
10	Welding Schedule	Chapter-X
11	Foundation & Grouting	Chapter-XI
12	Material Handling, Transportation and Site Storage	Chapter-XII
13	Welding and Non-destructive testing	Chapter-XIII
14	Painting	Chapter-XIV
15	Field quality control plan	Chapter-XV
16	HSE	Chapter-XVI
17	Obligations of the Contractors	Chapter-XVII
18	Technical Annexure: Drawings & Documents	Chapter-XVIII

Chapter I- Project Information

1.0 Project Details			
1	Customer	:	BPCL BINA, MP
2	Project Information	:	265 TPH Steam Generation Package for Bina Petchem and Refinery Expansion Project (BPREP).
3	Location	:	Bina, Madhya Pradesh
4	Address Detail	:	Petro Chemical Unit, Post BORL residential complex-470124 Bina, District-Sagar, Madhya Pradesh, India.
5	Nearest Railway Station	:	Bina
6	Road Approach	:	Bhopal to Bina
7	Nearest Air Port	:	Bhopal Airport
11	Ambient Air Temperature (Average)	:	a) Maximum : 42 degree Celsius b) Minimum : 9 degree Celsius
12	Average Relative Humidity	:	52-88%
13	Climatic Condition	:	**humid sub-tropical** Climate

Bidder is advised to visit the project site and appraise himself about the local conditions and infrastructure available in the area for fulfilling their commitments under the contract. BHEL will not admit any claims whatsoever on account of Contractor's non-familiarization of local conditions.

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.

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.

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

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

Chapter II- Scope of Work

2.0 The scope of the work:

This specification covers, material withdrawal from the Stores, transportation of material to fabrication yard/site, Rolling of Plates, fit-up, welding, fabrication, erection and commissioning, NDT, hydrotesting, blasting, supply and application of the paint and primer and functional demonstration testing of DM water tank at site, documentation and handing over of the DM water tank.

2.1 Brief Scope: -

1	One (1) No. of Vertical Cylindrical Fixed Roof Conical Type Storage Tank is envisaged for storing DM Water in this project. The tank dimensions are as follows: a) Diameter: 19.0 meter. b) Height: 19.5 meter.
2	The tank shall be fabricated from Mild Steel and provided with Epoxy Coating. The gross storage capacity of the tank shall be approximately 5500 cu.m.
3	Supply of tank materials such as plates, structural steel, name plates, nozzles, flanges/counter flanges, stud bolts & nuts, foundation bolts, etc., as listed in the erection BOQ (as per Chapter-VIII of TCC) for the DM Water Storage Tank, shall be in the scope of BHEL.
4	Fabrication and Erection & Commissioning (E&C) of the DM Water Storage Tank, in-plant transportation, fabrication, erection, radiography testing, hydro testing, painting, commissioning, and handing over, Documentation, shall be in the scope of the Contractor.
5	**Raw Materials (IS 2062 E250 GR B/BR/A)**: M.S. plates (6300 mm length × 1500 mm width × required thickness), structural steel members (6 m to 12 m length), and tank components including stair treads, platforms, name plates, foundation bolts, and nozzle assemblies, as listed in the erection BOQ, shall be supplied at site by BHEL. The Contractor shall carry out fabrication as per the fabrication drawings issued to site and erect the tank in accordance with the engineering drawings, complying with the requirements of IS 803 / API 650.
6	Rolling of shell plates shall be carried out at site by the Contractor using a suitable plate bending/rolling machine. The thicknesses of shell plates shall be as specified in the erection BOQ (as per Chapter-VIII of TCC).
7	Painting of the DM Water Storage Tank, including supply of paint & primer and application on both external and internal surfaces, shall be in the scope of the Contractor. The painting shall be carried out strictly in accordance with the approved painting specification/contract specification, ensuring proper surface finish.
8	Surface preparation, including cleaning, grinding, and any required finishing, and subsequent painting of both external and internal surfaces of the DM Water Storage Tank shall be carried out entirely within the scope of the Contractor.
9	Grit blasting of all surfaces to achieve SA 2½ compliance shall be carried out at site by the Contractor prior to painting.
10	Supply of the Polypropylene Balls (Approx. 5 Lacs) shall be in the scope of the BHEL.
11	Filling of 3 Layers of Polypropylene Balls (Approx. 5 Lacs) shall be carried out by Contractor.
12	Required Man and Machinery (Bending machine, Welding Machine including Electrodes, Grinding/ Cutting Machine, Lifting and Erection Equipment, Fit-Up alignment Tools, etc.) shall be arranged by Contractor.

2.2 General scope of system covered under scope of work includes: -

(i) Cutting, edge preparation, rolling, erection, full welding, punch points clearance & testing of fixed roof storage tanks.

(ii) Fabrication and erection of structural supports for all Tanks as per approved drawings.

(iii) Erection of Readymade Gratings, Platforms & fabrication and erection of hand railing.

(iv) Fabrication and erection of SS/MS pipe nozzles arrangement to the tank.

(v) Vacuum Box Test, Hydro testing, Pneumatic Testing etc. required for Tanks as per API-650/IS-803 to be carried out in accordance with the laid down procedure of tanks etc.

(vi) NDT requirements shall be finalised in FQP (Field Quality Plan) before start of the fabrication work. Minimum 10% of shell joints are subjected to Spot Radiography, DP Shall be conducted for all other shell, bottom and roof plates joints and vacuum box test for shell to bottom joint, PWHT is not applicable. However actual NDT requirement shall be finalized as per BHEL/Customer approved FQP or as per instruction from the BHEL site engineer before start of the work. Radiography/UT/DP/NDT as applicable is in the scope of Contractor.

(vii) Fabrication and erection of structural supports for Tank as per approved drawings

(viii) Erection of Gratings, Platforms & fabrication and erection of hand railing.

(ix) Fabrication and erection of Pipe Nozzles and Other Accessories and arrangement to the tank.

(x) The contractor will have to follow the instructions provided in the technical manuals, drawings, and specifications provided by BHEL, to the contractor from time to time. In case of ambiguity or deviation the decision / clarification of BHEL Engineer will have to be followed.

(xi) During Testing the contractor has to make his own arrangements for water filling and Hydro Testing. After Hydro Testing, the water shall be drained to the nearest drain and the arrangement for the same shall be made by contractor within the quoted rates.

(xii) Any fixtures, scaffolding materials, approach ladders, concrete block supports, steel structures required for temporary supporting, pre-assembly, checking, welding, lifting & handling during pre-assembly and erection and during application of insulations (if any) shall be arranged by the contractor at his cost.

(xiii) Any faulty erection shall be removed and re-erected promptly to comply with the design requirements to the satisfaction of Site Engineer.

(xiv) The contractor is strictly prohibited in using any of the BHEL's materials / components like angles, channels, hand-rails for any temporary supporting or scaffolding work or for using as bed for pre-assembly works etc., In case of such misuse, a sum as determined by BHEL shall be recovered from contractor's bills.

(xv) **The bidder has to carry out the fabrication activities such as plate rolling, bending etc., grit blasting and supply & application of the primer to all materials at the area made available by the end customer M/s BPCL which may vary by 5 km to 10 km from the BINA BHEL site (tank location / storage material yard of BHEL). All transportation, loading, unloading, and related activities for the above works shall be included within the contract scope and covered under the total quoted price. At this place construction power & water for fabrication has to be arranged by the bidder.**

Chapter III- Facilities in the scope of BHEL/Contractor

S. No.	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	**ESTABLISHMENT**			
3.1.1	**FOR CONSTRUCTION PURPOSE**:			
a	Open space for office (as per availability)	Yes		Location shall be finalized after joint survey with M/s BPCL
b	Space for storage (as per availability within/nearby project premises)	Yes		Location will be finalized after joint survey with customer. **Note:** There can be more than one location of open storage yard, closed shed/ Semi Closed shed (few locations may also be outside project premises). Bidder shall make his establishment accordingly for material handling and MM services at store& Erection yard accordingly
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/Toilet consumables		Yes	
e	Toilet and Canteen facilities for the bidder's staff, Workmen 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	
3.1.2	**FOR LIVING PURPOSES OF THE BIDDER**			
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements for shelter and transportation of labours as per requirement.

b	Labour Colony with internal roads, sanitation, complying with statutory requirements.		Yes	Construction Plan shall be approved by BHEL/Customer.
3.2.0	**ELECTRICITY**			
3.2.1	**Electricity for construction purposes (for Site/Project works only) 3 Phase 415/440 V** within project premises.			Free
a	Single point source	Yes		
b	Further distribution including all materials, Energy Meter, Protection devices and its service.		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	**Electricity for the Toilet office, stores, canteen etc of the bidder**			Electricity shall be provided at one point and Further distribution shall be done by contractor.
a	Single point source	Yes		
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	**Electricity for living accommodation of the bidder's staff, engineers, supervisors etc.**		Yes	.
a	Single point source		Yes	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.3.0	**WATER SUPPLY**	Yes		BHEL shall provide water supply free of cost (at single point source) for construction purpose as and when made available by customer.

3.3.1	**For construction purposes**			Water shall be provided at one point and Further distribution shall be done by contractor.
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**			
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	
3.4.0	**LIGHTING**			
a	For construction work (Supply and execution of the lighting work/ arrangements)		Yes	For office, stores, canteen etc. of the bidder; Illumination shall be in Contractor scope.
b	Lighting for the living purposes of the bidder at the colony / quarters.		Yes	
3.5.0	**COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER**			Bidder has to take care
a	Téléphone, fax, internet, e-mail etc.		Yes	
3.6.0	**COMPRESSED AIR wherever required for the work**		Yes	Bidder has to take care
3.7.0	**Demobilization of all the above facilities**		Yes	Bidder has to take care

3.8.0	**TRANSPORTATION**			Bidder has to take care
a	For site personnel of the bidder		Yes	
b	For bidder's equipment and consumables (T&P, Consumables etc)		Yes	
3.9	**Work Permits, gate pass etc. from customer for inward and outward movement of manpower, machinery and material**		Yes	
3.10	Preparation of site execution schedules and other input requirements as per Form-14.	Yes	Yes	In consultation with BHEL
3.11	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
3.11.1	**Erection Facilities**			
3.11.2	Providing the erection/constructions drawings for all the equipment covered under this scope.	Yes		**Shall be provided progressively**
3.11.3	Drawings for construction methods	Yes	Yes	In consultation with BHEL
3.11.4	As-built drawings wherever 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.
3.11.5	Shipping lists etc. for reference and planning the activities	Yes		In consultation with BHEL
3.11.6	Preparation of erection schedules and other input requirements asper Form-14.		Yes	In consultation with BHEL
3.11.7	Review of performance and revision of site fabrication and erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL

3.11.8	Weekly erection schedules based on Sl. No. 3.11.6		Yes	In consultation with BHEL
3.11.9	Daily erection / work plan based on Sl. No. 3.11.8		Yes	In consultation with BHEL
3.11.10	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	
3.11.11	Preparation of pre-assembly bay		Yes	Materials required for pre-assembly bay/fabrication yard shall be in agency scope. However, if available, BHEL may provide such material on free returnable basis, which shall be returned without any damage.
	Laying of tracks, support for marching, erection, assembly, commissioning for all type cranes, if provided by BHEL or brought by the contractor /bidder himself.		Yes	
3.12	**Land/Open Space**			
3.12.1	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 for office, storage area for vendor's material and T&Ps and laydown area as and where made available by Customer.			
3.13	**Labour and Staff Colony:** **Following are in the Bidder's scope of work for labour & staff colony:**			
3.13.1	BHEL/Customer may provide the accommodation in the labour colony on chargeable basis depending upon the availability of vacancy. In case of non-availability of BHEL/customer accommodation, the bidder has to arrange the accommodation for their Labour deployed for the works at their own cost. All labour colony set-up is to be developed / arranged as per specifications, drawings, standard approved by BHEL/Customer and in compliance of statutory requirements.			

3.13.2	Land for labor colony shall be arranged by Contractor at their own cost as per availability outside project area within acceptable limit or approx. 5 KM, 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.
3.13.3	Development of Bidder's temporary staff colony and labour colony having adequate no. of rest rooms along with toilets & fencing etc.
3.13.4	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.has to be done by bidder
3.13.5	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 is in the scope of Contractor/Bidder
3.13.6	Development and maintenance of above facilities for construction workers deployed by the Contractor shall solely rest with the Contractor.
3.13.7	Installation of necessary amenities and temporary infrastructure at Project site locations- 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: • Labour rest sheds near work spot. • Canteen facility creation / arrangement. • Drinking water facility. • Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. • Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements. • Regular fogging in the work place and labour colony to avoid mosquitoes. • Statutory documents shall be submitted along with RA Bills for processing of Bills.
3.14	**Construction Power:**
3.14.1	Construction Power shall be provided at single point source on free of charge basis as and when made available at site, however contractor has to make his own arrangement to meet power requirement in case of delay in availability of single source or any kind of power interruptions during the course of the project. Note- at the fabrication yard construction power for fabrication has to be arranged by the bidder at their own cost.
3.14.2	Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc. and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.
3.14.3	It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and

	installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
3.14.4	Contractor himself shall be responsible for any loss or damage to their equipment as a result of variations in voltage or frequency or interruptions in power supply.
3.14.5	Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.
3.15	**Construction water:**
3.15.1	Construction Water may be provided at single point on free of charge basis as and when made available at site, however contractor has to make his own arrangement to meet Water requirement in case of delay in availability of single source or any kind of interruptions during the course of the project. Bidder has to make arrangement of further distribution of water at his own cost. No extra payment shall be made under this account. Note- at the fabrication yard construction water for fabrication has to be arranged by the bidder at their own cost.
3.15.2	The Contractor should decide 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 in batching plant and construction purposes.
3.15.3	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.
3.16	**General Note:** 1.0 There can be more than one location of open storage yard, Closed shed/ Semi Closed shed. Few locations may be outside project premises, bidder shall make his establishment accordingly for Material Handling and MM services. 2.0 Bidder has to make his own arrangement at his cost till the construction power by BHEL is established. 3.0 Furnishing all labour, materials, supervision, construction/Material Handling plans, equipment, supplies, transport, to and fro the site, fuel, electricity, water and all other incidental items and temporary works not shown or specified elsewhere but reasonably implied or necessary for the proper completion, maintenance and handling over shall be in the scope of contractor

Chapter IV- Tools & plants to be deployed by Contractor

LIST OF TOOLS AND PLANT:

4.0. Tools and Plants: Number 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.
4.1. Major T&P: The following Major Tools & Plants (T&P) shall be arranged by the Contractor with certified operator for execution of work as per Technical Conditions of Contract of this tender within the quoted rate.

The following tools and equipment but not limited to, are required for the efficient execution of the E&C works of this contract. The contractor shall make them available for construction purposes, including all consumables likely to be used at his own cost at the time of mobilization.

S.No.	Description	Minimum Capacity	Minimum Quantity in Nos	Remarks
1.	Bending/rolling Machine	As required	As required	
2.	Crane	As required	As required	Crane to be made available as per instruction from BHEL Site in-charge.
3.	Induction heating M/c with accessories	As required	As required	To be made available as per instruction from BHEL Site in-charge.
4.	grit blasting machine (along with air compressor)	To be made available as per instruction from BHEL Site in-charge.	As required	To be made available as per instruction from BHEL Site in-charge.

BHEL will not provide any tool, plants, facilities or any testing facility/apparatus for the work. It will be contractor's responsibility to arrange all required tools, plants and other testing apparatus, etc. at their own cost. The prices quoted & finalized are inclusive of the charges towards providing such T&P. No extra payment will be entertained because of this.

However, subject to availability, BHEL may provide few T&P to the contractor for expediting and in larger interest of the project. In case any such facility is provided to the contractor, BHEL will make necessary recovery in the running account/final bills towards the hire charges. A departmental charge @ 5% will also be affected in such cases. The decision of BHEL on the hire charges will be final and binding on contractor.

Note for clause 4.1:

1. Contractor shall mobilise aforementioned cranes/T&Ps at site, in case stated capacity crane could not be made available, for any reason what so ever, a higher capacity crane shall be mobilised by the contractor without any extra cost to BHEL.
2. Agency shall Mobilize / de-mobilize/ re-mobilise the above Major T&Ps as per BHEL instruction without any extra cost to BHEL.
3. ***The crane shall not be older than 10 years as of the latest date of Offer Submission***. In case the date & month of crane manufacturing is not available, then 01 January of the manufacturing year of the crane shall be considered as the manufacturing date.
   In case the month is written without a date, then 1st day of the respective month shall be considered as the manufacturing date.
   The manufacturer's certificate, invoice copy, or relevant documentary proof shall be furnished Before deployment of the crane at the site bidder has to submit a set of the same documents of the crane to the BHEL site in charge to confirm /verify. Only after receipt of confirmation from the BHEL site in charge, the bidder can deploy the crane. (Applicable for Cranes in clause no. 4.1 & 4.2)

4.2. Other T&Ps: The following **Other Tools & Plants** (T&P) shall be arranged by the Contractor for execution of work as per Technical Conditions of Contract of this tender within the quoted rate. Below given Quantities are tentative for planning purposes by the bidder.

SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS
1	Pick & carry mobile crane	As per requirement	As per requirement	As per requirement
2	VOID			
4	Trailer	As per requirement	As per requirement	As per requirement Trailer mobilisation as instructed by BHEL Site.
6	Man lifter	As per requirement	As per requirement	As per requirement
7	Calibrated Power driven HSFG bolt tightening machines	As per requirement	As per requirement	As per requirement
8	Power Driven Torque tightening machine	As per requirement	As per requirement	As per requirement
9	Torque calibrator	As per requirement	As per requirement	As per requirement
10	Bolt Tension Calibrator	As per requirement	As per requirement	As per requirement

11	Pre-heating, post-heating and post-weld stress relieving equipment with automatic recording devices and chartless recorder / IIOT sensors duly password protected with a connectivity to remote server /Cloud along with heating control panel, cables, heating elements, thermocouples, thermo-chalks, temperature recorders, thermocouple attachment units, graphs, sheets insulating materials like asbestos cloth, ceramic beads, asbestos ropes etc. required for heat treatment / stress-relieving operations.	As per requirement	As per requirement	As per requirement
12	Electrical torque wrench	As per requirement	As per requirement	As per requirement
13	Impact wrench	As per requirement	As per requirement	As per requirement
SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS
14	Torque wrench	As per requirement	As per requirement	As per requirement
15	Steel tape	As per requirement	As per requirement	As per requirement
16	Steel ruler	As per requirement	As per requirement	As per requirement
17	Void			
18	Void			

19	Void			
20	Portable DG Set	As per requirement	As per requirement	As per requirement
21	Ultrasonic thickness guage (Thickness measurement M/Cs)	As per requirement	As per requirement	As per requirement
22	Air compressor/Blower (electric/diesel operated)	210 CFM, 7 KG/CM2	01 no.	As per requirement
23	Air Leak Test equipment with all auxiliaries.	As per requirement	02 Set	For leakage test if required
24	TIG welding set	As per requirement	As per requirement	As per requirement
25	Oxy Acetylene Gas cutting Machine	As per requirement	As per requirement	As per requirement
26	GTAW Machine: HF Welding Machine & SMAW machine: Inverter based welding machine	As per requirement	As per requirement	As per requirement
27	DC arc welding machine & Submerged ARC welding M/C	As per requirement	As per requirement	As per requirement
SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS
28	3-phase distribution board with complete set up for drawl of construction power	As per requirement	As per requirement	As per requirement
29	Power cable for drawl of construction power	As per requirement	As per requirement	As per requirement
30	Self-drilling cum tapping machine for screws	As per requirement	As per requirement	Prior to start of sheeting works.
31	Radiography arrangement with radioactive isotope source	As per requirement	As per requirement	As per requirement
32	Theodolite of required accuracy	To ensure verticality of structural columns.	02 Nos.	Required Since start of work

33	Arrangement for UT of higher thickness joints with recording facility & required calibration blocks.	Type USN 50 or equivalent/ up graded type	As per requirement	During Pre-assembly & erection
34	Welding rectifiers / MIG Welding (electrical)	As per requirement	As per requirement	As per requirement
35	Welding generator (diesel operated)	As per requirement	As per requirement	As per requirement
36	Radiography film viewer	As per requirement	As per requirement	As per requirement
37	Pipe/Tube cutting/ bevelling /chamfering machine	As per requirement	As per requirement	During Pre-assembly & erection
38	Electro/hydraulic pipe/plate bending machine	As per requirement	As per requirement	As per requirement
39	Baking oven with thermostat and temperature gauge for welding electrodes	As per requirement	As per requirement	Required Since start of work
40	Holding oven with thermostat and temperature gauge for welding electrodes	As per requirement	As per requirement	Required Since start of work
41	Portable oven for welding electrodes	As per requirement	As per requirement	Required Since start of work
42	Pug Cutting machines	As per requirement	As per requirement	As per requirement
43	Chain pulley blocks	As per requirement	As per requirement	As per requirement
SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS
44	Electric winch	As per requirement	As per requirement	As per requirement
45	Hand winch	As per requirement	As per requirement	As per requirement
46	Battery Driven emergency light	As per requirement	As per requirement	As per requirement

47	Scaffolding materials with clamps for Erection & painting etc. works	As per requirement	As per requirement	As per requirement
48	Profile making m/c	For aluminium sheet cladding work	As per requirement	As per requirement
49	Nibbling m/c	As per requirement	As per requirement	As per requirement
50	Shearing m/c	As per requirement	As per requirement	As per requirement
51	Portable grinding m/c	As per requirement	As per requirement	As per requirement
52	Portable drilling m/c	As per requirement	As per requirement	As per requirement
53	Hoisting and pulley devices/pulleys	As per requirement	As per requirement	As per requirement
54	Spanners / Eye Bolts (of All Sizes)	As per requirement	As per requirement	As per requirement
55	Magnetic particle testing equipment – DRY &WET Type	As per requirement	As per requirement	As per requirement
56	Hydraulic Jacks	As per requirement	As per requirement	As per requirement
57	Submersible Dewatering pumps (Electrical operated)	As per requirement		As per requirement
58	Dewatering pumps (Diesel engine operated)	As per requirement		As per requirement
59	Various sizes of clamps/ fixtures for assembling	As per requirement	As per requirement	As per requirement
60	Hand Operated Megger 500 / 1000 V	As per requirement	As per requirement	As per requirement
61	Tong Tester 10, 20 Or 50 Amp + / - 3 % Accuracy	As per requirement	As per requirement	As per requirement
SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS
62	Digital and Analogue Multimetres	As per requirement	As per requirement	As per requirement
63	U Tube Manometer 0-2000 mm Water Column	As per requirement	As per requirement	As per requirement

64	Inclined Manometer 0-50 mm Water Column	As per requirement	As per requirement	As per requirement
65	Special Slings for Erection of Ceiling Girders & other heavy components	As per requirement	As per requirement	As per requirement
66	Concrete Blocks	As per requirement	As per requirement	For making bed of steel structure for checking dimensional accuracy, configuration and minor rectification.
67	Wooden/Concrete sleeper 1.5-2.0 Mtr length	As per requirement	As per requirement	As per requirement
68	PORTABLE MAGNETIC STRUCTURESCOPE	As per requirement	As per requirement	As per requirement
69	PMI (Positive Material Identification)	As per requirement	As per requirement	As per requirement
70	Equipment for carrying out NDT test like LPI/MPI etc along with consumables.	As per requirement	As per requirement	As per requirement
71	Painting equipment sets complete with compressor, hopper, screen, blasting hose pipe, nozzle airless / conventional spray (within CGI temporary cover shed)	As per requirement	As per requirement	As per requirement
72	Digital Elcometer for paint thickness checking	As per requirement	As per requirement	As per requirement
73	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	As per requirement	As per requirement
74	Suspended working platform Size :7mX1mX0.5m, Rated load 800 kg to 1000 Kg,	As per requirement	As per requirement	As per requirement
75	Shot blasting equipment required capacity	As per requirement	As per requirement	As per requirement
SN	DESCRIPTION OF OTHER T&Ps	CAPACITY (MINIMUM)	MINIMUM QUANTITY	REMARKS

76	PAUT + TOFD Machine if applicable	As per BHEL "Guidelines for Selection of NDE & Heat Treatment Agencies	01	As per requirement
77	Tools for Reaming and Honing	As per requirement	As per requirement	As per requirement
78	PVC Caps to cover Pipe/tube ends.	As per requirement	As per requirement	As per requirement
79	Hydraulic test/ pressurizing pump (Along with Suitable/ different ranges of calibrated Pr. gauges- Minimum 06 Nos.)	As per requirement	As per requirement	As per requirement
80	Furnace maintenance platform (Sky climber)	NA	NA	NA
81	Spot Welding M/c	As per requirement	As per requirement	As per requirement
82	Web Slings	As per requirement	As per requirement	As per requirement
83	Plastic welding M/cs	As per requirement	As per requirement	As per requirement
84	Hand operated pressurising pump (capacity Up to 400 KG/Cm2)		02 No	For Hydrotest of hydraulic oil lines/ impulse lines of various system in SG
85	Air blower	As per requirement	As per requirement	As per requirement
86	Vacuum M/c with Accessories	As per requirement	As per requirement	As per requirement

4.3.	**List of suggestive safety Equipment's /PPEs**	
1.	Safety Net (10 Mtr x 5 Mtr)	As per requirement

2.	Rope grab fall arrestor with karbiner	As per requirement
3.	Anchorage Line (30 Mtr)	As per requirement
4.	Anchorage Line (40 Mtr)	As per requirement
5.	Wire rope (life line)- (25 Mtr)	As per requirement
6.	Wire rope (life line)- (40 Mtr)	As per requirement
7.	Ladder (Vertical)	As per requirement
8.	Full body safety harness double lanyard with shock absorber	As per requirement
9.	Industrial Safety Helmet	As per requirement
10.	Industrial Safety Shoes	As per requirement
Note: - Above suggestive safety Equipment's /PPEs **shall** be arranged by the Contractor for his workmen for execution of work as per Technical Conditions of Contract of this tender within the quoted rate.		

4.4.	**List of suggestive safety Equipment's /PPEs to be included in List of minimum T&P & arranged by Contractor:**	
1.	Height Rescue Kit and Confined space rescue kit	As per requirement
2.	Lux Meter & Breathe Analyser	As per requirement
3.	Multi Gas Meter	As per requirement
4.	ELCB & RCCB Tester	As per requirement
5.	Earth Resistance meter	As per requirement
6.	Scaffolding materials as per standard for hard barricading	As per requirement
7.	Axial Fan with exhaust hood for confined space working and DC Light Unit	As per requirement
8.	Oxygen Meter	As per requirement
9.	Fire Blanket	As per requirement
10.	**Fire resistant tarpaulins**	As per requirement
11.	**Safety Posters as per BHEL Guidelines**	As per requirement and instruction of BHEL

12.	**Fire Extinguishers: (As per requirement)** ABC – 6 Kg: 1 Nos, Co2 – 4.5 Kg: 01 Nos, Foam – 9 Kg: 01Nos Fire Bucket (set of ¾ buckets) with stand – 01 Nos	
13.	Rubber Mat as per IS 15652	Min 50 Sqm
14.	Electrical rubber gloves	As per requirement
15.	VOID	VOID

4.5.	**Measuring and Monitoring Equipment (MMEs):** To be finalized as per site requirement.
4.6.	**All above T&Ps are to be deployed by contractor as and when required as per instruction of BHEL engineer. If works gets delayed due to non-availability of above T&Ps, BHEL reserves the right to deploy the same and recover the charges thereof from the contractor** as per prevailing market rate/hiring rate/BHEL internal hiring rates + 5% overhead rates.
4.7.	**Any Heavy Equipment (cranes, winch machine, etc.) manufactured less than 10 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 our project site.**
4.8.	**Hydras are not permitted for the scope of work. Contractor shall deploy and use pick & carry crane of TRX or equivalent type only for the above purpose.**
4.9.	Tandem operation towards material handling is also avoided in the project premises.
4.10.	Necessary electrical / water / air connection required for operation of any of the tools & tackles shall be to Contractor's account.
4.11.	Contractor has to submit the Calibration certificates of all the precision equipment to BHEL. BHEL may ask for recalibration of the MMEs /precision equipments for ensuring quality of work. Contractor must re-ascertain/ recheck range and accuracy of each IMTE from BHEL Engineer well in advance before arranging calibration/ deployment.
4.12.	All Measuring and Monitoring Devices (MMD) used for the work in scope of these tender specifications shall be calibrated by the accredited agencies that are approved by BHEL or calibration tractability is established upto National Physical Laboratory.
4.13.	Contractor has to arrange slings of all sizes for completing the works covered under these specifications.
4.14.	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 analysing the production capacity and suitability of both the T&Ps.
4.15.	The contractor shall submit the valid test certificate/calibration certificates for all the T&Ps before put into actual use at site. The certificates shall be renewed time to time as instructed by BHEL Engineer.

4.16.	Crane operators deployed by the contractor shall be offered for testing by BHEL before they are allowed to operate the cranes.
4.17.	The above list as mentioned is only indicative and these T&Ps may not be required for entire contract period but contractor shall ensure the availability of the T&Ps as per work requirement and T&P Deployment schedule. T&P Deployment schedule shall be finalized at site in consultation with BHEL Engineer based on the work fronts/work requirement. BHEL decision shall be final and binding regarding the T&P deployment schedule. Contractor shall mobilize / maintain the T&P's as per the deployment schedule notified time to time by BHEL Engineer.
4.18.	APR (As per Requirement)- Contractor has to deploy T&P, MMD, IMTE as per requirement of site and as decided by BHEL Engineer.
4.19.	Apart from above mentioned T&P, any additional item required in addition to above mentioned T&P for proper execution of scope of work, contractor has to arrange such T&P within quoted rate on the instruction of BHEL in writing in a reasonable period within two weeks from the written instruction from BHEL.
4.20.	If the work related to T & Ps mentioned above is completed then, BHEL can release that T&P during contract period / extended period (if any). However, written permission shall be taken by contractor from BHEL Construction Manager and gate pass formalities shall be followed by the contractor for releasing the T&P.
4.21.	In the eventuality of contractor not deploying / abnormal down time of T&P/cranes in his scope during the period specified above, In case BHEL arrange the T&P/Crane through hiring, actual hiring charges with 5% over head shall be recovered from the contractor's running bills.
4.22.	The loading, unloading and transportation of contractors T&Ps shall be in the scope of contractor. All necessary items such as Trailers, Cranes, Winches, welding generators, slings, jacks, sleepers, rails etc., are to be arranged by the contractor at his own cost.
4.23.	All the T&Ps required for successful completion of this scope of work, are to be arranged by the contractor with in the quoted rates.
4.24.	All operators (for crane, winch etc.) deployed by contractor shall have valid licence from applicable authority (which ever applicable).
4.25.	The contractor has to furnish a list of Tools and plants including cranes/ tractors/trailers/trucks etc. which he has proposed to deploy for this work.
4.26.	T&Ps shown in the above in **S. No. 4.2** mentioned list is suggestive requirement. However, mobilization schedule as mutually agreed at site for 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.

4.27.	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.
4.28.	The contractor shall arrange operator, diesel, petrol and other consumables including electrical / water / air connections required for the tools and plants, equipment such as crane, winch, temporary Jhoola, Sky Climber 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.
4.29	VOID
4.30.	VOID
4.31.	VOID
4.32.	VOID
4.33.	All required consumables like electrodes, all gases, and other materials for this scope of work are to be arranged by the contractor at their cost. BHEL will not provide any consumable.
4.34.	All type electrode including imported electrodes as recommended by manufacturing unit / TIG welding wires including stainless steel electrodes required for shall be arranged by the contractor at his cost. However, The bidder shall use the BHEL/Customer approved quality welding electrodes only.
4.35.	Gaskets, gland packing, wooden sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by contractor.
4.36.	**LIFTING OPERATIONS FOR CRANE** The Contractor shall prepare a lifting plan, checked and submit for authorization by contractor's competent authorized persons prior to any lifting operation and formally communicated to all persons undertaking the work. All persons preparing, issuing lifting plans and all persons involved in lifting operations must be subject to formal competence checks by the contractor to ensure necessary training, experience and qualification prior to commencing work. The Subcontractor must ensure that their nominated Lifting Leader has appropriate qualifications.

4.37.	**<u>Contractor lifting plans include:</u>** • The lifting methodology, step by step, • The risk analysis of the operation including consideration for weather conditions and work environments (e.g.: proximity of hazards and obstructions to the load, consideration for overturning, load integrity) where appropriate and consideration for simultaneous operations and the measures taken to avoid conflicting tasks in the lifting area. • The identification of the designated lifting area, the fall zone and the control measures to prevent access such as barriers, signs, etc. • The description of the type, weight, size, shape and center of gravity of the load and the method used for slinging, attaching and detaching the load with the availability of approved lifting points on load when necessary. • The list of the certified and inspected equipment and lifting accessories to be used. • The composition of the team required to perform the task (crane driver, rigger, etc.) with the needed qualifications and description of their roles and responsibilities including the intended communication method. • 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's. Pre-safety Inspection of the equipment by safety deptt. shall be done before mobilizing the equipment at our project site. The contractor must ensure that a competent operational leader is formally appointed to supervise each lifting operation. All lifting plans must clearly define the specific roles and responsibilities for each person involved (e.g.: crane drivers, lifting coordinators and riggers) and must be checked and issued prior to lifting operation. Clear communication channels must be formally established and maintained between everyone involved in a lift with only authorized person giving instruction to the operator. Special permission needs to be taken from Customer for **tandem lifting if any** and for any nonroutine lifting operations must strictly adhere to the guidelines described in corresponding Standard / Procedures / Directive. No employee of the contractor shall be positioned under a suspended load or between a suspended load and fixed objects.

	All lifting equipment and accessories must have valid manufacturers certificates or thorough examination records and be uniquely identified, marked with the safe working load, listed in a register and subject to formal regular inspection as per EHS requirements and shall have valid certificates from a competent authority. Inspection before use by the operator is mandatory. All lifting hooks must have latch. All cranes shall be fitted with Automatic Safe Load Indicator (ASLI) and Anemo Meter. The contractor shall operate and maintain cranes and hoisting equipment in accordance with manufacturers' specifications and limitations and the safety Requirements. All defective, noninspected or unidentified (safe working load / identification number) lifting equipment or accessories must be either removed from site or physically prevented from use.

4.39. BHEL shall not provide any T&P in this package:

Chapter V- Time Schedule

5.0	**TIME SCHEDULE & MOBILIZATION**
5.1.	**Mobilization:**
5.1.1.	**Initial Mobilization**
	After issue of LOA by BHEL, the contractor shall report to the Construction Manager/Site In-Charge of BHEL at site within one weeks (7 days) from date of LOA for Kick-off meeting regarding mobilization of manpower, T&Ps and date of start of work and detailed completion program etc. The contractor has to subsequently augment his resources in such a manner that the project milestones are completed on specified schedules and entire work completed within the entire contract period, as specified in the following clause from the date of start of work, in a manner required by BHEL to match with the project schedule.
5.1.2.	**Commencement of contract period**
	The commencement date shall be the mutually agreed between the bidder and BHEL engineer. In case of discrepancy, the decision of BHEL engineer will be final. BHEL Engineer will certify the actual date of start of work after adequate mobilization of manpower, major equipment and another T&P by the contractor. In case of discrepancy, the decision of BHEL shall be considered to be final and binding to contractor. Based on the availability of civil foundations, drawings and material from BHEL, contractor may have to advance the erection activity after getting clearance from Construction Manager, or the erection activity may get delayed due to site conditions. The contractor shall complete all the works in the scope of this contract within the contract period. Pending points identified by the customer/BHEL during the execution of the contract are to be liquidated during the contract period itself.
5.2.	**Schedule of Completion:**
	The entire work detailed elsewhere in the Tender Specification shall be completed **within 8 Months from the date of commencement of work at site**. Completion of the work shall be as per BHEL Bar Charts revised from time to time. In order to expedite the work, the contractor has to deploy manpower as per site requirement without any extra cost to BHEL.

5.3. The schedule of important milestones is as follows:

SL No.	Milestones	Tentative Schedule w.r.t date of start of work
1. 0	Fabrication Yard Activities (Cutting & Rolling): Plate Edge Preparation, Rolling Shell Plates, Fabrication of Appurtenances, Fabrication of Structural Steel etc.	Progressively till 4th Month
2.0	Tank Erection & Assembly	Till 5th Month
3.0	Final Welding/Assembly & Testing	Till 6th month
4.0	Painting & Surface Treatment	7th Month
5.0	Filling of 3 Layers of Polypropylene balls	7th Month
6.0	Commissioning & punch point closure.	7th to 8th Month

5.3.1.	The above schedule is only tentative. The above schedule shall be advanced, if there are requirements to advance the project to meet the project requirement. No extra payment whatsoever shall be paid on this account.
5.3.2.	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.
5.3.3.	Contractor shall make all possible efforts to expedite the activities, in case of delay of any intermediate milestone, to maintain overall project completion schedule.
5**.4.**	**COMPLETION OF WORK AND COMMENCEMENT OF GUARANTEE PERIOD**
5.4.1.	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, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
5.4.2.	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.
5.4.3.	Commencement of performance guarantee shall be as per clause no. 2.24 (Performance Guarantee for Workmanship) of General Conditions of Contract. The commencement of guarantee period for the quality of the workmanship shall start from the date of Trial operational acceptance of facilities OR Handing Over to the customer, whichever is earlier.

	The guarantee period of twelve months shall commence from the date of completion of all works as certified by the BHEL site engineer.
5.4.4	Protection of Work: The contractor shall have total responsibility for protecting his works until it is taken over by the Employer. No claim will be entertained by the Employer or the representative of the Employer for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings. Should any such damage to the Contractor's Works occur because of other party not being under his supervision or control, the Contractor shall make his claim directly with the party concerned. If disagreement, conflict, or dispute develops between the Contractor and the other party or parties concerned regarding the responsibility for damage to the Contractor's Works the same shall be rectified. The Contractor shall not cause any delay in the repair of such damaged Works because of any delay in the resolution of such disputes. The Contractor shall proceed to repair the Work immediately and no cause thereof will be assigned pending resolution of such disputes
5**.5.**	The contractor shall submit and a detailed area/structure wise L3 schedule within 25 days from date of LOA, in consultation with BHEL, based on the tentative schedule provided as above. The detailed L3 schedule shall be approved by BHEL and same shall be implemented. Bidder shall submit L3 schedule in MS Projects and excel to meet the agreed project schedule covering various mile stone activities and their split-up details such as mobilization, procurement of materials & erection activities. This schedule shall also clearly indicate the interface facilities / inputs applicable in each package. Bidders shall submit Resource deployment plan Area wise with detail program in line with above schedule in the form of Bar Chart/ MS project planner along with their offer.
5**.6.**	The under mentioned Records/ Log-books/ Registers applicable to be maintained.
	1. Hindrance Register.
	2. Site Order Book.
	3. Test Check of measurements.
	4. Records of Test reports of Field tests.
	5. Records of manufacture's test certificates.
	6. Records of disposal of scraps generated during and after the work completion.
5**.7.**	**Control and monitoring of progress of work**
5.7.1.	Refer forms F -14 to F-15 of volume I D (Forms & Procedure). Plan and review will be done as per the formats.
5.7.2.	The progress reports shall indicate the progress achieved against plan, indicating reasons for delays, if any. The report shall also give remedial actions which the contractor intends to make good the slippage or lost time so that further works can proceed as per the original plan the slippages do not accumulate and affect the overall programme.

5.7.3.	It is the responsibility of the contractor to provide all relevant information on a regular basis regarding progress of work, labour availability, equipment deployment, testing, etc.
5.7.4.	Contractor is required to draw mutually agreed monthly work programs in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
5.7.5.	Progress review meetings will be held at site during which actual progress during the week visa-vis scheduled program shall be discussed for actions to be taken for achieving targets. Contractor shall also present the program for subsequent week. The contractor shall constantly update / revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of nonconformities.
5.7.6.	The contractor shall submit quarterly progress reports, manpower reports, materials reports, consumables (gases / electrodes) report, cranes availability report and other reports as per Performa considered necessary by the Engineer. The periodicity of the reports will be decided by BHEL Engineer at site.
5.7.7.	The contractor shall submit quarterly statement report regarding consumption of all consumables for cost analysis purposes.
5.7.8.	The contractor shall submit a report of any damage, shortage, discrepancy etc., every week detailing in this regard. Non-submission of report would be considered as no shortage of materials.
5.7.9.	The manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
5.8.	**The monthly report as a booklet shall be submitted at the end of every month and shall contain the following details: -**
a	Progress photographs in colour.
b	Erection progress in terms of tonnage, welding joints, radiography, NDT etc., completed as relevant to the respective work areas against planned.
c	Site Organization chart of engineers & supervisors as on the last day of the month with further mobilization plan.
d	Category- wise man hours engaged during the previous month under the categories of fitters, welders, riggers, khalasis, grinder-men, gas cutters, electricians, crane operators and helpers. Data shall be split up under the work areas like TG, Boiler (pressure parts, structures), Piping, Rotating machines, etc.
e	Consumables report giving consumption of all types of gases and electrodes during the previous month.
f	Availability report of cranes.
g	Safety implementation report in the format.

h	Pending material and any other inputs required from BHEL for activities planned during the subsequent month.
i	Contractor shall raise their RA Bills along with supporting documents (such as Measurement sheet, Quality and HR Document – Vetted by Customer etc if required) and checklist. Irrespective of the value of the invoice amount, the supplier/ contractor should necessarily upload the invoice details on **BHEL SUVIDHA** portal at https://suvidha.bhel.in/suvidha/, prior to despatch/raising invoice. All documents as per contract checklist, along with additional documents (if any), must be uploaded on the portal. It is mandatory that tax invoices with a net amount (including taxes) exceeding Rs five lakhs uploaded on the portal are digitally signed using a Class 3 Digital Signature Certificate (DSC) issued by a licensed Certifying Authority. Submission of invoice document in hard copy is allowed for invoices with a net amount (including taxes) equal to and upto Rs five lakhs in case the requirement for digitally signed invoice is not explicitly mentioned in the contract checklist. The Invoice will not be accepted in absence of the above

Chapter VI- Terms of payment

6.1 Progressive Payment: The progressive payment against monthly running bills will be released up to 90% of the value of the erected tonnage on Pro-rata basis as mentioned below:

Sl. No	Description of Activities	% Payment
1	Cutting, Rolling, Bending & grit blasting of Plates	25%
2	Placement in position of pre-assembled members and Fit-up/Alignment in all respects (plates & other, structural items, etc.) fit-up report as required.	10%
4	Welding / Bolting / Grouting (as applicable) including required documentation.	25%
6	Completion of Non-destructive Examination like RT, DP or any NDT including documentation.	10%
7	Hydraulic Test / Pneumatic Test wherever applicable (if not applicable, then this portion to be clubbed with previous activity)	5%
8	Supply of paint and primer & application on both internal and external surface as per painting schedule.	15%
9	**Total sum of the Pro-rata payment**	90%

6.2 Balance 10% payment shall be released upon closure of the punch point, filling of the 3 layers of the polypropylene balls (approx. 5 lacs nos.) documentation and handing over of the DM water tank.

6.3 Other payment terms shall be as per relevant clauses of the General condition of the contract (GCC) and Special condition of the contract (SCC).

6.4 The bills and relevant documents shall be submitted at the following address for payment.

RCM/Bharat Heavy Electricals Limited
Petro Chemical Unit,
Post BORL residential complex-470124
Bina, District-Sagar, Madhya Pradesh, India.
GST Number: 23AAACB4146P1ZN

6.6	**Documents required for RA Bill:**
6.6.1	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.
	Monthly HSE Compliance Certificate certified by BHEL- Safety
	Material reconciliation statement if any along with RA Bill (Monthly basis).
	HR/IR compliance documents:
	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.
6.6.2	**Documents required for Final Bill:**
	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:
	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, factory inspector/IBR Authority etc. Final Material re-conciliation statement duly approved by BHEL. Indemnity Bond as per prescribed format. Deviation statement showing the difference between the actuals and as per the contract. Final Delay Analysis.
6..6.3	The payment for running bills will be released after submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc. and other dues in the meanwhile. No interest shall be payable for the delayed payment (if any).

6.7 Few points of consideration are as below:

- The measurements sheets of work done in a month shall be submitted in triplicate duly agreed/signed by BHEL Engineer. The contractor shall extend all necessary assistance for verification of measurements of works without any extra cost.
- Material reconciliation shall be complied on monthly basis
- The RA bill payments are interim payments and bills shall be submitted in prescribed formats
- BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS
- Final bill shall be submitted after completion of works and upon material reconciliation along with all prescribed formats

Contractor (Bidder) has to provide all possible support such as Scaffolding, area illumination, surface preparation, approach, wrench/sky climber with operator etc. the NDT agency as a part of the scope of this contract.

In case, any defect is identified, repair work shall be done by contractor (Bidder) at no extra cost to BHEL. Cost incurred for such type of additional NDT (RT, CRT, PAUT & UT) arising due to workmanship defect of contractor (Bidder), shall be debited to contractor (Bidder) without overhead. Engagement of separate agency for NDT by BHEL, shall not vacate contractor (Bidder) from their responsibility of workmanship till warrantee period. Repair in weld joints, as and when required, shall be attended by the contractor (Bidder).

Chapter-VII: BOCW is not in the scope of the contractor.

7.0	**BOCW Cess is not to be borne by contractor for this contract.** 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, is not applicable in this tender.

CHAPTER-VIII

TENTATIVE/ESTIMATED WEIGHT FOR VARIOUS SYSTEMS IN SCOPE OF WORK (BOQ)

8.0 Summary of Weights

Sl. No.		Item Description	Unit	Total Weight	Material
I		**MAIN ITEMS**			
1	DM WATER TANK	**STEEL PLATES**	Kgs.		
1.01	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 25mm)	Kgs.	1855	IS 2062 E250Gr BR
1.02	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 20mm)	Kgs.	45993	IS 2062 E250Gr BR
1.03	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 16mm)	Kgs.	37981	IS 2062 E250Gr BR
1.04	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 12mm)	Kgs.	18694	IS 2062 E250Gr BR
1.05	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 10mm)	Kgs.	42284	IS 2062 E250Gr BR
1.06	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 8mm)	Kgs.	55785	IS 2062 E250Gr BR
1.07	DM WATER TANK	PLATE IS2062 E250 Gr BR (1500mm X 6300mm X 6mm)	Kgs.	3560	IS 2062 E250Gr BR
2	DM WATER TANK	STRUCTURAL STEEL	Kgs.		
2.01	DM WATER TANK	ANGLE 75X75X10, IS2062 E250 GR-A	Kgs.	1500	IS 2062 E250Gr A
2.02	DM WATER TANK	ANGLE 75X75X6, IS2062 E250 GR-A	Kgs.	5000	IS 2062 E250Gr A
2.03	DM WATER TANK	ANGLE 65X65X8, IS2062 GRE250 QLTY-A	Kgs.	0	IS 2062 E250Gr A
2.04	DM WATER TANK	ANGLE 65X65X6, IS2062 GRE250 QLTY-A	Kgs.	2000	IS 2062 E250Gr A
2.05	DM WATER TANK	ANGLE 50X50X6, IS2062 GRE250 QLTY-A	Kgs.	4000	IS 2062 E250Gr A
2.06	DM WATER TANK	ISMC 100, IS2062GRE250 QLTY-A	Kgs.	2000	IS 2062 E250Gr A
2.07	DM WATER TANK	ISMC 75, IS2062GRE250 QLTY-A	Kgs.	2500	IS 2062 E250Gr A

2.08	DM WATER TANK	IS FLAT-100X6THK	Kgs.	1000	IS 2062 E250Gr A
2.09	DM WATER TANK	IS FLAT-50X6THK	Kgs.	1000	IS 2062 E250Gr A
2.10	DM WATER TANK	ISRO Ø16	Kgs.	0	IS 2062 E250Gr A
2.11	DM WATER TANK	ISSQ 16	Kgs.	500	IS 2062 E250Gr A
2.12	DM WATER TANK	STAIR TREAD	Nos.		IS 2062 E250Gr A
2.13	DM WATER TANK	PLATFORM	Nos.		IS 2062 E250Gr A
3.00	DM WATER TANK	**TANK ACCESSORIES**	Nos.		
3.01	DM WATER TANK	Gauge Hatch – 200 NB Size	Nos.		C.S
3.02	DM WATER TANK	Name Plates	Nos.		S.S
3.03	DM WATER TANK	EARTHING LUGS	Nos.		S.S
3.04	DM WATER TANK	450Ø WIRE MESH for Vent Nozzles, each of diameter 300NB size.	Nos.		S.S
3.05	DM WATER TANK	M64 x 1500 Lg. Anchor bolts with suitable nuts	Nos.		IS 1367
3.06	DM WATER TANK	U-BOLT GALVZD 2"	Nos.	35000	SC.s + Galv.
5.00	DM WATER TANK	**NOZZLE ASSEMBLY**			
5.01	DM WATER TANK	IS 2062, Gr E250, BR - 600 NB (for Shell Manhole) along with Bolting Flange, Cover Flange, Gasket, Studnuts & SS Wire Mesh.	SET		Carbon Steel IS 2062 E 250 Gr BR
5.02	DM WATER TANK	IS 2062, Gr E250, BR - 600 NB (for Roof Manhole) along with Bolting Flange, Cover Flange, Gasket, Studnuts & SS Wire Mesh.	SET		Carbon Steel IS 2062 E 250 Gr BR
5.03	DM WATER TANK	PIPE - 450 NB (for Pump Suction Line) along with Flange, Counter Flange, Gasket, Studnuts & Wire Mesh & Reducer.	SET		Stainless Steel
5.04	DM WATER TANK	PIPE - 150 NB (for Recirculation Line) along with Flange, Counter Flange, Gasket, Studnuts & SS Wire Mesh, including 90 DEG LONG RADIUS Elbows & Reducer.	SET		Stainless Steel
5.05	DM WATER TANK	PIPE - 100 NB (for Tank Inlet Line) along with Flange, Counter Flange, Gasket, Studnuts & SS Wire Mesh, including Reducer.	SET		Stainless Steel

5.06	DM WATER TANK	PIPE - 150 NB (for Tank Inlet Line) along with Flange, Counter Flange, Gasket, Studnuts, including Diffuser.	SET		Stainless Steel
5.07	DM WATER TANK	PIPE - 200 NB (for Tank Inlet Line) along with Flange, Counter Flange, Gasket, Studnuts & SS Wire Mesh, including Diffuser.	SET		Stainless Steel
5.08	DM WATER TANK	PIPE - 500 NB (for Overflow line) along with Flange, Counter Flange, Gasket, Studnuts & SS Wire Mesh, including 90 DEG LONG RADIUS elbows.	SET		Stainless Steel
5.09	DM WATER TANK	PIPE - 300 NB (for Vent with Goose Neck) including 90 LONG RADIUS DEG elbows	SET		Stainless Steel
5.10	DM WATER TANK	PIPE - 100 NB (for Drain Line) along with Flange, Cunter Flange, Gasket, Studnuts & SS Wire Mesh and 90 DEG LONG RADIUS elbow.	SET		Stainless Steel
5.11	DM WATER TANK	PIPE - 450 NB (for Spare Outlet) along with Flange, Blind Flange, Gasket, Studnuts, & SS Wire Mesh incuding Reducers.	SET		Stainless Steel
5.12	DM WATER TANK	PIPE - 200 NB (for Spare Inlet) along with Flange, Blind Flange, Gasket, Studnuts, & SS Wire Mesh incuding Reducers.	SET		Stainless Steel
5.13	DM WATER TANK	PIPE - 100 NB (for Level Transmitter) along with Flange, Gasket, Studnuts.	SET		Stainless Steel
5.14	DM WATER TANK	PIPE - 100 NB (for Level Indicator) along with Flange, Gasket, Studnuts.	SET		Stainless Steel
5.15	DM WATER TANK	PIPE - 100 NB (for Temperature Transmitter) along with Flange, Gasket, Studnuts, & SS Wire Mesh.	SET		Stainless Steel
5.16	DM WATER TANK	PIPE - 40 NB (for Handrail Pipe)	Mtrs.		IS 1239 HVY, Electroforged GALVANISED
6	DM WATER TANK	**VALVES**			
6.01	DM WATER TANK	GATE VALVE, SS GATE Valve(ASTM A351 Gr.CF8M, TRIM SS316), 100 NB	Nos.		S.S
7.00	DM WATER TANK	**FASTENERS**			
7.01	DM WATER TANK	ROOF STRUCTURE, M20 Studnuts X 100 Length with 2 Nos Nut and 2 Washers	Nos.		A 193 GR.B7(HDG), NUT A194 GR.2H(HDG)
7.02	DM WATER TANK	ROOF STRUCTURE, M16 Studnuts X 100 Length with 2 Nos Nut and 2 Washers	Nos.		A 193 GR.B7(HDG), NUT A194 GR.2H(HDG)

7.03	DM WATER TANK	ROOF STRUCTURE, M12 Studnuts X 100 Length with 2 Nos Nut and 2 Washers	Nos.		A 193 GR.B7(HDG), NUT A194 GR.2H(HDG)
	Total Weight in MT			**261**	
Note-	The materials mentioned above will be supplied by BHEL. The contractor is required to perform Fabrication, rolling & erect actual tonnage which may be necessary to complete the work in all respects as detailed in the tender specifications, for which payments shall be released based on agreed rates. The weights and dimensions of material shown are approximate and are liable to vary.				

 # The following Gaskets will be supplied by BHEL During commissioning.

8	DM WATER TANK	**GASKETS (COMMISSIONING SPARES)**			
8.01	DM WATER TANK	Gasket for Shell Manhole Gasket (832 O.D x 615 I.D x 3 Thk.)	Nos.	2	CNAF GASKETS
8.02	DM WATER TANK	Gasket for Roof Manhole Gasket (762 O.D x 615 I.D x 3 Thk.)	Nos.	2	CNAF GASKETS
8.03	DM WATER TANK	Gasket for Pump Suction Line(450NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.04	DM WATER TANK	Gasket for Recirculation Line(150NB)	Nos.	2	Sp. WND SS316+GRAFIL+I Ring
8.05	DM WATER TANK	Gasket for Tank Inlet Line(100NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.06	DM WATER TANK	Gasket for Tank Inlet Line(150NB)	Nos.	2	Sp. WND SS316+GRAFIL+I Ring
8.07	DM WATER TANK	Gasket for Tank Inlet Line(200NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.08	DM WATER TANK	Gasket for Overflow line(500NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.09	DM WATER TANK	Gasket for Vent with Goose Neck(300NB)	Nos.	2	Sp. WND SS316+GRAFIL+I Ring

8.1	DM WATER TANK	Gasket for Drain Line(100NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.11	DM WATER TANK	Gasket for Spare Outlet(500NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.12	DM WATER TANK	Gasket for Spare Inlet(200NB)	Nos.	1	Sp. WND SS316+GRAFIL+I Ring
8.13	DM WATER TANK	Gasket for Level Transmitter(80NB)	Nos.	3	Sp. WND SS316+GRAFIL+I Ring
8.14	DM WATER TANK	Gasket for Level Indicator(40NB)	Nos.	3	Sp. WND SS316+GRAFIL+I Ring
8.15	DM WATER TANK	Gasket for Level Indicator(100NB)	Nos.	3	Sp. WND SS316+GRAFIL+I Ring

Chapter-IX: General

The scope of the work will comprise of but not limited to the following:

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

9.0 GENERAL

9.1 The intent of this specification is to provide services for execution of project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services/ facilities to complete the work or portion of work awarded to him. The quoted/ accepted rates/ lump sum price shall deem to be inclusive of all such contingencies.

9.2 It is not the intent to specify herein all details of all material. Any item related this work not covered by this but necessary to complete the system will be deemed to have been included in the scope of the work.

9.3 Site Visit by the Bidder: - The bidder shall, prior to submitting their tender for the work, visit and examine the site of works and its surroundings at his own expense, and obtain and ascertain for himself on his own responsibility all information that may be necessary for preparing his tender and entering into a contract, and take the same into account in the quoted contract price for the work.

9.3.1 The bidder shall satisfy themselves about the following factors:

i) Site conditions including access to the site, existing and required roads and other means of transport/communication for use by him in connection with the work including diverting and re-routing of services.

ii) Requirement and availability of land and other facilities of his enabling works, establishment of his nursery, office, stores etc.

iii) Ground conditions including those bearing upon transportation, disposal, handling and storage of materials required for the work or obtained there-from.

iv) Source and extent of availability of suitable materials, including water etc., and labour (skilled and unskilled) required for work, and laws and regulations governing their use and employment.

v) Geological, meteorological, topographical and other general features of the site and its surroundings as are pertaining to and needed for the performance of the work.

vi) The limit and extent of surface and subsurface water to be encountered during the performance of the work, and the requirement of drainage and pumping.

vii) The type of equipment and facilities needed, for and in the performance of the work.

viii) The extent of lead and lift required for the work in complete form over the entire duration of the contract, and All other information pertaining to and needed for the work including information as to the risks, contingencies and other circumstances which may influence or affect the work or the cost thereof under this contract.

9.4 The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe / tubes, and handrails etc. for any temporary supporting or approach platforms or scaffolding works or as bed for pre-assembly works. Contractor shall arrange himself all such materials. The

Contractor shall make all fixtures, temporary supports, steel structures required for jigs & fixtures, anchors for load and guide pulleys required for the work. Contractor shall arrange necessary steel (angles, channels, beams, plates etc) for such usage as normal scope of work without any cost implication on BHEL. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor. However, if available with BHEL (in form of scrap/good steel), vendor may be allowed to use on returnable basis on discretion of BHEL.

9.5 Contractors shall ensure that all their Staff / Employees are exposed to periodical training programme conducted by qualified agencies / personnel on ISO 9001 – latest Standards.

9.6 Contractor has to clear the front, expeditiously and promptly as instructed by BHEL Engineer for other agencies, like Civil, Electrical, instrumentation, BOP, etc., to commence their work from / on the equipments coming under this scope. Sometimes, more than one agency may have to work in same location. Sometimes it may be required to re-schedule the activities to enable other agencies to commence / continue the work so as to keep the overall project schedule.

9.7 For the purpose of planning, contractor shall furnish the estimated requirement of power (month wise) for execution of work in terms of maximum KW demand.

9.8 All necessary certificates and licenses, permits, clearances, Inspection to carry out this work from the respective authority, if applicable like IBR authorities/statutory/ local authorities/ etc. are to be arranged by the Contractor, at his cost in time to ensure smooth progress of work and render all assistance, service required in this regard.

9.9 The contractor must obtain the signature and permission of the security personnel of the customer for bringing any of their materials inside the site premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside.

9.10 During the course of erection, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians employed are not sufficient BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads (5%) from contractor's bills.

9.11 The intent of specification is to provide services according to the most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for proper and efficient execution of this work shall not relieve the Contractor of the responsibility of providing such facilities to complete the work without any extra compensation.

9.12 Contractor shall erect and commission all the equipments and auxiliaries as per the sequence & methodology prescribed by BHEL depending upon the technical requirements. Availability of materials and fronts will decide this. BHEL Engineer's decision regarding correctness of the work and method of working shall be final and binding on the Contractor. No claims for extra payment from the Contractor

will be entertained on the ground of deviation from the methods / sequence adopted in erection of similar sets elsewhere.

9.13 The Contractor shall perform any services, tests etc. which may not be specified but nevertheless, required for the completion of work within quoted rates.

9.14 The Contractor shall execute the work in the most substantial and workman like manner. The stores shall be handled with care and diligence.

9.15 BHEL reserves right to recover from the Contractor any loss which arises out of undue delay / discrepancy / shortage / damage or any other causes due to Contractor's lapse during any stage of work. Any loss to BHEL due to Contractor's lapse shall have to be made good by the Contractor as per GCC.

9.16 All works such as cleaning, levelling, aligning, trial assembly, dismantling of certain equipments / components for checking and cleaning, surface preparation as per general engineering practice and as per BHEL Engineer's instructions at site, cutting, gouging, weld depositing, grinding, straightening, chamfering, filing, chipping, drilling, reaming, scrapping, lapping, fitting up etc. as may be applicable in such erection works and which are treated incidental to the erection works and necessary to complete the work satisfactorily, shall be carried out by the Contractor as part of the work within the quoted rates.

9.17 The Contractor shall take delivery of the plates, chemicals, and other structural items etc. from the BHEL stores/ storage area after getting the approval of BHEL Engineer on standard indent forms of BHEL. Complete and detailed account of the materials and equipments after usage shall be submitted to the BHEL and reconciled periodically.

9.18 Plant materials should not be used for any temporary supports / scaffolding/ preparing preassembly bed etc. The details of equipments to be erected under this contract are generally as per the schedule given in relevant appendices. These details are approximate and meant only to give a general idea to the tenderer about the magnitude of the work involved. Actual quantum and type of equipments will be based on the relevant erection documents which will be furnished to the Contractor in due course of erection and the weight and quantity as per the relevant engineering documents will only be admissible for the billing purpose.

9.19 Contractor shall regulate flow of material to and from site in such a manner and sequence that material accumulation at site does not lead to congestion at site. In case it is necessary to shift and restack the materials kept at work areas / site to enable other agencies to carry out their work or further any other reason, it shall be done by the Contractor most expeditiously. No claim for extra payment for such work will be entertained.

9.20 It may so happen that certain components like manhole doors, hanger etc may be supplied in loose items. They need to be assembled as per relevant drawings or as per advice of BHEL engineer prior to erection. This forms the part of the scope of work.

9.21 The Contractor shall have total responsibility for all equipment and materials in his custody at Contractor's stores, loose, semi-assembled, assembled or erected by him at site. He shall effectively protect the finished works from action of weather and from damages or defacement and shall also cover the finished parts immediately on completion of work as per BHEL engineer's instructions. The machine surfaces/finished surfaces should be greased and covered.

9.22 Gases like argon, oxygen, acetylene etc that are required for erection related activities shall be arranged by the Contractor at his cost. The supply should accompany test certificate for the batch indicating individual element 'ppm' level and overall purity level. Contractor should arrange to verify the purity of argon at site as required by BHEL/Customer.

9.23 Site testing wherever required shall be carried out for all items / materials installed by the contractor to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations.

9.24 The work shall be executed under the usual conditions without affecting power plant construction /operation and in conjunction with other operations and contracting agencies at site. The contractor and his personnel shall co-operate with the personnel of other agencies, co-ordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

9.25 Wherever Construction sequences are furnished by BHEL, the contractor shall follow the same sequence.

9.26 Contractor shall, transport all materials to site and unload at site / working area for inspection and checking. All material handling equipment required shall be arranged by the contractor.

9.27 Contractor shall retain all T&P / Testing instrument / Material handling equipment's etc. at site as per advice of BHEL engineer and same shall be taken out from site only after getting the clearances from engineer in charge. The contractor at his cost shall arrange necessary security measures for adequate protection of his machinery, equipment, tools, materials etc. BHEL shall not be responsible for any loss or damage to the contractor's construction equipment and materials. The contractor may consult the Engineer-in-Charge on the arrangements made for general site security for protection of his machinery equipment tools etc.

9.28 Contractor shall remove all scrap materials periodically generated from his working area and collect the same at one place earmarked for the same. Load of scraps is to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's cost with applicable overheads if there is any failure on the part of contractor in this respect.

9.29 The contractor shall ensure that his premises are always kept clean and tidy to the extent possible. Any untidiness noted on the part of the contractor shall be brought to the attention of the contractor's site representative who shall take immediate action to clean the surroundings to the satisfaction of the Engineer in- Charge.

9.30 On completion of work, all the temporary buildings, structures, pipe lines, cable etc. shall be dismantled and levelled and debris shall be removed as per instruction 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 with 5% overhead. The decision of BHEL Engineer in this regard is final.

9.31 The contractor's work shall not hinder other work, either underground or over ground, such as electrical, phone lines, water or sewage lines, etc. In areas of overlap, the contractor shall work in coordination with other related contractors.

9.32 Any damage of the landscape by contractor's team to such utilities will be penalized and contractor shall be responsible for cost/making good for such damages.

9.33 Contractor at his cost shall lay all necessary temporary piping including cutting and edge preparation, install the pumps, blanks, valves, Pressure gauges etc. required for the test. Required pipes, valves, plates etc., will be given by BHEL.

9.34 SITE INSPECTION

9.34.1 The owner / employer or his authorized agents may inspect various stages of work during the currency of the contract awarded to him. The contractor shall make necessary arrangements for such inspection and carry out the rectification pointed out by the owner / employer without any extra cost to the owner / employer. No cost whatsoever such duplication of inspection of work be entertained.

9.34.2 BHEL / Customer will have full power and authority to inspect the works at any time, either on the site or at the contractor's premises. The contractor shall arrange every facility and assistance to carry out such inspection. On no account will the contractor be allowed to proceed with work of any type unless such work has been inspected and entries are made in the site inspection register by customer / BHEL.

9.24.3 Wherever the performance of work by the contractor is not satisfactory in respect of workmanship, deployment of sufficient labour or equipment, delay in execution of work or any other matter, BHEL shall have the right to engage labour at normal ruling rates and get the work executed through other agency and debit the cost to the contractor with 5% overhead, and the contractor shall have no right to claim compensation thereof. In such a case, BHEL shall have the right to utilize the materials and tools brought by the contractors for the same work.

9.35 DOCUMENTATION

9.35.1 Contractor has to maintain documents regarding erection, alignment, welding, joints, NDT and other erection data as per the FQP (min 05 Copies). These shall be required at different stages of erection and commissioning for statutory clearances as well as during handing over to Customer.

9.36 AS BUILT DRAWING:

After successful completion, testing and commissioning of installation work, Purchaser's drawings / documents shall be updated in line with the actual work carried out and as built drawings / documents

shall be submitted by the contractor as agreed for the project. Contractor shall be supplied with one extra copies of the layout & isometrics drawings. Contractor to incorporate in one of the copies with red ink all the changes / deviations / alterations etc., Carried out at site due to various reasons, with site engineer's endorsement. Marked up drawings shall be submitted to BHEL for approval.

9.37 Support for Handing Over of T&P, spares to BHEL/Customer, diversion to other BHEL Sites/Units

Vendor will assist in handing over of Special T&Ps for Erection/commissioning which were issued to them free of charge for returning to BHEL /Customer store.

9.38 Dewatering

Dewatering of Low Lying areas like – DM water tank working areas, other low lying areas (as per scope applicability) till handing over to customer is in bidders scope for which vendor has to arrange and maintain adequate no. of Diesel & electrical pumps of suitable capacities, operators, necessary manpower with sufficient quantity of suction & discharges hoses, pipes, Clamps, cables, Electrical panels/starters, diesel, consumables without any extra commercial implication on BHEL treating as normal scope of work. Dewatering pumps will be required to run to ensure job progress is not hampered & if required pumps are to be run on round the clock basis on working days & holidays, Sundays.

9.39 Housekeeping/Area Cleaning

The contractor has to do area cleaning on every date on daily basis. Non-compliance of the above cleaning shall call for penal recovery limited to **Rs.2,000.00 on each instance** and at the same time, cleaning of the area shall be done by BHEL at Cost recovery basis with **10%** overheads. No excuses on this above account shall be entertained by BHEL on whatsoever account.

Contractor shall engage separate gangs throughout the contract period, exclusively for proper housekeeping of the site. The contractor has to make necessary arrangements for collection and for bringing down the scrap from all locations and taking them away from the erection areas to various locations as indicated by BHEL Engineer. The house keeping must be a routine and continuous activity. in the various work fronts.

Chapter-X: Welding Schedule

10.0 Following points may be noted with respected to the Welding schedule

Erection/Final Welding Schedule of subject Project shall be made available during Erection. Document Enclosed with this specification is issued only for general understanding about the scope of work and does not entitle contractor of any compensation on account of any changes in final WS issued by BHEL during execution of works at site. If welding schedule is not available then work shall be done as per instruction of the BHEL site engineer.

Chapter-XI: Foundations & Grouting

The scope of the work will comprise of but not limited to the following:

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

11.0 PREPARATION OF FOUNDATIONS AND GROUTING

11.1 DM water tank foundation and other necessary civil works for supporting structures, equipment (if any) etc will be provided by BHEL / Customer. The checking of dimensional accuracy, axes, elevation, levels etc, with reference to bench marks of foundations and anchor bolt pits have to be checked and logged by the Contractor. The permanent benchmark / reference marks will have to be transferred to new locations with sufficient care to maintain the accuracy and protected / preserved with adequate care (to enable rechecking at later dates) as per BHEL instruction.

11.2 Minor adjustment of foundation level of DM water tank, dressing and chipping of foundation surfaces and blue-matching (wherever required) for of all equipment per BHEL Engineers instructions, should be done by the Contractor as part of the work. Contractor/BHEL shall prepare protocols before taking over the foundations. All minor adjustments of foundation level, dressing and chipping of foundations as required, minor enlarging the pockets in foundations, cleaning using compressed air, etc., for achieving proper levels & erection of equipment/ plants, will be within the scope of work/specification.

11.3 It shall be contractor's responsibility to check the various equipment/DM water tank foundations for their correctness with respect to level, orientation, dimensions etc., and ascertained dimensions shall be measured and submitted to BHEL for approval before erection.

11.4 Complete grouting is required for all the Pockets of Anchor Chair and annular portion of ring wall for uniform distribution of load for the DM water tank etc, as applicable, is included in the scope of Contractor. Arranging all labour, building materials including cement, ordinary portland as well as quick setting – free flow - non-shrink grout mix, form work, shuttering, and any other requirements is in the Contractor's scope.

11.5 PROCEDURE FOR GROUTING: Contractor has to carry out the grouting as per the work instructions for grouting available at site or the grouting is to be carried out as per the supplier's recommendation / IS standard. Copy of those recommendations is to be submitted to BHEL for records.

Chapter-XII: Project Material handling, transportation to Erection site/fabrication yard and Site Storage

The scope of the work will comprise of but not limited to the following:

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

12.0 Transportation to erection site and Site Storage

12.1 Loading at BHEL / Customer stores and storage yard, transport to site, unloading at site / working area of equipment, placement on respective foundation / location, pre-assembly bay or at working area are in the scope of work. The scope includes taking materials / Equipments from customer stores / storage yard also. Contractors Quoted / Accepted rate shall be inclusive of the same. Required cranes, tractors, trailer or trucks/ slings/ tools and tackles / labour including operators, fuel, lubricants etc. for loading & unloading of materials will be in the scope of contractor.

12.2 The BHEL storage yard is located within the Main Plant Boundary. The bidder has to carry out the fabrication activities such as plate rolling, bending etc., grit blasting and supply & application of the primer to all materials at the area made available by the end customer M/s BPCL which may vary by 5 km to 10 km from the BINA BHEL site (tank location / storage material yard of BHEL). All transportation, loading, unloading, and related activities for the above works shall be included within the contract scope and covered under the total quoted price. At this place construction power & water for fabrication has to be arranged by the bidder.

12.3 Loading and transporting to site, unloading at site / pre-assembly area or at working area, is in the scope of work. Required cranes for loading & unloading of materials, trailer shall be in the scope of contractor. The contractor shall provide any fixtures, concrete blocks & wooden sleepers, sandbags which are required for temporary supporting of the components at site.

12.6 The contractor shall satisfy himself of the quality and quantity of the materials 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.

12.7 Sometimes it may become necessary for the contractor to handle certain unrequited components in order to take out the required materials. The contractor has to take this contingency also into account. No extra payment is payable for such contingencies.

12.8 All materials issued by BHEL shall be stacked neatly, preserved, stored in the contractor's shed / work area above ground level by use of concrete or wooden sleepers. No materials shall remain on ground at any time. All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor at his own cost within the quoted rates. In case it is necessary to shift and restack the materials kept at work area / site to enable other agencies to carry out their work, same shall be done

by the contractor at no extra cost. Contractor shall maintain register/diary for location and quantity of materials transported from BHEL/Customer Store/Yard and unloaded at site/ preassembly area.

12.10 The contractor shall take all such measures as may be reasonably necessary to ensure that its arrangements and those of its sub-contractors with respect to the transport of Goods, Materials and Labour to the site do not interfere with local traffic in the vicinity of the site and where such interference is unavoidable shall make such special arrangements as may be reasonably required to minimize the effect of such interference.

12.13 The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL. BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during verification/stacking or at any time under the custody of the contractor.

12.14 All surplus materials shall be returned to BHEL store. All wastage / scrap (including melting scrap, wastage, and unusable scrap) shall be returned to the stores on weighment basis in consultation with BHEL Engineer and a receipt obtained for material accounting purposes. Scrap materials shall be sorted section-wise and returned separately at a place directed by BHEL Engineer within the project area. Return of such materials will not be entitled for any handling and incidental charges. In case if wastage is beyond permissible limit, recovery shall be applicable as per penal rate based on fresh material market rate as determined by BHEL Engineer In-charge.

12.15 All lifting tackles including wire ropes, slings, shackles etc. used by the contractor shall be got approved by BHEL Engineer at site before they are actually put on the work. It will be the responsibility of the contractor to ensure safe lifting of the equipment taking due precautions to avoid any accidents and damage to other equipment and personnel. All equipment/structure shall be adequately supported and protected to prevent damage during handling and erection. The history cards for major equipment to be maintained by the contractor.

Chapter-XIII: Welding and Non-destructive Testing

The scope of the work will comprise of but not limited to the following:

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

13.0 WELDING AND NON-DESTRUCTIVE TESTING

13.1 All expenses for testing of contractor's welders including destructive and Non- destructive tests conducted by BHEL at site or at laboratory shall have to be borne by the contractor only. Limited quantity of plates and pipe material required for making test pieces will be supplied by BHEL free of cost.

13.2 Only BHEL approved electrodes and filler wire will be used. All electrodes shall be baked and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to the site will have valid manufacturing test certificate. The test certificate should have a co-relation with the lot number / batch number given on electrode packets. No electrodes will be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National / International standards will be submitted to BHEL before putting the oven in use. The contractor shall also arrange periodical calibration for the same. Separate ovens shall be used for baking and holding.

13.3 Non-Destructive Testing (NDT) as applicable during fabrication as per approved FQP by BHEL/Customer for fabrication of the work under this contract shall be in contractor scope- Testing such as RT, UT, & DP, etc. wherever applicable shall be in Contractor scope. In case of any delay (i.e. 2 days from the date of completion of joint/intimation) in execution of NDT, BHEL shall be entitled to execute the work at cost recovery basis.

13.4 The contractor shall maintain a record in the form as prescribed by BHEL of all operations carried out on each weld. Contractor has to maintain a record indicating the number of welds, the names of welders who welded the same, date and time of start and completion, preheat temperature, radiographic results, rejection if any, percentage of rejection etc. and submit copies of the same to the BHEL Engineer as required. Interpretation of the BHEL Engineer regarding acceptability or otherwise of the welds shall be final.

13.5 The contractor shall carry out the edge preparation of weld joints at site in accordance with the details acceptable to BHEL Engineer. Wherever possible machining or automatic flame cutting should be done. Gas cutting will be allowed only wherever edge preparation otherwise is impractical. All slag / burrs shall be removed from the edge and all the hand cuts shall be ground smooth to the satisfaction of engineer. Prepared edges to be preserved / applied with wieldable primer.

13.6 All welds shall be painted with anticorrosive red oxide paint once radiography and stress reliving works are over. Necessary consumables and scaffolding etc including paints shall be provided by contractor at his own cost.

13.7 Radiography and other NDT tests after welding of plates, pipes, Plate support etc, as applicable in the DM water tank fabrication are parts of erection work and shall be carried out by the contractor in accordance

with the instructions of the Engineer. Contractor at his cost shall arrange all equipment and consumables essential for carrying out the above process.

13.8 Radiography may be required to be carried out at any time (day and night after due work permit from the BHEL/Customer) to ensure the continuity of the progress. The contractor shall make all necessary arrangements including labour, supervisors/ Engineer required the work as per directions of BHEL.

13.9 All welded joints shall be subjected to acceptance by BHEL Engineer.

13.10 All welders shall be tested and approved by BHEL Engineer before they are actually engaged on work though they may possess the required certificate. BHEL reserves the right to reject any welders without assigning any reason. The welder Identification code as approved by the BHEL Engineer shall be stamped by the welder on each joint done by them. The contractor will be responsible for the periodic renewal, retesting of the welders as demanded by BHEL.

13.11 BHEL Engineer is entitled to stop any Welder from the work if his work is unsatisfactory for any technical reasons or there is a high percentage of rejection of joints welded by him, which in opinion of the BHEL Engineer will adversely affect the quality of the welding though the Welders, has earlier passed the tests prescribed by BHEL Engineers. The welders having passed qualification tests do not relieve the contractor of a contractual obligation to check the welder's performance.

13.12 All charges towards testing of Welders for destructive and non-destructive test, testing and approval of welders for engaging in the erection work shall be borne by the contractor.

13.13 **List of Penalties on Violations on Quality Provisions:**

Sr no	Violation	Penalty in Rs
1	Mother oven not working	500 per day & ban on its use
2	Slackness in control over baking of welding electrodes (Doc.)	200 per incident
3	Holding oven not working/plugged in	500 per incident/day & ban its use
4	Portable oven not working/Plugged in	100 per incident & welder to be sent home
5	Use of cold electrodes (Except E6013)	1000 per incident & welder to be sent home
6	Unauthorized welder on job	5000 per incident & welder to be sent home
7	Delay in NDT Agency deployment w.r.t jointly agreed Ere. Prog	500 per incident

8	Failure to monitor Welder's Performance (RT, SR, Penalty Joint etc.)	5000 per week
9	Improper acts w.r.t maintain SR Charts	10000 per incident
10	Site Welding/QLY Engineer not deployed w.r.t mutually agreed Ere. Plan	500 per day
11	Delay in (RT, SR, UT) report submission & customer acceptance Log sheets esp. for Billed qty. from dt. of Billing (Vendor)	10,000 per week
12	Lack of safe approach Scaffolds/Platform for inspection & non-availability of calibrated MMDs.	1000 per incident.

Chapter-XIV: Painting

14.0 DM water tank and related structure & pipe: Contractor has to carry out the painting as per the painting schedule. The supply of required paints, primers and associated consumables shall be in the scope of the contactor. This is within the quoted rate and no separate payment will be made for this purpose.

Chapter XV- Field quality control plan

15.0 Work shall be executed as per approved field quality control plan (FQCP) as per BHEL/Customer BPCL BINA. Contractor shall Submitted FQCP for reviewed and approved by BHEL/Customer.

16.0 Chapter XVI: HSE (Health, Safety, Environment) and PPE (personal Protective Equipment) Guidelines.

1. Contractor shall follow all the HSE guidelines as mentioned chapter IX off SCC and customer specification BPCL Bina.
2. In case of any dispute/ contradiction, BPCL HSE rules and guidelines shall prevail.
3. PPEs of Reputed make shall be made available to the workmen as per Chapter IX of SCC.
4. All the vehicle movements/ Loading and unloading shall be done by strictly following the safety norms.
5. FARANA crane shall be used instead of Hydra.
6. Minimum one safety engineer shall be deployed by contractor for HSE implementation during execution of the work.

Chapter XVII-Obligations of the Contractors

17.0 The contractor shall fully comply with the following enactments:

a) Contract Labor (R & A) Act, 1970 and rules formed therein under Central Rules.

b) Minimum Wages Act 1948 (Wage Rates not less than that notified by State Labour Department / Central Labour Dept., / BHEL whichever is higher from time to time).

c) Payment of Wages Act.

d) ESI Act, 1948

e) EPF Act, 1952

f) Employees' Compensation Act, 1923.

g) Provisions of Factories Act 1948 & Rules thereof

h) The inter-state migrant workmen (regulation of employment and conditions of service) Act, 1979

i) Payment of Bonus Act, 1965

j) Payment of Gratuity Act, 1972

k) The contractor shall obtain License from the Assistant Labour Commissioner (Central), or appropriate government if he engages twenty or more workmen.

l) The Contractor shall produce the following Registers and forms before commencement of work, for verification by the Executing Officer.

1 Form XII - Register of contractors

2 Form XIII - Register of workmen employed by contractor (Rule 75)

3 Form XIV - Employment card issued by contractor (Rule 76)

4 Form XVI - Muster Roll (Rule 78(1)(a)(i))

5 Form XVII - Register of wages (Rule 78(1)(a)(i))

6 Form XVIII - Register of wages-cum Muster Roll (in case of weekly payment)

7 Form XIX - Wage Slip (Rule 78(b))

8 Form XX - Register of deduction for damages or loss (Rule 78(1)(a)(ii))

9 Form XXI - Register of files (Rule 78(1)(a)(ii))

10 Form XXII - Register of advances (Rule 78(1)(a)(ii))

11 Form XXIII - Register of overtime (Rule 78(1)(a)(iii))

12 Form XXIV - Return to be sent by the contractor to licensing officer (Rule 82(1))

m) The contractor shall make himself or his representative (supervisor) available at the work spot every day during execution of work, for effective supervision.

n) The contractor shall attend to all inspections notified/conducted by the Human Resource department, Labour department, P.F. authorities, Inspector of Factories, ESI inspectors, or any other such authorities.

o) Non-compliance of any provisions under the act/rule/instructions/guidelines shall make the contractor liable for penal action including termination of contract.

p) Contractor shall furnish in a separate letter his place of residence and postal address. The delivery at the above-named place or posting in a Post Box regularly maintained by the Post and Telegraph Department or sending letters registered for acknowledgement of any notice, letter or other communication to the contractor shall be deemed sufficient service there upon he contractor. Change in address shall come into force at any time by an instrument executed by the contractor and delivered to the BHEL official who has signed the contract.

q) The contractor must satisfy himself by personal study thoroughly the scope of proposed work in detail and all conditions affecting the work before entering into the contract. There shall not be at any time, dispute/complaint of any nature regarding scope of work and interpretation of specifications or any misunderstanding with regard to nature or omission of the work to be done nor shall any application for compensation in terms of time and money shall be accepted by BHEL regarding the above.

r) Contractor shall in his absence keep competent agent constantly on the works and any directions or explanations given by the "Contract Executing Officer" or his representative to such agent shall be held to have been given to the contractor himself.

s) Contractor on the advice of BHEL officials shall immediately remove any person employed by him, who may in the opinion of the BHEL official, is incompetent or involves himself in misconduct. Such persons shall not be again employed on the works without written permission of the BHEL official.

t) The contractor shall give all notices required by the Acts, regulation, bye laws, Legal Acts and pay all fees in connection therewith unless and otherwise arranged and decided in writing with BHEL. He shall also ensure that no attachments are made against materials or work forming part of or for the use of the contractor. In all such cases, contractor shall protect and indemnify BHEL against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, decrees or attachment either by himself or by his employees.

u) It shall be contractor's sole responsibility to protect the public and his employees against accident from any cause and provide required safety equipment and shall indemnify BHEL against any claims for damages for injury to the person or property resulting from any such accidents and shall,

where the provisions of the Employees Compensation Act and Public Liability Act as applicable, take steps to properly insure against any claims thereunder.

v) In the event of any accident in respect of which compensation may become payable under the Employees Compensation Act, VIII of 1923 whether by the contractor or by BHEL as Principal Employer, it shall be lawful for BHEL to retain out of monies due and payable to the contractor such sum or sums of money as may, in the opinion of BHEL shall be final in regard to all matter arising in this clause.

w) No work shall be done on Sundays or on other declared Holidays of BHEL without the written permission of BHEL officer in charge of the work. The contractor shall comply with the provisions of the Factories Act 1948 if the same are applicable. No contract labour shall be engaged on any National Holidays.

x) The contractor shall keep his work place clean and safe to avoid injuries to men and damage to finished products / equipment.

y) On the occurrence of an accident, which results in the death of any of the workmen employed by the contractor or which is so serious as to be likely to result in the death of any such workmen, the contractor shall within 24 hours of the happening of such an accident intimate in writing to the BHEL official in charge of the work.

z) The contractor shall indemnify BHEL against all losses or damages sustained by BHEL resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or dues if any and become payable by BHEL, as a consequence of failure, BHEL to give notice under the Employees Compensation Act 1923 or otherwise confirm to the provisions of the said Act in regard to such accident.

aa) The contractor shall ensure adherence to all statutory requirements applicable to BHEL.

bb) The contractor shall ensure abidance by all the labour laws especially including Contract labour (R&A) Act 1970, Payment of Wages Act 1936, Employees Compensation Act 1923, Minimum Wages Act 1948, ESI Act 1948, Payment of Bonus Act 1965, and Provident Fund Misc. Prov. Act 1952, as amended from time to time.

cc) The contractor shall comply with provisions of Provident Fund Misc. Prov. Act 1952 through PF code allotted to him / her.

dd) Notwithstanding the above clause, in case of any financial loss incurred by company on account of contravention of the Provident Fund regulations or any regulations of rule touching the same by the contractor, the contractor shall submit an undertaking to indemnify the company to the extent of the loss incurred by the company.

ee) The contractor should engage only those laborers whose age is 18 (eighteen) years or more.

ff) The contractor shall not resort to subcontracting under any circumstances without prior permission of BHEL. If found sub-contracting at a later date, BHEL reserves the right to take whatever action it deems fit, including cancellation of the Contract.

gg) The contractor shall provide the required safety equipment to the labors engaged by him / her.

hh) Contractor shall issue "Employment Card" as per statute to all labour and supervisors covered under the job work contract.

ii) The contractor shall be responsible to settle any grievances of the labour deployed by him / her within two weeks.

jj) In view of the implementation of the new labour codes, namely the code on wage, 2019, Industrial relation code, 2020, code on social security, 2020 and the occupational safety, Health and working condition code, 2020 and the publication of the corresponding central rules by the Government of India on date 08.05.2026, contractor has to ensure the strict compliance with all applicable statutory provisions.

Chapter: XVIII Technical Annexure: Drawings & Documents

18.0 The following documents are part of the specification.

- **Plot plan**
- **Safety Documents of M/s BPCL Bina.**
- **GA Drawing of Tank**
- **Painting Schedule**