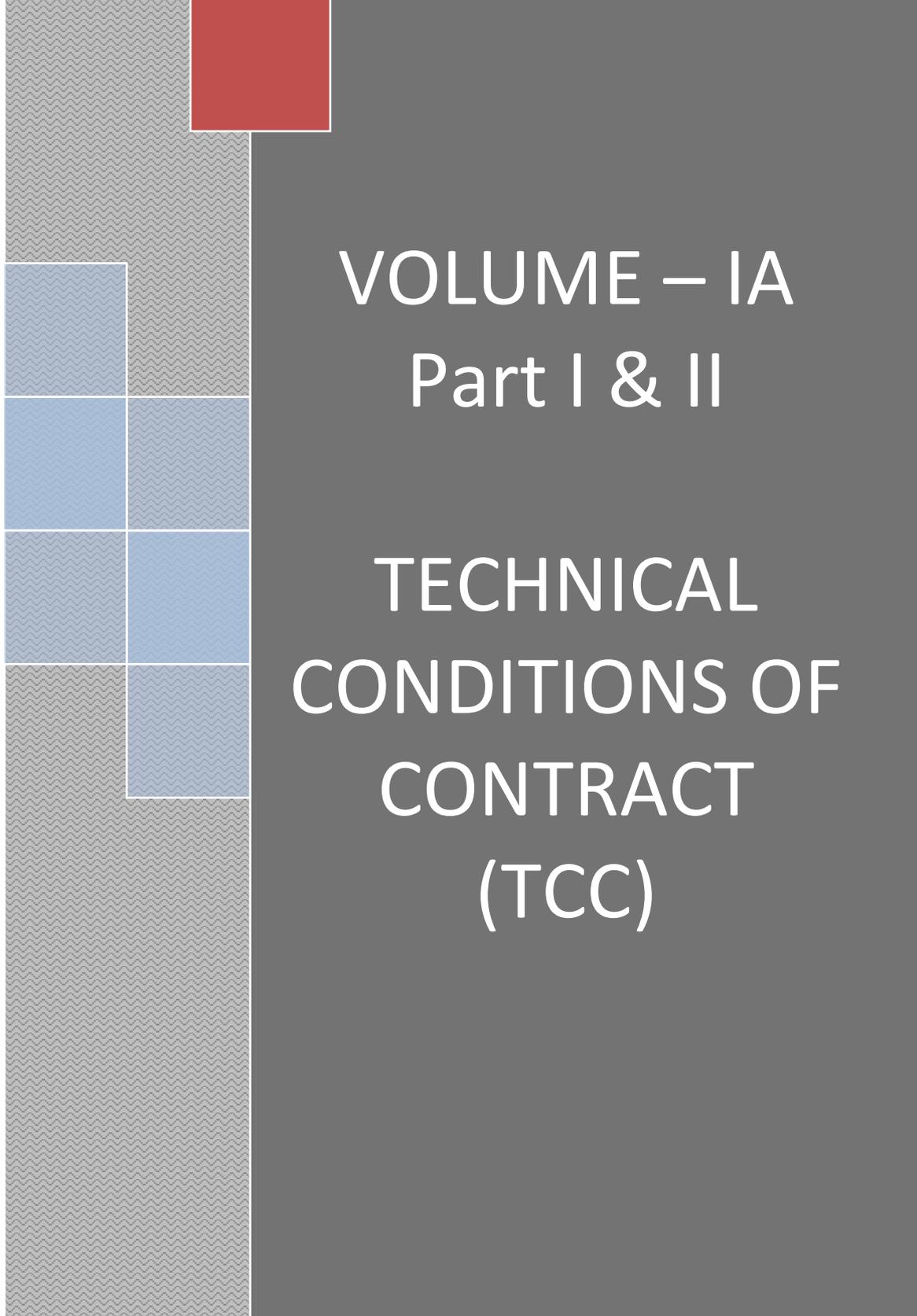


NIT Ref No: BHEL: PSSR: ENR-SEZ: 2025-26: SCT:212





Notice Inviting Tender: Replacement of damaged expansion bellows with new expansion bellows in FD, PA & Flue Gas duct of Boiler Unit 1 for 2 X 660 MW Ennore SEZ-STPP, Voyalur PO, Minjur, Ponneri Taluk, Tamil Nadu– 601203

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**TAMIL NADU GENERATION AND DISTRIBUTION
CORPORATION LTD.**

**2 X 660 MW SEZ ENNORE STPP
AT ASH DYKE OF NCTPS,
CHENNAI**

**TECHNICAL SPECIFICATION
FOR**

**Replacement of damaged expansion bellows with
new expansion bellows in FD, PA & Flue Gas duct
of Boiler Unit 1 for 2 X 660 MW Ennore SEZ-STPP,
Voyalur PO, Minjur, Ponneri Taluk, Tamil Nadu–
601203**



**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, SOUTHERN REGION**

NIT Ref No: BHEL: PSSR: ENR-SEZ: 2025-26: SCT:212

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VOLUME - IA PART – I CHAPTER – I

PROJECT INFORMATION

1.1	Project Title	Ennore SEZ project of 2 x 660 MW Coal Based Super Critical Thermal Power Project at Ash Dyke of NCTPS
1.2	Plant capacity	1320 MW (2 units of 660 MW each)
1.3	Type of project	Green field
1.4	Owner	Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)
1.5	Consultant	DESEIN, New Delhi
1.6	Plant site location	Ash dyke of North Chennai Thermal Power Station (NCTPS)
1.7	Location co-ordinates	80° 18' E to 80° 19' E Longitude 13° 17' N to 13° 18' N Latitude
1.8	Nearest Village	Voyalur
1.9	Nearest Town & City	Chennai (35 Km)
1.10	State Capital	Chennai (35 Km)
1.11	Nearest Railway Station	Athipattu Pudunagar (~ 5 Km) on Chennai – Vijayawada Line
1.12	Nearest Airport	Chennai (~ 60 Km)
1.13	Nearest Seaport	Ennore (~ 3 Km)
1.14	Nearest Road access	All weather road from Pattamandri on the Thiruvottiyur – Ponneri highway
2.0	Meteorological Condition	
2.1	Climate	Tropical, very dry and hot summer, dry and cold winter and good rain-fall in monsoon accompanied with strong wind
2.2	Site Elevation	(+) 10.0 Meter above Mean Sea Level
2.3	Ambient Temperature	
a.	Annual Maximum Mean Temperature	32 °C
b.	Annual Minimum Mean	24 °C

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	Temperature		
c.	Design ambient temperature		35 °C
2.4	Relative Humidity		
a.	Maximum		100 %
b.	Minimum		36 %
c.	Design		75 %
2.5	Annual Rainfall		
a	Maximum		2540 mm
b	Average		1600 mm
c	Minimum		1175 mm
2.6	Basic Design Wind Pressure		As per IS: 875 (Latest Edition)
2.7	Wind Speed		11.8 kmph (Avg.), 50 m/s (max)
2.8	Seismic zone		Zone: III as defined in IS:1893-2002
2.9	Design ambient temperature for Electrical equipment		50 °C

VOLUME-IA PART-I CHAPTER – II



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SCOPE OF WORKS

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

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

1.2.1 The work to be carried out under the scope of these specifications is broadly as under:

Handling of Materials at BHEL / Client's Stores / Storage Yard and transportation to erection location, removal of damaged expansion bellows, erection and welding of new expansion bellows in FD, PA & Flue gas ducts and checking of Air tightness test using blower of Unit 1 of 2 x 660 MW ENNORE SEZ Super Critical Thermal Power Plant, Ambattur Taluk, Thiruvallur District, Tamil Nadu.

1.2.2 The quantities indicated in the tender specification are approximate and are liable for variation and alteration at the discretion of BHEL. The quoted unit rate shall be applicable for any additional product group also, if included at a later date integral to the main scope of work / package envisaged. The work executed shall be measured and priced as per the unit rate arrived at for each work area as mentioned in the relevant clauses.

1.2.3 The weights given in the Volume-II (Price Bid) are approximate and these are subject to change as per site conditions.

1.2.4 During the course of execution of work, certain rework / modification / rectification / repairs / fabrication etc will be necessary on account of feedback from various relevant source, and also on account of design discrepancies/alterations, manufacturing defects, site operations/ maintenance requirements. Contractor shall carry out such rework / modification / rectification / fabrication / repairs etc promptly and expeditiously.

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1.2.5 Erection Supervisors/ Safety supervisors / Engineers, consumables etc. and safety equipment like safety belts, safety shoes, required for the scope of work shall be provided by the contractor. All the expenditure including taxes and incidentals in this connection will have to be borne by him unless otherwise specified in the relevant clause. The contractor's quoted rates should be inclusive of all such contingencies.

1.2.6 It shall be specially noted that the contractor's labour and staff may have to work round the clock to meet the completion schedules / plans, which may involve payment of considerable overtime. The contractor's quoted rates should be inclusive of all such contingencies.

1.2.7 The work shall conform to dimensions and tolerances given in various drawings and quality manuals provided by BHEL. If any portion of work is found to be defective in workmanship not conforming to drawings or other stipulations, the contractor shall dismantle and redo the work duly replacing the defective materials at his cost, failing which the job will be carried out by BHEL by engaging other agencies / departmentally and recoveries will be affected from contractor's bill towards expenditure incurred including BHEL's overhead charges.

1.2.8 The work covered under this specification is of highly sophisticated nature requiring the best quality of workmanship, engineering and construction management. The contractor should ensure timely completion of the work. The contractor must have the adequate quantity of tools, construction aids, equipment's, etc., in this possession. He must also on his rolls adequately trained, qualified and experienced supervisory staff and skilled personnel for maintaining quality and safety at work.

1.2.9 Contractor shall execute the work as per sequence and procedure prescribed by BHEL at site. Any failure to comply with the above might lead to rework and the cost for the same shall be borne by the contractor only. BHEL engineer,

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depending upon the availability of materials, fronts etc., will decide the sequence of erection and methodology. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the method of erection adopted in erection of similar jobs or for any reason whatsoever.

1.2.10 Contractor has to work in close co-ordination with other erection agency at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less/more at a particular given time. Contractor shall arrange & augment the resources accordingly.

1.2.11 No member of the already erected structure / platform, pipes, grills, platform, other component and auxiliaries should be cut without specific approval of BHEL engineer.

1.2.12 The storage yard is located within the plant boundary. All other materials have to be transported from storage yard to construction area by the contractor at his own cost.

1.2.13 The existing damaged expansion bellows to be cut safely by locking the adjacent ducts / structures to avoid mis-alignment or loading of other equipments.

1.2.14 New expansion bellows to be replaced in place of damaged expansion bellows. Alignment & welding of expansion bellows to be completed as per the drawings.

1.2.15 The damaged expansion bellows to be handed over to BHEL Stores.

1.2.16 Checking of welding to be ensured by Air leak test (ATT) . All generated scrap shall be cut and removed from work spot.

VOLUME IA PART – I CHAPTER – III

FACILITIES IN THE SCOPE OF CONTRACTOR / BHEL (SCOPE MATRIX)

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Sl. No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
1.3.1	PART I			
1.3.1.1	ESTABLISHMENT			
1.3.1.1.1	FOR CONSTRUCTION PURPOSE:			
1.3.1.1.1.1	Open space for office	Yes	Free	
1.3.1.1.1.2	Open space for storage	Yes	Free	
1.3.1.1.1.3	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
1.3.1.1.1.4	Bidder's all office equipment's, office / store / canteen consumables		Yes	
1.3.1.1.1.5	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
1.3.1.1.1.6	Firefighting equipment's like buckets, extinguishers etc		Yes	
1.3.1.1.1.7	Fencing of storage area, office, canteen etc of the bidder		Yes	
1.3.1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
1.3.1.1.2.1	Open space	Yes		
1.3.1.1.2.2	Living accommodation		Yes	
1.3.1.2	ELECTRICITY			
1.3.1.2.1	Electricity of Voltage 415 / 440 V for construction purposes			
1.3.1.2.1.1	Electricity at site premises for completing job	Yes		Single point source free of cost

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1.3.1.2.1.2	Further distribution for the work to be done which include supply of materials and execution		Yes	
1.3.1.2.2	Electricity for the office, stores, canteen etc of the bidder which include:		Yes	
1.3.1.2.2.1	Distribution from single point including supply of materials and service		Yes	
1.3.1.2.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	Calibration certificate to be provided
1.3.1.2.2.3	Duties and deposits including statutory clearances for the above		Yes	
1.3.1.2.2.4	Living facilities for office use including charges		Yes	
1.3.1.2.2.5	Demobilization of the facilities after completion of works		Yes	
1.3.1.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc on the above lines. (in case BHEL provides this facility, the scope should be given without ambiguity)		Yes	
1.3.1.3	WATER SUPPLY			
1.3.1.3.1	For construction purposes:			
1.3.1.3.1.1	Making the water available at single point		Yes	Chargeable Refer clause 1.3.5
1.3.1.3.1.2	Further distribution as per the requirement of		Yes	

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	work including supply of materials and execution			
1.3.1.3.2	Water supply for bidder's office, stores, canteen etc		Yes	
1.3.1.3.2.1	Making the water available at single point		Yes	
1.3.1.3.2.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	
1.3.1.4	LIGHTING			
1.3.1.4.1	For construction work (supply of all the necessary materials) At office storage area At the preassembly area At the construction site /area		Yes	
1.3.1.4.2	For construction work (Execution of the lighting work / arrangements) At office storage area at the preassembly area at the construction site /area		Yes	
1.3.1.5	COMMUNICATION FACILITIES for site operations of the bidder			
1.3.1.5.1	Telephone, Fax, internet, intranet, email etc		Yes	

Sl. No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
1.3.2	PART II			
1.3.2.1	ERECTION FACILITIES			

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1.3.2.1.1	Engineering works for construction	Yes		In consultation with BHEL
1.3.2.1.2	Providing the erection drawings for all the equipment's covered under this scope	Yes		
1.3.2.1.3	Drawings for construction methods		Yes	
1.3.2.1.4	As-built drawings – wherever deviations observed and executed and also based on the decisions taken at site-example – routing of small-bore pipes		Yes	
1.3.2.1.5	Shipping lists etc for reference and planning the activities	Yes	Yes	
1.3.2.1.6	Preparation of site erection schedules and other input requirements		Yes	In consultation with BHEL
1.3.2.1.7	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes		
1.3.2.1.8	Weekly erection schedules based on Sl. No 1.3.2.1.6		Yes	
1.3.2.1.9	Daily erection / work plan based on Sl. No 1.3.2.1.8		Yes	
1.3.2.1.10	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per		Yes	

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	schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.			
1.3.2.1.11	Preparation of preassembly bay		Yes	
1.3.2.1.12	Laying of racks for gantry crane if provided by BHEL or brought by the contractor / bidder himself		Not applicable	

1.3.3 LAND FOR SITE OFFICE AND LABOUR COLONY:

1.3.3.1 Minimum Open space as made available by customer will be provided at free of charges to the contractor, for construction of temporary office shed, fabrication yard and storage area at the job site, contractor's stores shed(s).

1.3.3.2 BHEL shall not provide to the contractor any residential accommodation to any of his staff and the contractor has to make his own arrangements. Contractor has to make his own arrangements for labour colony.

1.3.3.3 Location and area requirement for office/storage sheds/ fabrication yard shall be discussed and mutually agreed to.

1.3.4 ELECTRICITY:

1.3.4.1 Construction power will be provided to the contractor at one point within plant area by BHEL at free of cost for doing the bellow replacement work. Electricity charges for contractor's office shed and accommodation shall be borne by the contractor.

1.3.4.2 Any duty, deposit involved in getting the Electricity for contractor's office shed and accommodation shall be borne by the bidder. As regards to

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contractor's office shed and accommodation also, all such expenditure shall be borne by the contractor. on chargeable basis at the applicable rate of TANGEDCO under LT tariff VI at the nearest substation. The present LT tariff VI rate of TANGEDCO is

Consumption charges at Rs.12.00 per unit

Fixed charges as applicable per month

Electricity Tax on total amount

The TANGEDCO tariff and tax may vary from time to time. The required Energy meter for measuring the consumption shall be provided and installed by the contractor. Any dispute regarding consumption, the BHEL engineer's decision is final. The contractor shall make his own arrangement for further distribution with necessary isolator / LCB etc.

1.3.4.3 Provision of distribution of electrical power from the given single common point to the required places with proper distribution boards, approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State / BHEL / their customer with appropriate statutory requirements shall be the responsibility of the tenderer / contractor.

1.3.4.4 The required energy meter for measuring power consumption will be provided by BHEL and to be installed and taken care by the contractor.

1.3.4.5 BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.

1.3.5 DRINKING WATER

Bidder shall provide drinking water at the work spot at their cost.

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1.3.6 ONLINE SITE CONSTRUCTION MANAGEMENT SYSTEM (SCMS):

~~Contractor has to provide minimum 2 computers (along with one operator per PC) for online material management, reporting of daily progress, billing and other similar activities, within the quoted rate. Computers shall have minimum configuration of Windows 7 OS, 4GB RAM and Internet Explorer 8 or above.~~

1.3.7 CONSUMABLES:

1.3.7.1 ~~Such of these consumables as indicated as consumables provided by BHEL alone will be provided to the contractor by BHEL free of charge for erection activities.~~ 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.

1.3.7.2 All the required electrodes (in his scope) as approved by BHEL shall be arranged by contractor at his cost. It shall be the responsibility of the contractor to obtain prior approval of BHEL, before procurement regarding, suppliers, type of electrodes etc. On receipt of the electrodes at site, it shall be subject to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number and date of expiry etc.

1.3.7.3 The contractor shall provide within finally accepted price / rates, all consumables like welding electrodes (including alloy steel and stainless steel), all gases (inert, welding, and cutting), soldering material, dye penetrants. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, H&S, packers, shims, wooden planks, scaffolding and pre-assembly materials, hardware items etc required for temporary works such as supports, scaffoldings, bed are to be arranged by him. Sealing compounds, wooden sleepers, for temporary work, required for completion of work except those

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which are specifically supplied by manufacturing unit are also to be arranged by him.

1.3.8 MATERIAL SUPPLY:

Contractor issue materials available at BHEL site stores. The weight of items is indicated in the weight schedule which are to be executed / incorporated in the permanent system.

1.3.9 LIGHTING FACILITY:

Adequate lighting facilities of 24v input supply such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, pre-assembly yard and contractor's material storage area etc. at his cost.

1.3.10 GASES:

1.3.10.1 All the required gases like Oxygen / LPG etc required for work shall be supplied by the Contractor at his cost. It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of these gases. Non-availability of gases cannot be considered as reason for not attaining the required progress.

1.3.10.2 BHEL reserves the right to reject the use of any gas in case required purity is not maintained.

1.3.10.3 The contractor shall submit weekly / fortnightly / monthly statement report regarding consumption of all consumables for cost analysis purposes.

1.3.10.4 The contractor shall ensure safe keeping of the inflammable cylinder at a separate place away from normal habit with proper security etc.

1.3.11 ELECTRODES SUPPLY AND STORAGE

1.3.11.1 The bidder shall use the BHEL / Customer approved quality welding electrodes only.

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1.3.11.2 It shall be the responsibility of the contractor to obtain prior approval of BHEL, before procurement, regarding suppliers, type of electrodes etc. On receipt of the electrodes at site, it shall be subject to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number and date of expiry etc.

1.3.11.3 Shortage of any of the electrodes or the equivalent suggested by BHEL shall not be quoted as reason for deficiency in progress or for additional rate.

1.3.11.4 Storage of electrodes shall be done in an air conditioned / controlled humidity room as per requirement, at his own cost by the contractor.

1.3.11.5 All low hydrogen electrodes shall be baked / dried in the electrode drying oven (range 375 deg. C - 425 deg. C) to the temperature and period specified by the BHEL Engineer before they are used in erection work and each welder should be provided with one portable electrode drying oven at the work spot. Electrode drying oven and portable drying ovens shall be provided by contractor at his cost.

1.3.11.6 In case of improper arrangement of procurement of above electrodes BHEL reserves the right to procure the same from any source and recover the cost from the contractor's first subsequent bills at market value plus departmental charges of BHEL communicated from time to time. Postponement of such recovery is not permitted.

1.3.11.7 BHEL reserves the right to reject the use of any electrodes at any stage, if found defective because of bad quality, improper storage, date expiry, unapproved type of electrodes etc. It shall be the responsibility of the contractor to replace at his cost without loss of time.

VOLUME-IA PART-I CHAPTER – IV

T&Ps and MMEs TO BE DEPLOYED BY CONTRACTOR

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1.4.1 The following minimum major Tools & Plants (T&P) shall be arranged by the Contractor for execution of items mentioned in Chapter IX of Technical Conditions of Contract (Volume –I Book-I) of this tender within the quoted rate.

Sl. No.	Description	Quantity
1	Pick and carry crane (8 MT- 14 MT)	1 No.
2	Tractor Trailer 20T	1 No.
3	Winch	1 No.
4	Chain blocks of upto 3T capacity	As per requirement
5	Chain blocks of upto 5MT capacity	As per requirement
6	3 phase Welding machine	As per requirement
7	Grinding machine AG 4/5	2 Nos
8	Retractable fall arrestor/ safety net	As per requirement
9	LPG cutting set	As per requirement
10	Scaffoldings	As per requirement
11	Fire extinguishers	Minimum 3nos

It shall be ensured that all T&Ps engaged are tested for fitness and have valid certificates from competent person.

In addition arrangement of all necessary PPEs like safety helmets, belts, full body harness, shoes, face shield, hand gloves etc. before starting the job. Permit shall be taken on daily basis without fail. One safety supervisor shall be deployed who will be responsible for ensuring safety at work spot as well as taking permits. Shall ensure availability of sufficient number of toilets /restrooms and adequate drinking water at work site and labour colony. Sufficient lighting shall be ensured and power source for hand lamps shall be maximum of 24v.

1.4.2 In the eventuality of contractor not deploying T&Ps and safety equipment in his scope during the period specified above, and BHEL arranges for the same

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(either BHEL's own cranes / hired cranes), prevailing BHEL Corporate hire charges (may vary from time to time) shall be recovered from the contractor's running bills. Corresponding pages of Corporate hire charges. (Please note that these charges are valid up to May 31, 2019 and may get revised further).

1.4.3 All the tools and plants required for this scope of work, except the Tools & Plants provided by BHEL are to be arranged by the contractor within the quoted rates.

1.4.4 For loading and transportation, all necessary T&P such as Trailers, Cranes, Winches, welding generators, slings, jacks, sleepers, rails etc., are to be arranged by the contractor.

1.4.5 The contractor has to furnish a list of Tools and plants including tractors / trailers / trucks etc which he has proposed to deploy for this work.

1.4.6 Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.

1.4.7 The contractor shall arrange operator, diesel, petrol and other consumables required for the tools and plants, equipment's 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 cranes shall be provided by the contractor within his quoted rate.

VOLUME-IA PART-I CHAPTER - V

T&Ps & MMEs TO BE DEPLOYED BY BHEL ON SHARING BASIS

1.5.1 List of T&Ps to be made available by BHEL to contractor free of hire charges on sharable basis for execution of those items within the scope of work of this Tender are as below:

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Sl. No	Description	Quantity
1	Air Blower for Air Leak Test of Boiler	As Required

1.5.2 All the T&Ps mentioned in clause 1.5.1 above shall be given to contractor on sharable basis and the allotment is made by BHEL on need basis.

1.5.3 Besides the T & P mentioned above, which is being made available to the contractor on free of hire charges, any additional crane and other T & P which may be required for successful and timely execution of the work covered within the scope of this tender shall be arranged and provided at site by the contractor at his cost. In case if the contractor fails to provide such equipment's, BHEL will arrange for the same and the cost will be recovered from the contractor's bill with BHEL overheads, as applicable from time to time which may vary even during contract period.

VOLUME-IA PART-I CHAPTER - VI

TIME SCHEDULE

1.6.1. TIME SCHEDULE

1.6.1.1. The entire work of Boiler and auxiliaries, Rotating machines including Supply & Application of Final Painting as detailed in the Tender Specification shall be completed within 2 (two) months from the date of commencement of work at site.

1.6.1.2. During the total period of contract, the contractor has to carry out the activities in a phased manner as required by BHEL and the program of milestone events. The work fronts for construction will get released progressively during the course of execution at site. The required documents

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/ drawings for construction will be progressively issued to the contractor during the course of execution at site.

1.6.1.3. The erection work shall be commenced on the mutually agreed date between the bidder and BHEL engineer. The scope of work under this contract is deemed to be completed only when so certified by the site Engineer. The decision of BHEL in this regard shall be final and binding on the contractor.

1.6.1.4. The contractor is required to refer Form F15 in Volume-I Book -II for all the instructions to be taken immediately after receipt of fax LOI.

1.6.2. COMMENCEMENT OF CONTRACT PERIOD

The date of commencement of contract period shall be the mutually agreed date between the bidder and BHEL engineer to start the work. In case of discrepancy, the decision of BHEL engineer is final.

1.6.3. MOBILISATION FOR ERECTION, TESTING, ASSISTANCE FOR COMMISSIONING ETC.,

1.6.3.1. The activities for erection, testing etc shall be started as per directions of Construction manager of BHEL.

1.6.3.2. The contractor has to augment his resources in such a manner that following major milestones of erection & commissioning are achieved on specified

1.6.4 CONTRACT PERIOD

The contract period for completion of entire work under scope shall be 2 (Two) months from the “COMMENCEMENT OF CONTRACT PERIOD” as specified earlier for completion of the entire work.

VOLUME-IA PART-I CHAPTER - VII

TERMS OF PAYMENT



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1.7 Terms of payment:

The progressive payment for erection, testing and commissioning on accepted price / rates of contract value will be released as mentioned below.

Rate schedule	Description of Activity	% of Payment
1.7.1.1	Removal of damaged expansion bellow	40%
1.7.1.2	Erection, Alignment & welding of new expansion bellow	55%
1.7.1.3	ATT after replacement of new expansion bellows	5%

VOLUME-IA PART-I CHAPTER - VIII

TAXES AND OTHER DUTIES

1.8.1 Goods and service Tax (GST) & Cess

1.8.1.1 The successful bidder shall furnish proof of GST registration with GSTN Portal in the State in which the Project is being executed, covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.

1.8.1.2 Contractor's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Contractor shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return.

1.8.1.3 Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details will as below:

BHEL GSTN -



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NAME -

ADDRESS –

1.8.1.4 GST charged in the tax invoice/debit note/revised tax invoice by the contractor shall be released separately to the contractor only after contractor files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the contractor and has paid the GST at the time of filing the monthly return.

1.8.1.5 In case BHEL has to incur any liability (like interest / penalty etc.) due to denial/reversal / delay of input tax credit in respect of the invoice submitted by the contractor, for the reasons attributable to the contractor, the same shall be recovered from the contractor.

1.8.1.6 Further, In case BHEL is deprived of the Input tax credit due to any reason attributable to contractor, the same shall not be paid or Recovered if already paid to the contractor.

1.8.1.7 Tax invoice/debit Note/revised tax invoice shall contain all such particulars as prescribed in GST law and comply to the timelines for issue of the same. Invoices shall be submitted on time to the concerned BHEL Engineer in Charge.

1.8.1.8 TDS under GST (if/ as & when applicable) shall be deducted at prevailing rates on gross invoice value from the running bills.

1.8.1.9 E-way bills / Transit passes / Road Permits, if required for materials / T&P etc., bought into the project site is to be arranged by the Contractor only.

1.8.1.10 BHEL shall not reimburse any amounts towards any interest / penalty etc., incurred by contractor. Any additional claim at a later date due to issues such as wrong rates / wrong classification by contractor shall not be paid by BHEL.

1.8.2 All taxes and duty other than GST & Cess and BOCW Cess The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions, Stamp Duties,

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or other charges / levies, which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

1.8.3 Statutory Variations

Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract.

1.8.4 New Taxes/Levies

In case Government imposes any new levy / tax after submission of bid during the tenure of the contract, BHEL shall reimburse the same at actual on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.

1.8.5 Direct Tax

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be affected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.



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VOLUME-IA PART-I CHAPTER IX

BILL OF QUANTITY

1.9.1 Weight Schedule – Summary: -

DETAILS NEW EXPANSION BELLOWS FOR REPLACEMENT								
Sl. No.	Description	Duct Drawing	Expansion Type	SIZE	PG MA	D U	Qty	Weight (kg)
1	APH TO WINDBOX DUCTING RHS	0-00-264-30845	FRCEJ SIZE #04		48204	004	2	2560.300
				5750x4810		005	2	1409.300
2	APH TO WINDBOX DUCTING RHS	0-00-264-30845	FRCEJ SIZE #04	5750x4810	48204	005	1	704.650
3	APH TO WINDBOX DUCTING RHS	0-00-264-30845	FRCEJ SIZE #04	5750x4810	48204	004	2	2560.300
						005	2	1409.300
4	After APH TO Before Common Bus duct RHS	0-00-264-30845	FRCEJ SIZE #01	9092x6089	48204	006	2	2119.800
						007	2	1769.900
5	After APH TO Before Common Bus duct RHS	0-00-264-30845	FRCEJ SIZE #02	9092x3600	48204	002	1	1966.850
6	APH TO WINDBOX DUCTING LHS	0-00-264-30845	FRCEJ SIZE #04	5750x4810	48204	004	2	2560.300
						005	2	1409.300

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7	APH TO WINDBOX DUCTING LHS	0-00-264-30845	FRCEJ SIZE #04	5750x48 10	482 04	00 4	2	2560.30 0
						00 5	2	1409.30 0
8	After APH TO Before Common Bus duct LHS	0-00-264-30845	FRCEJ SIZE #01	9092x60 89	482 04	00 6	2	2119.80 0
						00 7	2	1769.90 0
9	C connection to Windbox interconnection LHS Top 40m (first from wind box)	0-00-264-30845	FRCEJ SIZE #06	5800x24 10	482 04	00 3	1	1527.18 3
10	C connection to Windbox interconnection LHS Top 40m (2nd from Windbox)	0-00-264-30845	FRCEJ SIZE #06	5800x24 10	482 04	00 3	1	1527.18 3
11	C connection to Windbox interconnection LHS Top 28m (first from wind box)	0-00-264-30845	FRCEJ SIZE #06	5800x24 10	482 04	00 3	1	1527.18 3
12	C connection to Windbox	0-00-264-30845	FRCEJ SIZE #06	5800x24 10	482 04	00 3	1	1527.18 3

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	interconnection LHS Top 28 m (2nd from Windbox)								
13	RHS APH to BOF just below APH	0-00-269-30937	FRCEJ SIZE #2	14784X6091	48384	005	1	803.500	
						006	2	1214.800	
14	LHS APH to BOF just below APH	0-00-269-30937	FRCEJ SIZE #2	14784X6091	48384	005	2	1607.000	
						006	2	1214.800	
15	Hot PA to Mill duct	0-00-266-30912	HREXPJ # 4	2488X793	48664	006	4	1546.000	
16	Interconnection duct connection with burner	0-00-264-30866	EXPJ STYLE 2	14686x1270	48214	001	6	3221.871	
			Total Weight (kg)						42046.004

Note to clause 1.9.1 above:

- 1 The weights mentioned above are approximate and liable to vary as per design consideration. There will be change in PG, weight, description etc. However, payments will be made for the tonnage actually erected at the quoted rate. Quantity Variation will be dealt as per clause 2.14 of General Conditions of Contract (Volume I Book II).
- 2 Besides PG/PGMA indicated in the weight schedule, there is likelihood of addition of product groups integral to Boiler [both Main and Auxiliary] and their auxiliaries. The quoted rates shall be applicable for such product groups also.

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- 3 The erection & dismantling of temporary piping, pumps, tanks, dummy plates & other miscellaneous equipment etc. for pre-commissioning and commissioning activities like hydraulic test, chemical cleaning, oil flushing, steam blowing, gas tightness test etc. for the above scope of the contract are covered and shall be carried out as a part of work. There will not be any separate payment for this works.
- 4 The erection and dismantling of air blowers and connecting pipes and ducts, providing blanks / dummies at the required locations and conducting gas tightness test is in the scope of the contract and shall be carried out within the quoted rate.

VOLUME-IA PART-I CHAPTER -X

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.)

1.10.1 Bidders are requested to furnish the following at PSSR-HQ

- i) ~~Security Deposit and additional Security Deposit.~~
- ii) Unqualified Acceptance for Detailed LOI / Work Order.
- iii) Rs.100/- Stamp Paper for preparation of Contract Agreement.

1.10.2 Bidders are requested to furnish the proof of documents for the following at the respective PSSR- Site

- i) PF Regn No.
- ii) Labour License No.
- iii) Workmen Insurance Policy No.

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1.10.3 In addition to the clause 2.8 of General Conditions of Contract (Volume-1C of Book-II) the contractor shall comply with the following.

1.10.3.1 BOCW Act & BOCW Welfare Cess Act

1.10.3.1.1 The Contractor should Register their Establishment under BOCW Act 1996 read with rules 1998 by submitting Form I (Application for Registration of Establishment) and Form IV (Notice of Commencement / Completion of Building other Construction Work) to the respective Labour Authorities i.e.,

- a) Assistant Labour Commissioner (Central) in respect of the project premises which is under the purview of Central Govt.–NTPC, NTPL etc.
- b) Inspector of Factories in respect of the project premises which is under the purview of State Govt.

1.10.3.1.2 The Contractor should comply with the provisions of BOCW Welfare Cess Act 1996 in respect of the work awarded to them by BHEL.

1.10.3.1.3 The contractor should ensure compliance regarding Registration of Building Workers as Beneficiaries, Hours of work, welfare measures and other conditions of service with particular reference to Safety and Health measures like Safety Officers, safety committee, issue of Personal protective equipment's, canteen, rest room, drinking water, Toilets, ambulance, first aid centre etc.

1.10.3.1.4 The contractor irrespective of their nature of work and manpower (Civil, Mechanical, Electrical works etc) should register their establishment under BOCW Act 1996 and comply with BOCW Welfare Cess Act 1996.

1.10.3.1.5 Non-compliance to Provisions of the BOCW Act & BOCW Welfare Cess Act is not acceptable. In case of any non-compliance, BHEL reserves the right to withhold any sum as it deems fit. Only upon total compliance to the BOCW Act and also discharge of total payment of Cess under the BOCW Cess Act by the Contractor, BHEL shall consider refund of the Amounts

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1.10.3.2 PROVIDENT FUND

1.10.3.2.1 The contractor is required to extent the benefit of Provident Fund to the labour employed by you in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, you are hereby required to get yourself registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code number allotted to you by the Provident Fund authorities within one month from the date of issue of this letter of intent. In case you are exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of your failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to us by the customer or paid to statutory authorities by us, such amount will be recovered from payments due to you.

1.10.3.2.2 The final bill amount would be released only on production of clearance certificate from PF / ESI and labour authorities as applicable.

1.10.3.3 OTHER STATUTORY REQUIREMENTS

1.10.3.3.1 The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no. along with the first running bill.

1.10.3.3.2 The contractor shall submit monthly running bills along with the copies of monthly wages (of the preceding month) u/r78(1)(a)(1) of Contract Labour Rules, copies of monthly return of PF contribution with remittance Challans under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with Challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.

Note: ESI is applicable for this project.

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1.10.3.3.3 The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. In case of “Non-compliance of Sec 21 or non-payment of wages” to the workmen before the expiry of wage period by the contractor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.

1.10.3.3.4 The Contractor shall submit copies of Final Settlement statement of disbursement of retrenchment benefits on retrenchment of each workmen under ID Act 1948, copies of Form 6-A (Annual Return of PF Contribution) along with copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution – Form 6 under ESI Act 1948 (if applicable) to BHEL along with the Final Bill.

1.10.3.3.5 In case of any dispute pending before the appropriate authority under ID act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.

1.10.3.3.6 In case of any dispute prolonged / pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL.

1.10.3.3.7 **DEPLOYMENT OF SKILLED / SEMI-SKILLED TRADESMEN** The following clause is applicable in case the contract value / contract price is Rs. Five crores and above. The contractor shall, at all stages of work deploy skilled / semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training. Institute / National Institute of Construction Management and Research (NICMAR),

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National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government.

The number of such qualified tradesmen shall not be less than 20% of total skilled / semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

1.10.4 GENERAL

1.10.4.1 Contractor shall execute the work as per sequence and procedure prescribed by BHEL at site. The applicable erection manuals which are available with BHEL site office are to be referred for compliance and guidance before taking up the work. Any rework on this failure to comply with will be to account of contractor only. BHEL engineer, depending upon the availability of materials, fronts etc., will decide the sequence of erection and methodology. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the method of erection adopted in erection of similar jobs in other projects or for any reason whatsoever.

1.10.4.2 Contractor has to work in close co-ordination with other erection agencies at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less / more at a particular

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given time. Activities and erection program have to be planned in such a way that the milestones are achieved as per schedule / plans. Contractor shall arrange & augment the resources accordingly.

1.10.4.3 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 scaffolding works or as bed for pre-assembly works. Contractor shall arrange himself all such materials. 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.

1.10.4.4 All the works such as cleaning, levelling, aligning, trial assembly, dismantling of certain components for checking and cleaning, surface preparation, fabrication of sheets, tubes and pipes as per general engineering practice and as per BHEL Engineer's instructions at site, cutting, weld depositing, grinding, straightening, chamfering, filing, chipping, drilling, reaming, scrapping, lapping, fitting-up etc., as may be applicable in such erection works and are necessary to complete the satisfactorily, shall be carried out by the contractor as part of the work within the quoted rate. Major machining work, which is only to be carried out in workshops, will be arranged by BHEL.

1.10.4.5 The work covered under this specification is of highly sophisticated nature, requiring the best quality workmanship, engineering and construction management. The contractor should ensure successful and timely operation of equipment installed. The contractor must have adequate quantity of tools, construction aids, equipment's etc., in his possession. He must also have on his rolls adequately trained, qualified and experienced supervisory staff and skilled personnel for erection and safety monitoring.

1.10.4.6 The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn

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materials in excess of design requirements, recoveries will be affected for such excess draws at the rate prescribed by manufacturing units.

1.10.4.7 No member of the already erected structure, platform, pipes, grills, other component and auxiliaries should be cut without specific approval of BHEL engineer.

1.10.4.8 No temporary supports shall be welded on the pressure parts of piping. Welding of temporary supports, cleats, etc. on the boiler columns shall be avoided. In case of absolute necessity contractor shall take prior approval from BHEL Engineer. Further, any cutting or alternation of member of the structure of platform or other equipment shall not be done without specific prior approval of BHEL Engineer.

1.10.4.9 Contractors shall ensure that all their Staff / Employees are exposed to periodical training programme conducted by qualified agencies / personnel on ISO 9001 – 2008 Standards.

1.10.4.10 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.

1.10.4.11 Upon completion of daily work, the contractor shall remove from the vicinity of work all scrap packing materials, rubbish, unused and other materials and deposit them in places to be specified by BHEL Engineer.

1.10.4.12 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

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this account including all expenses together with BHEL overheads from contractor's bills.

1.10.4.23 On completion of work, all the temporary supports scaffoldings etc. shall be dismantled and removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.

1.10.4.24 DOCUMENTATION

1.10.4.24.1 Contractor shall make protocol for the work completed and get it duly signed from BHEL

1.10.4.24.2 The contractor shall maintain a record in the form as prescribed by BHEL for all operations carried out on each weld and maintain a record indicating the number of welds, the name of welders who welded the same, date and time of start and completion, preheat temperature, radiographic results, rejections if any, percentage of rejection, etc. and submit copies of the same to the BHEL Engineer as required.

1.10.4.25.4 Other documents as specified in of Chapter – XI (Progress of Work) of Technical Conditions of Contract (VOLUME-IA PART- II)

1.10.4.26 SITE INSPECTION

1.10.4.26.1 The contractor shall maintain at site a joint protocol for recording actual measurement of work carried out at site, inspection and witnessing of various tests conducted by the contractor.

VOLUME-IA PART-I CHAPTER - XI

PROGRESS OF WORK

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

1.11.1 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.

1.11.2 Progress review meetings will be held at site during which actual progress during the week vis-a-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.

1.11.3 The contractor shall submit daily, weekly and monthly 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.

1.11.7 The contractor shall submit weekly / fortnightly / monthly statement report regarding consumption of all consumables for cost analysis purposes.

1.11.8 The contractor shall submit a report of any damage, shortage, discrepancy etc., every week detailing in this regard.

VOLUME-IA PART-I CHAPTER -XIII

MATERIAL HANDLING, TRANSPORTATION AND SITE STORAGE

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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.)

1.13.1 Loading at BHEL / Customer stores and storage yard, transport to site, unloading at site / working area of equipment, placement on respective foundation / location, fabrication yard, pre-assembly bay or at working area are in the scope of work. The scope includes taking materials / Equipment's 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.

1.13.2 The storage yard is located within the plant boundary.

1.13.3 Loading at storage yard 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.

1.13.4 The equipment's / materials from the storage yard shall be moved in sequence to the actual erection location / location at the appropriate time as per the direction of BHEL Engineer so as to avoid damage / loss of such equipment at site.

1.13.5 Contractor shall plan and transport equipment's, components from storage yard to erection site in such a manner and sequence that material accumulation at site does not lead to congestion at site of work.

1.13.6 Sometimes it may become necessary for the contractor to handle certain unrequired components in order to take out the required materials. The contractor

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has to take this contingency also into account. No extra payment is payable for such contingencies.

1.13.7 Materials shall be stacked neatly, preserved and stored in the contractor's shed / work area in an orderly manner. In case it is necessary to shift re-stack, 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.

VOLUME-IA PART-I CHAPTER- XIV

ERECTION

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.)

1.14.1 Erection

1.14.1.1 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.

1.14.1.2 The equipment's / materials from the storage yard shall be moved in sequence to the actual erection location at the appropriate time as per the direction of BHEL Engineer so as to avoid damage/loss of such equipment at site.

1.14.1.3 Sometimes it may become necessary for the contractor to handle certain unrequired 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.

1.14.1.4 Materials shall be stacked neatly, preserved and stored in the contractor's shed / work area in an orderly manner. In case it is necessary to shift and re-

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stack 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.

1.14.1.5 The contractor is strictly prohibited in using any of the Boiler components like angles, channels, hand-rails for any temporary supporting or scaffolding work. In case of such misuse, a sum as determined by BHEL shall be recovered from contractor's bills. Also, the contractor will be responsible for the safe custody and proper accounting of all materials in connection the work. If the contractor has drawn materials in excess of design requirements, recoveries will be affected for such excess draws at the rate prescribed by manufacturing units.

1.14.1.6 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 shall be arranged by the contractor at his cost.

1.14.1.7 The temporary structures/ items welded to permanent members/pipes are to be cut and removed without any damage. Any damage so to permanent members/ pipes to be made good by the contractor at his cost.

1.14.1.8 In the case of structural members / ducts in certain cases, the raw material will be supplied in random lengths and the contractor will have to make up the length / prepare the edges to suit the matching profiles, weld / bolt connects the joints at no extra cost.

1.14.1.9 All welded joints should be painted with anti-corrosive paint, once welding works are over.

1.14.1.10 All the equipment's /material to be taken inside the plant building shall be cleaned thoroughly before taking them inside.

1.14.1.11 Contractor shall ensure proper housekeeping at work location. The contractor has to make necessary arrangements for collection and for bringing down the scrap generated during work and take them away from the erection

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areas to locations as indicated by BHEL Engineer. The house keeping must be a routine and continuous activity.

1.14.1.12 The contractor shall take all reasonable care to protect the materials and equipment during erection. Touch up painting required to be done on any equipment or part during the course of erection will have to be done by the contractor.

1.14.1.13 Prior to erection of any components inspection to be done for any foreign materials and damages and they are to be removed / attended as per BHEL engineer.

1.14.1.14 Ducts / expansion pieces are dispatched to site in loose walls / plates and these are to be assembled at site before erection. (Walls with stiffeners in welded condition will be provided).

1.14.1.15 The contractor shall carry out necessary preservative painting, periodic application of preservations during erection / after erection until completion of work. Necessary preservatives / paints, thinner are to be arranged by the contractor at his cost. Contractor shall provide necessary crew with all items like wire brushes, paint brushes, emery paper, cotton waste, scaffolding materials etc., at his cost.

1.14.1.16 Welding of temporary supports, cleats, etc. on the boiler columns shall be avoided. In case of absolute necessity contractor shall take prior approval

1.14.1.17 It is the responsibility of the contractor to do the alignment, checking, etc., if necessary, repeatedly to satisfy BHEL Engineer / customer Engineers with all the necessary tools and tackles manpower, etc., without any extra cost. The alignment will be complete only when jointly certified so, by the BHEL Engineer & customer. Also, the contractor should ensure that the alignment is not disturbed afterwards.

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1.14.1.18 The contractor shall take all reasonable care to protect the materials and equipment during erection. Touch up painting required to be done on any equipment or part during the course of erection will have to be done by the contractor.

1.14.1.19 The contractor shall remove from the vicinity of work all scrap / debris periodically and return to stores / deposit in places, as specified by BHEL Engineer. In the event of his failure to do so, the same will be arranged / removed by BHEL and the expenses incurred with overhead will be recovered from the contractors.

1.14.1.20 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. If the contractor does not do this job satisfactory, BHEL will arrange for the same and the expenses incurred with overhead will be recovered from the contractors. Periodical payments to the contractor for the work done will be considered only if the housekeeping is certified as satisfactory by the customer.

1.14.1.22 Temporary lugs / structures meant for transportation is to be removed by the contractor as and when instructed by BHEL Engineer.

1.14.1.23 The welding schedule is for information and the applicable welding schedules will be issued during erection of work at site.

VOLUME-IA PART-I CHAPTER - XV

WELDING OF EXPANSION BELLOWS

1.15 Welding

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1.15.1 Welding of new expansion bellows to be carried out as per the welding schedules / drawings

1.15.2 Welding Machines, Electrodes and other consumables is in the scope of Vendor.

1.15.3 Qualified welders only will be allowed for welding the expansion bellows.

VOLUME-IA PART-I CHAPTER- XVI

TESTING AND COMMISSIONING

1.16 KLT/ATT of ducts.

1.16.1 After replacing the expansion bellows with new expansion bellows, KLT/ATT shall be carried out for checking the leakages in and around the expansion bellows.

VOLUME-IA PART-II CHAPTER-1 **CORRECTIONS / REVISIONS IN SPECIAL CONDITIONS OF** **CONTRACT, GENERAL CONDITIONS OF CONTRACT AND FORMS** **& PROCEDURES**

Sl. No.: 01

Following Clauses in General Conditions of Contract (GCC) are modified/ revised/ added:

S. No	GCC Clause Reference	Modification / Revision / Addition in GCC Clause
1.	GCC Clause 1.9.1, Sl. No (ii)	The following mode of deposit, Sl. No. (e) is added: e) Insurance Surety Bonds

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2.	GCC Clause 1.10.3, Sl. No. (vi)	The following Clause, Sl. No. (vi) is deleted: Security deposit can also be recovered at the rate of 10% of the gross amount progressively from each of the running bills of the contractor till the total amount of the required security deposit is collected. However, in such cases at least 50% of the required Security Deposit, including the EMD, should be deposited in any form as prescribed before start of the work and the balance 50% may be recovered from the running bills as described above
3.	GCC Clause 1.10.3, Sl. No (vii)	The following mode of deposit, Sl. No. (vii) is added: e) Insurance Surety Bonds
4.	Note mentioned under the GCC Clause 1.10.3	Note mentioned under GCC Clause 1.10.3 is revised as below: Note: (1) BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith. (2) In case of delay in submission of security deposit, enhanced security deposit which would include interest (Repo rate +4%) for the delayed period, shall be submitted by the bidder.
5.	GCC Clause 1.10.8	GCC Clause 1.10.8 is revised as below: Bidder agrees to submit security deposit required for execution of the contract within the time period mentioned. In case of delay in submission of security deposit, enhanced security deposit which would include interest (Repo rate+4%) for the delayed period, shall be submitted by the bidder. Further, if security deposit is not submitted till such time the first bill becomes due, the amount of security deposit due shall be recovered as per terms defined in NIT / contract, from the bills along with due interest
6.	GCC Clause 2.22.1	GCC Clause 2.22.1 is revised as: Retention Amount shall be 5% of the Contract Value and shall be furnished through BG in line with clause 1.12 of GCC before payment of first RA Bill. The validity of the said BG shall be initially for the contract period & shall be extended, if so required, up to acceptance of final bill. In case of increase in

S. No	GCC Reference Clause	Modification / Revision / Addition in GCC Clause
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		<p>contract value, additional BG for 5% of differential amount shall be submitted by Contractor before payment of next RA Bill due. Retention Amount can also be recovered at the rate of 10% of the gross amount progressively from each of the running bills of the contractor till the total amount of the required retention amount is collected.</p> <p>In case, contractor opts cash deduction from RA bills in the beginning & subsequently offers to submit BG later on, then refund of deducted retention amount may be permitted against submission of BG for 5% of the Contract Value.</p>
<p>7.</p>	<p>New Clause for “Breach of Contract, Remedies and Termination” is added in place of existing clause of Risk & Cost (i.e. 2.7.2.1 to 2.7.3)</p>	<p>1. Clause 2.7.2 and 2.7.3 are revised as:</p> <p>2.7.2 Breach of Contract, Remedies and Termination</p> <p>2.7.2.1 BHEL shall terminate the contract after due notice of a period of 14 days in any of the following cases, which if not rectified/ improved within the time period mentioned in the notice, then, ‘Breach of Contract’ will be considered to have been established:</p> <ul style="list-style-type: none"> i). Contractor’s poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available period considering its performance of execution. ii). Withdrawal from or abandonment of the work by contractor before completion of the work as per contract. iii). Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor. iv). Repeated failure of contractor in deploying the required resources, to comply the statutory requirements etc. even after given by BHEL is writing. v). Strike or Lockout declared is not settled within a period of one month. vi) Termination of Contract on account of any other reason (s) attributable to Contractor. vii). Assignment, transfer, subletting of Contract without BHEL’s written permission. viii). Non-compliance to any contractual condition or any other default attributable to Contractor.

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S. No	GCC Reference	Clause	Modification / Revision / Addition in GCC Clause
			<p>2.7.2.2 <u>Remedies in case of Breach of Contract is established</u></p> <p>In case 'Breach of Contract' is established, Security Deposit and Retention Amount shall be encashed/ forfeited. This is without prejudice to BHEL's right to levy of liquidated damages, debarment etc. which shall be applied as per the provisions of the contract. Sequence of recovery to be made in case of breach of contract is established, is as below:</p> <p>a) In case the value of Security Deposit & Retention Amount, available for the Contract, is less than 10% of the Contract Value, the balance amount shall be recovered from dues available in the form of Bills payable to contractor, BGs against the same contract etc.</p> <p>b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.</p> <p>c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery:</p> <p>i) Dues payable to contractor against other contracts in the same Region shall be considered for recovery. ii) If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor.</p> <p>iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.</p> <p>Note:</p> <p>1) In addition to above, levy of liquidated damages, debarment, termination, short-closure etc. shall be applied as per provisions of the contract.</p> <p>2) If tendering is done for the balance work, the defaulted contractor (including all the members/partners in case of JV/ partnership firm) shall not be eligible for either executing the balance work or to participate in the tender(s) for executing the balance work.</p>

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		<p>2.7.3 In case Contractor fails to deploy the resources as per requirement informed by BHEL in writing to expedite the work, BHEL can deploy own/hired/otherwise arranged resources and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.</p>
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S. No	GCC Reference Clause	Modification / Revision / Addition in GCC Clause
8.	GCC Clause 2.7.7	<p>GCC Clause 2.7.7 is revised as:</p> <ol style="list-style-type: none"> 1. BHEL may permit or direct contractor to demobilize and remobilize at a future date as intimated by BHEL in case of following situations for reasons other than Force majeure conditions and not attributable to contractor: <ol style="list-style-type: none"> i) suspension of work(s) at a Project either by BHEL or Customer, or ii) where work comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than three months 2. In such cases, charges towards demobilization and remobilization shall be as decided by BHEL after successful remobilization by contractor at site, and decision of BHEL shall be final and binding on the contractor. After remobilization, all conditions as per contract shall become applicable. In case Contractor does not remobilize with adequate resources or does not start the work within the period as intimated, then BHEL reserves the right to terminate the contract and effect remedies under Clause 2.7.2.2. Duration of the contract/time extension shall be revised suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.

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9.	GCC Clause 2.11.3	<p>GCC Clause 2.11.3 is revised as:</p> <p>However, if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take under clause 2.7.2 of GCC i.e.</p> <p>"Breach of Contract, Remedies and Termination".</p>
10.	GCC Clause 2.19.1	<p>GCC Clause 2.19.1 is revised as:</p> <p>The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, it may be considered as</p>
S. No	GCC Clause Reference	Modification / Revision / Addition in GCC Clause
		'Breach of Contract' under Clause 2.7 and the remedies under Clause 2.7.2.2 may be executed, at the discretion of BHEL.
11.	GCC Clause 2.24.1	<p>GCC Clause 2.24.1 is revised as:</p> <p>Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of Twelve months from the date of commencement of guarantee period as defined in Technical Conditions of Contract, for good workmanship and shall rectify free of cost all defects due to faulty erection detected during the guarantee period. In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works, by itself, without prejudice to any other rights and recover the cost incurred for the same along with 5% overheads from the Security Deposit.</p>

Sl. No.: 02

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In addition to The EARNEST MONEY DEPOSIT (EMD) clause 1.9 and The SECURITY DEPOSIT (SD) clause 1.10 published in General Conditions of Contract (Volume I Book II) following is added for FDR

1. FDR should be Lien marked in favour of M/s BHEL.
2. Bank issuing FDR should agree to the following conditions and submit duly signed letter addressed to BHEL, confirming the following points:
 - a) There is no Lock in Period for Encashment of the Said FDR
 - b) The amount under the Said FDR would be paid to BHEL-PSSR on Demand, at any point of Time before, or upon Maturity, without any reference to the (Contactor Name).
 - c) Encashment whether premature or otherwise would not require any clearance from any other authority /Person.
 - d) FDR will be auto renewed for such period/s initially mentioned in the FDR and the intimation of Such renewal shall be sent to BHEL, PSSR and (Contractor), immediately after the renewal.
 - e) FDR will not be closed, Encashed, Changed or Discharged without the Written permission/Confirmation from M/s BHEL PSSR.
 - f) Bank to acknowledge and agree that the Lien created on the FDR shall be in Force until M/s BHEL PSSR, gives a Discharge Letter in this regard.

SL. No.3

Detailed Instruction for EMD / Security deposits through SBI e-collect:

Step 1: Vendors may visit SBI collect website, the URL of which is <https://www.onlinesbi.sbi/sbicollect> where they get the home page with various categories of institutions.

Step 2: Select PSU - Public Sector Undertakings – leading to a page with list of PSUs Step 3: Type BHEL and search, they get to see all BHEL divisions wherein they shall select BHEL PSSR Chennai. The screen shot of the same is given below.



Notice Inviting Tender: Replacement of damaged expansion bellows with new expansion bellows in FD, PA & Flue Gas duct of Boiler Unit 1 for 2 X 660 MW Ennore SEZ-STPP, Voyalur PO, Minjur, Ponneri Taluk, Tamil Nadu– 601203

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Payment Progress

Select Payee

Enter Payment Details

Verify Payment Details

Complete Payment

Print Receipt

Select Payee

Category: PSU-Public Sector Undertaking

bhel

Filter by State: -- Select --

Name of PSU-Public Sector Undertaking	State
BHEL BAP RANIPET	Tamil Nadu
BHEL PSSR CHENNAI	Tamil Nadu

Showing 1 to 2 of 2 entries (filtered from 113 total entries)

Back

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Step 4: Select EMD receipts. Having selected the Payee in the Payment Progress, it will lead to the payment details – a drop down list of values. From that list, vendors shall select EMD receipts. Upon clicking the entry EMD receipts, a form will open asking for the remitters details and the details of the tender.

Step 5: Confirm details and pay

Fill in all the details correctly, verify the details, and complete the payment as it is leading to the payment gateway.

Step 6: Take a printout on completing the payment and enclose the copy of the same along with the bid submission. Store the copy of receipt for future reference.

Sl. No.: 04

GCC Clause 1.9 EARNEST MONEY DEPOSIT- NOT APPLICABLE

Sl. No.: 05

GCC Clause 1.10 SECURITY DEPOSIT- NOT APPLICABLE



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SI. No 06

GCC Clause 2.12 Overrun Compensation (ORC)- NOT APPLICABLE

SI. No 7

GCC Clause 2.17 – Price Variation Compensation (PVC) -NOT APPLICABLE