

**PRAGATI POWER CORPORATION LTD.**

(A Government of NCT of Delhi Undertaking)

PAN NO. AACCP8035F

**C&M Department,
Pragati Power Station,
IP Estate, Ring Road,
New Delhi-110002
Fax: 011-23379164**

Vendor Code:101946
BHEL-DELHI(PSNR)
PLOT NO.25, SECTOR-16A
NOIDA (U.P)- 201301
INDIA
Tel No. 9818280948
Mob No.
Fax No.
Email ID naveen.varshney@bhel.in

Purchase Order No.: 4020005240**PO Date:** 27.07.2022

Subject: Minor overhauling including replacement of 7th and 8th stage free standing blades of LP module of 122 MW steam turbine at PPS-1.

Our Enquiry No.: 1000011719**Your Offer No.:**

Dear Sir,


We are pleased to accept your above cited offer along with correspondences thereof and place our Work Order No. 4020005240 dated 27.07.2022. Please arrange to execute the work as detailed in Annexure subject to terms and conditions specified in Annexure- 3 .

Duplicate copy of the Work Order may please be signed and returned back to us within 10 days of its receipt in token of acceptance of the same.

All other terms and conditions shall be as per our NIT.

Thanking You,

Regards,


(Pradeep Gupta)
AGM(C&M)-II

Copy To:

ANNEXURE - 1

Paying Authority: AM (Fin) Works. Rajghat Power House, Rajghat, New Delhi - 110002. Phone No. 011-23274396								
S.No.	Service Code	Description	Qty	UOM	Unit Rate	Discount%	Net Price	Total Amount
10		Minor O/H OF 122MW STG PPS-I	1.000	AU				12,743,126.60
Tax: IGST@18%								
10 .10	ME21003731C	Minr O/H of STG,LP 7&8 stge blds rplcmnt	1.000	LS	9,046,220.00	0.00	9,046,220.00	9046220.00
10 .20	ME21003732C	O/H of Exciter	1.000	LS	2,856,886.60	0.00	2,856,886.60	2856886.60
10 .40	ME21003734C	Minor O/H of STG Fan Guard(opt work)	1.000	LS	840,020.00	0.00	840,020.00	840020.00

Total Amount

INR 12,743,126.60

ANNEXURE - 2

PRAGATI POWER CORPORATION LTD.
(A Government of NCT of Delhi Undertaking)
TECHNICAL DATA SHEET

S.No.	Service Code	Specification
10	Minor O/H OF 122MW STG PPS-I	
10.10	ME21003731C	<p>Scope of Work & Exclusions Job- Minor Overhauling including replacement of 7th and 8th stage freestanding blades of LP Turbine of 122 MW Steam Turbine at PPS-1</p> <p>I MECHANICAL SCOPE OF WORK</p> <p>A LP Module</p> <ol style="list-style-type: none"> 1 Removal of LP gland box upper halves and checking of seal clearances. 2 Loosening of LP casing parting plane bolts and lifting of outer casing. 3 Proper covering of condenser opening & tubes suitably over tube support plates. 4 Roll check of inner-outer casing 5 Removal of diffuser cones (top half) supporting inner-outer casing at the bottom by jack bolts and loosening PP bolts. 6 Removal of LP inner-outer casing top half. 7 Roll check of inner-casing and its dismantling. 8 Checking and rectification of axial and radial clearances of LP casing/rotor. 9 Lifting of LP rotor and placement on rotor stand after supporting properly. 10 Checking for looseness of blades of LP rotor and DP testing. 11 Inspection of LP casing to pedestal expansion bellows by DPT. DPT of all other expansion bellows inside condenser after proper cleaning and removal of protection pipes, where required. 12 Cleaning of LP turbine internals by alumina blasting. 13 Inspection of LP rotor and inner casing. 14 Removal of all the blades of stages 7 & 8 of GS and TS (Total 4 stages) after taking out the locking strips and clamping pieces. 15 Cleaning of grooves of all the 4 stages. MPI of grooves and demagnetisation. 16 Fitting of new blades with technological pieces as per moment chart and checking NFT of the blades. Removal of all the blades after natural frequency test. Replacement of any of the blades, which are found defective in natural frequency test. 17 Refitting of all the blades of the 4 stages with new clamping pieces. 18 Fitting of the lock plates of all the 4 stages. 19 Tack welding of lock plates at the entry points in all the 4 stages. 20 Check parting plane gaps and ovality of inner-inner and inner-outer casings and rectification of the same. 21 Placement of LP rotor back in position after cleaning work. 22 Box up and roll check of inner-inner casing and correction. 23 Box up and roll check of inner-outer casing and correction with due checking & adjustment if required. 24 Box up LP outer casing after complete inspection of condenser steam space. 25 Setting of gland box clearances, key clearances and assembly of gland boxes including refining of segments, replacement of springs & making of clearances. 26 Checking of exhaust hood spray valve, cleaning and setting of nozzle angle. 27 DPT of last stage blade and moisture removal holes in guide blade. 28 Replacement of eroded balancing weights of LP Rotor. <p>B Bearing Inspection</p> <ol style="list-style-type: none"> 1 Measurement of bearing oil throttles heights and their closing. 2 Removal of pedestal covers, yokes and bearing halves of turbine and generator bearings

		<p>after checking existing bearing/ key clearances.</p> <p>3 Coupled run out checks of all rotors and couplings.</p> <p>4 Free run out checks for all rotor journals and couplings.</p> <p>5 Measurement of existing casing/ pedestal key clearances.</p> <p>6 Decoupling of HP, LP and Generator rotors.</p> <p>7 UT/DPT of all Turbine and Generator bearings, studs, yoke bolts etc. Checking of bearing clearances, rectification of bearing clearances, replacement of bearings and keys including matching of new keys, if reqd. Hydraulic test of all jacking oil hoses and replacement, if reqd.</p> <p>8 Checking of rotor float on thrust bearing and adjustment including replacement/ repair of pads.</p> <p>9 Checking of contact of bearing torus pieces with spherical/ cylindrical supports. Replacement of bearings, torus and support incl. doweling of the new support. Matching of bearings with their seats.</p> <p>10 Measurement of facial run-out of HP-LP and LP-Generator couplings and rectification. Cleaning of coupling spigots.</p> <p>11 Alignment of HP/LP and LP/Generator couplings and coupling of rotors including reaming, honing and machining of new coupling bolts for HP/LP and LP/Generator Couplings, as reqd.</p> <p>12 Removal of all sliding keys and packers, cleaning, lubricating and re-fixing in bearing pedestals, LP guides, etc.</p> <p>13 Adjustments in packers, bearing supports, bearing keys, etc. and their blue matching, lubrication of keys, packers etc as per requirement of casing.</p> <p>14 Roll check, bump check and centering of HP and LP casings. Adjustment of axial/ radial keys and packers including their machining, matching and lubrication.</p> <p>15 Servicing/replacement of jacking oil pump relief valve.</p> <p>16 Resetting of all bearings, oil catchers and pedestal oil guard rings, repair/ replacement of sealing strips. Refitting of bearings and setting/matching of bearings, yoke keys, etc.</p> <p>17 Dismantling and overhauling of over speed trip devices checking & adjustment.</p> <p>18 Barring gear motor removal inspection and refitting.</p> <p>19 Box up of all turbine and generator bearings.</p> <p>20 Preparation for oil flushing cleaning of oil filters during oil flushing and resetting of lube oil throttle valves on completion of oil flushing.</p> <p>21 Assistance in steam rolling and synchronization and attending to any defects pertaining to the scope.</p> <p>C Overhauling of Main Oil Pump of STG</p> <p>i. Decoupling of HP/MOP.</p> <p>ii. Overhauling of MOP, DPT and UT of MOP bearings, wear rings.</p> <p>iii. Replacement of worn out/damaged parts.</p> <p>iv. Reassembly of MOP, realignment of HP/MOP and coupling.</p> <p>D Overhauling of Servomotors HP/LP stop valve and control valve along with their actuators-04 sets with following scope:-</p> <p>1 Scaffolding for valves as required & removal of insulation and recording of reference dimensions, valve travel in cold condition prior to dismantling, gap between coupling nut collar and servo spindle and marking of coupling positions.</p> <p>2 Draining of servomotor/ actuator housing. Removal of oil lines and steam leak off line. Decoupling and removal of actuators/ servomotor.</p> <p>3 Measurement of valve spindle travel before dismantling and measurement of servomotor spindle compression.</p>

		<p>4 Removal and dismantling of valve and actuator assembly.</p> <p>5 Cleaning and d-scaling of all internal components.</p> <p>6 Inspection of valves, valve stems, seats, studs, bushes and pilot disc including NDT and checking of valves stems run out. Rectification / replacement of components. Supply of DP kits is also in the scope of the contractor.</p> <p>7 Blue check inspection of all sealing faces at the valve seats, back seat, U-sealing ring and stop valve servomotor disc top and rectification, as necessary and lap to 100 % contact. Compression measurement of U-sealing rings of main stop and control valves and including their machining.</p> <p>8 Checking of clearances and rectification/replacement of components.</p> <p>9 Inspection of back seat bushings, packing rings, gland packing and servomotor oil seal rings, 'O' rings and their replacement.</p> <p>10 Assembly of complete valves includes servomotors, coupling with servomotor, measurement of valve stem lifts/travel/compression and connection of all piping. Checking of valves for any leaks and proper functioning including their adjustment during final setting.</p> <p>E Replacement of Valve Seat and Cone of HP Bypass Valves HP bypass stop and control valves -02 Sets (Removal and refitting of actuator will be in scope of BHEL)</p> <p>1 Setting of scaffolding for valves & removal of insulation if required.</p> <p>2 Cut spray line by hacksaw/ grinding.</p> <p>3 Decouple the valve stem with actuator.</p> <p>4 Open bottom flange and take out strainer and valve cone.</p> <p>5 Check condition of strainer, valve cone and valve seat for repair/ replace of worn out parts.</p> <p>6 Cutting of old and damage seats. Arrangement of special purpose machine including attachments for cutting of seat to be arranged by M/s BHEL.</p> <p>7 Fitting of new seat by suitable required process which includes machining and welding etc.</p> <p>8 Lapping of seat in position.</p> <p>9 Repair, lap and replace gasket of flange surface.</p> <p>10 Assemble the valve back and weld the spray line. Root run by TIG welding. Carry out NDT of welded joints. Repair the joints, if required.</p> <p>11 Ease gland nuts and replace gland packing.</p> <p>12 Couple and commission the valve. Re-insulation of the area from where insulation were removed.</p> <p>F Servicing of following Valves</p> <p>1 HP MS Line Main Valves MS 1 & 1A, MS 2 & 2A.</p> <p>2 LPMS Line Main Valves MS 3 & 3A and MS 4 & 4A.</p> <p>3 Control Valves # 1, 2, 3, 4, 7 & 8.</p> <p>4 HP Steam Line Drain Valves-04 Nos.</p> <p>5 LP Steam Line Drain Valves-02 Nos</p> <p>6 LP Steam Strainer drain valves-01 No</p> <p>7 Turbine drains, MAL Valves-07Nos</p> <p>8 CEP A & B suction valves and discharge valves- 4 Nos.</p> <p>9 Steam Turbine Condensor Vacuum breaking line valve- 1 No.</p> <p>10 Steam Turbine JOP Line safety Valve.</p> <p>Scope of work for servicing of above valves:-</p> <p>a) Setting of scaffolding for valves & removal of insulation if required</p>

		<p>b) Measurement of valve spindle travel before dismantling.</p> <p>c) Removal and dismantling of valve assembly.</p> <p>d) Cleaning and de-scaling of all internal components.</p> <p>e) Inspection of valves, valve stems, bushes, etc. and checking of valves stems runout. Rectification / replacement of components.</p> <p>f) Inspection of all sealing faces at the valve seat, disc top and rectification, as necessary and lap to achieve blue match to the extent possible.</p> <p>g) Assembly of complete valves and connection of all piping. Checking of valves for any leaks and proper functioning. Measurement of valve stem lifts/travel.</p> <p>h) Insulation of valves with material if required.</p> <p>i) If replacement of valves is required to ensure zero passing, same will be in the scope of BHEL.</p> <p>G Hangers and Supports of Steam Turbine</p> <p>Checking and setting of Hangers and Supports of critical steam pipes in turbine hall including erection of scaffolding and removal of the same. Checking, minor repair, adjustment in cold setting and hot setting readings.</p> <p>H Overhauling of Governing System Control Rack</p> <p>Servicing of hydraulic amplifier, starting device, loading device and fire protection valve. Inspection and replacement of components, O-rings, oil seals and other parts, if required. Servicing, commissioning, resetting & stroke checking of Governing, LP/HP stop & control valves, etc. to design values.(achievable at site since equipment is old and used).</p>
10 .20	ME21003732C	<p>II ELECTRICAL SCOPE OF WORK</p> <p>A Overhauling of Brushless Exciter</p> <p>Electrical Scope of Work</p> <p>1 Removal of exciter enclosure covers etc.</p> <p>2 De-coupling of generator rotors to exciter.</p> <p>3 Removal of upper half portion of main exciter and bearing.</p> <p>4 Removal of exciter rotor.</p> <p>5 Inspection of connecting pins of exciter/generator rotor for any damage etc</p> <p>6 Checking of IR/PI value of exciter rotor before cleaning and varnishing.</p> <p>7 Cleaning of complete main exciter with acetone or suitable cleaning agent.</p> <p>8 After cleaning, varnishing of complete exciter Stator & exciter rotor.</p> <p>9 Measurement of DC resistance and AC impedance of Exciter.</p> <p>10 Removing of diodes and diode fuses.</p> <p>11 Cleaning of diode wheels, all diodes and fuses.</p> <p>12 Checking of blocking capability of diodes. Measurement of resistance of fuses. Replace the diodes and fuses if found defective.</p> <p>13 Removal of PMG.</p> <p>14 Cleaning of complete PMG with acetone or suitable cleaning agent after removal of dust etc.</p> <p>15 After cleaning, varnishing of PMG.</p> <p>16 PMG air gap measurement. Correct the same if required.</p> <p>17 Checking of insulation of bearing and connection pipelines and replace the insulation if required.</p> <p>18 Checking & cleaning of air filter cleaner and re-assemble or replace.</p> <p>19 Check condition and performance of ground fault detection system and rectify the same if required.</p>

		<p>20 Checking condition and performance of grounding brushes.</p> <p>21 Fixing of PMG.</p> <p>22 Fixing of diodes and diode fuses from diode wheel.</p> <p>23 Checking of IR & PI value of exciter rotor and Exciter Stator after cleaning & varnishing.</p> <p>24 Fixing of Exciter rotor.</p> <p>25 Fixing of upper half portion of main exciter.</p> <p>26 Coupling of generator rotor to exciter.</p> <p>27 Fixing of Exciter enclosure covers etc.</p> <p>28 Assembly and boxing up of complete exciter. Redowelling of exciter pedestal, PMG, if required.</p> <p>Mechanical Scope of Work</p> <p>29 Inspection of exciter bearing.</p> <p>30 DPT/UT of exciter bearing and replacement if required</p> <p>31 Checking of TOC and SOC, inter clearance, interference and key clearance etc.</p> <p>32 Checking and blue matching of spherical portion of bearing and its housing</p> <p>33 Checking of seating of sleeve and bearing saddles.</p> <p>34 Checking of radial clearances of labyrinth rings, replacement and machining of seal strips if required.</p> <p>35 Checking of jacking oil system.</p> <p>36 Dismantle of air cooler of Generator & Exciter, cleaning of its tubes, replacement of gasket, hydraulic testing of cooler and reassemble the same.</p> <p>37 Assistance in rolling and synchronisation of the machine and attending any defects observed during rolling with respect to scope of work carried out. And assistance in vibration analysis & balancing of unit if required.</p>
10 .40	ME21003734C	<p>IV OPTIONAL WORK</p> <p>A Replacement of Generator Fan Guard (Turbine Side)</p> <p>1 Removal of Air Seal Ring with pipelines.</p> <p>2 Removal of End Shield and Fan Guard.</p> <p>3 Fitting of new fan guard/ winding cover and setting of clearances.</p> <p>4 Cleaning of generator area to the extent possible and reassembly of end shields and air sealing ring.</p>

ANNEXURE - 3

Terms and Conditions

1 .	Total Value	INR 12,743,126.60
2 .	Discount Value	INR 0.00
3 .	Order Value	INR 12,743,126.60
4 .	Payment Terms	<p>1. Terms of Payment: Payment to be released by PPCL within 10 (ten) days from the presentation of invoices as per the following terms:</p> <p>a. Fifty (50) % of the contract price + corresponding taxes & duties extra as First Progressive Payment on Commencement of Work at site,</p> <p>b. Forty (45) % of the contract price + corresponding taxes & duties extra as Second Progressive Payment on putting the machine on barring gear.</p> <p>c. Five (5) % of the contract price + 100% of the amount for additional work carried out if any +corresponding taxes & duties extra as Final Payment on commissioning of unit.</p>
5 .	Bank Charges	Not Applicable
6 .	Service Period	<p>1. 30 Days (Thirty days) for scope of work only from Barring Gear to Barring Gear excluding additional time for preparatory, extra/optional & finishing works which shall be extra at actual subject to Force Majeure and Availability of Customer Inputs & Facilities in time.</p> <p>2. In case, the unit is shut down before the specified site mobilization period, the date of commencement of work and the completion period shall be reckoned from the date of actual commencement of work at site.</p> <p>3. Tentatively Five (05) Days is required additionally before commencement of work for site mobilization & preparatory work.</p> <p>4. Tentatively Ten (10) Days is required additionally after completion of work for post completion works & site demobilization.</p> <p>5. Actual Time required for execution of Additional, Optional or Extra Work, if any, shall be in addition to completion period as above.</p> <p>6. Commencement of Site Mobilization: Minimum Fifteen (15) days after receipt of your technically & commercially clear priced LOI/Work Order or intimation from your end whichever is later.</p> <p>7. Time Extension: Completion period shall be extended at actual by PPCL for delay in completion due to Force Majeure, Delay in availability of PPCL inputs & facilities, and Additional Time required for execution of extra/optional works if any.</p> <p>8. Contract valid till 31.03.2023.</p>
7 .	Warranty / Guarantee	Thirty (30) days from the date of boiler light up for attending for attending to workmanship defects only, subject to : minimum five (05) days time is provided for remobilization of site; and shut down of required duration is made available. However, No payment shall be withheld by customer against defect liability on expiry of defect liability period even if the defects remain unattended/unresolved due to non availability of shut down of required duration.
8 .	PBG	Not applicable
9 .	Recovery for Delay in Completion	<p>Not Applicable</p> <p>BHEL shall make all out efforts to complete the work within the specified completion period,however, any LD/Penalty is Not Applicable for delay in completion.</p>
10 .	Safety measures	Contractor shall ensure that safety rules are observed (as per NIT safety clause) to avoid any accident which may cause loss of life to contractor's or IPGCL/PPCL staff and damage to IPGCL/PPCL property. In case of violation of these safety instructions, safety codes and applicable Act & Rules, which are necessary to ensure safety of men, material, environment and equipment, or contractor's willful failure to comply with the instructions of Engineer in charge/Safety Engineer; IPGCL/PPCL shall impose a penalty @ 1% or Rs.500/- (Rs Five Hundred

		only) whichever is less for each instance of non-compliance subject to maximum 5% of the total contract value. IPGCL may provide the safety equipment to the contractor's employees at his request and the cost of which will be recovered from the contractor's bill.
11 .	Security Deposit	Not Applicable
12 .	Contract Agreement	Not Applicable
13 .	Indemnity Bond	Not Applicable
14 .	Others	<p>1.GST NO-07AAACB4146P1ZH. 2.SAC CODE:-998335.</p> <p>3.Executing Agency:- BHEL PSNR,Regional Service Centre.Plot No-25,Sector-16A,Film City Noida.</p> <p>4.Billing agency:- Billing will be done from Delhi GSTN 07AAACB4146P1ZH GST Billing Address: BHARAT HEAVY ELECTRICALS LIMITED INTEGRATED OFFICE COMPLEX, 2ND FLOOR LODHI ROAD NEW DELHI-110003.</p> <p>5. Validity for Contract:-Contract valid up to 31.03.2023. 6. Validity for execution :-The Unit rates & price quoted in this offer shall remain valid for execution of work by BHEL up to 31.03.2023. 7. Post validity execution :-For execution of work by BHEL after expiry of the period as per validity for execution, an escalation of 15% per annum per financial year or part thereof shall be payable extra by PPCL over and above the rates & prices quoted in this offer. 8. Force Majeure: BHEL shall not be liable for any loss or damage (including consequential losses) resulting from any delay or failure to complete the work within the time specified for all or any part of the work due to : Acts of Nature/God ; War declared or un declared ; Acts of public enemy , riots, civil commotion, invasion, insurrection, sabotage; Restraint of Government (Federal/State/Municipal) action or regulation or Embargo; Strike or other labour troubles ; Fire, Flood, Hurricane ,Accidents, Epidemic, Quarantine restrictions ; Non Availability ofElectric Power; Any other reasons beyond control of BHEL and PPCL.</p> <p>9.Taxes & Duties: Goods Service tax (GST) as applicable on output services and any other statutory taxes & duties as applicable at the time of actual execution of work are excluded from our quoted prices & shall be payable extra by PPCL.</p> <p>10.TDS Certificates: TDS copy to be given to PSNR highlighting the tax deposit against the BHEL invoice amount on quarterly basis as per statutory requirement.</p> <p>11.Extra work: Any work beyond the scope of work or any additional quantity of any item of work beyond the quantity specified in scope of work shall be considered as Extra Work. Any extra work, if feasible at site, shall be carried out upon mutual agreement of BHEL site in-charge & authorized PPCL official on extra rates <(>&<)> additional time basis. The extra rates & additional time for extra works shall be furnished and settled prior to execution of extra works and will be executed only upon mutual agreement and receipt of amendment in the Work</p>

		<p>Order (or supplementary order).</p> <p>12. Statutory Acts & Rules : Relevant provisions of statutory acts, rules & regulations as applicable for execution of the work shall be duly complied by us.</p> <p>13. Additional Compensation : In case the unit is not commissioned in three days after completion of work or interruption of work for more than three (03) days at any stage during execution of work due to reasons not attributable to BHEL: additional compensation shall be payable extra by customer as detailed below :</p> <p>1. Idling charge @ Rs. 2,00,000.00 per day + corresponding Taxes & Duties extra</p> <p>2. Demobilization charge @ Rs. 5,00,000.00 per occurrence + Taxes & Duties extra</p> <p>3. Remobilization charge @ Rs. 5,00,000.00 per occurrence + Taxes & Duties extra</p> <p>In case the unit is not commissioned in three days after completion of work or interruption of work for more than three (03) days at any stage during execution of work due to reasons not attributable to BHEL: additional compensation shall be payable extra upon mutual evaluation of the situation and agreement.</p> <p>14. Deduction from Lump Sum Price: In case part of the work is withdrawn or deleted or not executed as per actual site condition & requirement. Cost impact shall be collaboratively analysed by BHEL site executive and PPCL site In-charge and only upon mutual agreement any such deduction will be accepted and shall be subjected to approval of the competent authority identified at employer (PPCL) & contractor (BHEL).</p> <p>15. Commissioning and Operation Commissioning and Operation of the equipment and unit on completion of work shall be carried out by PPCL personnel.</p> <p>16. Insurance : Insurance of customer's properties viz, personnel, equipment, etc., against loss, destruction, damage or theft during the performance of work shall be arranged by customer at their own cost and no liability, whatsoever, will be borne by BHEL on this account.</p> <p>17. Inspection Fee: Any Inspection fee levied by any Government Statutory/Autonomous/other authorities for testing, commissioning and approval of the installation shall be to the customer's account.</p> <p>18. Access to Site: The work site shall be made available to BHEL free from all types of obstructions to enable us to proceed with the work unhampered and in a continuous manner.</p> <p>19. All security arrangements at site and protection against fire and other hazards while equipment are in storage or under performance of work under present offer will be provided by PPCL at his cost.</p>
15 .	Scope of Work	<p>Scope of Work & Exclusions</p> <p>Job- Minor Overhauling including replacement of 7th and 8th stage freestanding blades of LP Turbine of 122 MW Steam Turbine at PPS-1</p> <p>I MECHANICAL SCOPE OF WORK</p> <p>A LP Module</p> <p>1 Removal of LP gland box upper halves and checking of seal clearances.</p> <p>2 Loosening of LP casing parting plane bolts and lifting of outer casing.</p> <p>3 Proper covering of condenser opening & tubes suitably over tube support plates.</p> <p>4 Roll check of inner-outer casing</p> <p>5 Removal of diffuser cones (top half) supporting inner-outer casing at the bottom by jack bolts and loosening PP bolts.</p>

- 6 Removal of LP inner-outer casing top half.
- 7 Roll check of inner-casing and its dismantling.
- 8 Checking and rectification of axial and radial clearances of LP casing/rotor.
- 9 Lifting of LP rotor and placement on rotor stand after supporting properly.
- 10 Checking for looseness of blades of LP rotor and DP testing.
- 11 Inspection of LP casing to pedestal expansion bellows by DPT. DPT of all other expansion bellows inside condenser after proper cleaning and removal of protection pipes, where required.
- 12 Cleaning of LP turbine internals by alumina blasting.
- 13 Inspection of LP rotor and inner casing.
- 14 Removal of all the blades of stages 7 & 8 of GS and TS (Total 4 stages) after taking out the locking strips and clamping pieces.
- 15 Cleaning of grooves of all the 4 stages. MPI of grooves and demagnetisation.
- 16 Fitting of new blades with technological pieces as per moment chart and checking NFT of the blades. Removal of all the blades after natural frequency test. Replacement of any of the blades, which are found defective in natural frequency test.
- 17 Refitting of all the blades of the 4 stages with new clamping pieces.
- 18 Fitting of the lock plates of all the 4 stages.
- 19 Tack welding of lock plates at the entry points in all the 4 stages.
- 20 Check parting plane gaps and ovality of inner-inner and inner-outer casings and rectification of the same.
- 21 Placement of LP rotor back in position after cleaning work.
- 22 Box up and roll check of inner-inner casing and correction.
- 23 Box up and roll check of inner-outer casing and correction with due checking & adjustment if required.
- 24 Box up LP outer casing after complete inspection of condenser steam space.
- 25 Setting of gland box clearances, key clearances and assembly of gland boxes including refining of segments, replacement of springs & making of clearances.
- 26 Checking of exhaust hood spray valve, cleaning and setting of nozzle angle.
- 27 DPT of last stage blade and moisture removal holes in guide blade.
- 28 Replacement of eroded balancing weights of LP Rotor.

B Bearing Inspection

- 1 Measurement of bearing oil throttles heights and their closing.
- 2 Removal of pedestal covers, yokes and bearing halves of turbine and generator bearings after checking existing bearing/ key clearances.
- 3 Coupled run out checks of all rotors and couplings.
- 4 Free run out checks for all rotor journals and couplings.
- 5 Measurement of existing casing/ pedestal key clearances.
- 6 Decoupling of HP, LP and Generator rotors.
- 7 UT/DPT of all Turbine and Generator bearings, studs, yoke bolts etc. Checking of bearing clearances, rectification of bearing clearances, replacement of bearings and keys including matching of new keys, if reqd. Hydraulic test of all jacking oil hoses and replacement, if reqd.
- 8 Checking of rotor float on thrust bearing and adjustment including replacement/ repair of pads.
- 9 Checking of contact of bearing torus pieces with spherical/ cylindrical supports. Replacement of bearings, torus and support incl.

doweling of the new support. Matching of bearings with their seats.

10 Measurement of facial run-out of HP-LP and LP-Generator couplings and rectification. Cleaning of coupling spigots.

11 Alignment of HP/LP and LP/Generator couplings and coupling of rotors including reaming, honing and machining of new coupling bolts for HP/LP and LP/Generator Couplings, as reqd.

12 Removal of all sliding keys and packers, cleaning, lubricating and re-fixing in bearing pedestals, LP guides, etc.

13 Adjustments in packers, bearing supports, bearing keys, etc. and their blue matching, lubrication of keys, packers etc as per requirement of casing.

14 Roll check, bump check and centering of HP and LP casings. Adjustment of axial/ radial keys and packers including their machining, matching and lubrication.

15 Servicing/replacement of jacking oil pump relief valve.

16 Resetting of all bearings, oil catchers and pedestal oil guard rings, repair/ replacement of sealing strips. Refitting of bearings and setting/matching of bearings, yoke keys, etc.

17 Dismantling and overhauling of over speed trip devices checking & adjustment.

18 Barring gear motor removal inspection and refitting.

19 Box up of all turbine and generator bearings.

20 Preparation for oil flushing cleaning of oil filters during oil flushing and resetting of lube oil throttle valves on completion of oil flushing.

21 Assistance in steam rolling and synchronization and attending to any defects pertaining to the scope.

C Overhauling of Main Oil Pump of STG

- Decoupling of HP/MOP.
- Overhauling of MOP, DPT and UT of MOP bearings, wear rings.
- Replacement of worn out/damaged parts.
- Reassembly of MOP, realignment of HP/MOP and coupling.

D Overhauling of Servomotors HP/LP stop valve and control valve along with their actuators-04 sets with following scope:-

- Scaffolding for valves as required & removal of insulation and recording of reference dimensions, valve travel in cold condition prior to dismantling, gap between coupling nut collar and servo spindle and marking of coupling positions.
- Draining of servomotor/ actuator housing. Removal of oil lines and steam leak off line. Decoupling and removal of actuators/ servomotor.
- Measurement of valve spindle travel before dismantling and measurement of servomotor spindle compression.
- Removal and dismantling of valve and actuator assembly.
- Cleaning and d-scaling of all internal components.
- Inspection of valves, valve stems, seats, studs, bushes and pilot disc including NDT and checking of valves stems run out. Rectification / replacement of components. Supply of DP kits is also in the scope of the contractor.
- Blue check inspection of all sealing faces at the valve seats, back seat, U-sealing ring and stop valve servomotor disc top and rectification, as necessary and lap to 100 % contact. Compression measurement of U-sealing rings of main stop and control valves and including their machining.

8 Checking of clearances and rectification/replacement of components.
 9 Inspection of back seat bushings, packing rings, gland packing and servomotor oil seal rings, 'O' rings and their replacement.
 10 Assembly of complete valves includes servomotors, coupling with servomotor, measurement of valve stem lifts/travel/compression and connection of all piping. Checking of valves for any leaks and proper functioning including their adjustment during final setting.

E Replacement of Valve Seat and Cone of HP Bypass Valves

HP bypass stop and control valves -02 Sets (Removal and refitting of actuator will be in scope of BHEL)

1 Setting of scaffolding for valves & removal of insulation if required.

2 Cut spray line by hacksaw/ grinding.

3 Decouple the valve stem with actuator.

4 Open bottom flange and take out strainer and valve cone.

5 Check condition of strainer, valve cone and valve seat for repair/replace of worn out parts.

6 Cutting of old and damage seats. Arrangement of special purpose machine including attachments for cutting of seat to be arranged by M/s BHEL.

7 Fitting of new seat by suitable required process which includes machining and welding etc.

8 Lapping of seat in position.

9 Repair, lap and replace gasket of flange surface.

10 Assemble the valve back and weld the spray line. Root run by TIG welding. Carry out NDT of welded joints. Repair the joints, if required.

11 Ease gland nuts and replace gland packing.

12 Couple and commission the valve. Re-insulation of the area from where insulation were removed.

F Servicing of following Valves

1 HP MS Line Main Valves MS 1 & 1A, MS 2 & 2A.

2 LPMS Line Main Valves MS 3 & 3A and MS 4 & 4A.

3 Control Valves # 1, 2, 3, 4, 7 & 8.

4 HP Steam Line Drain Valves-04 Nos.

5 LP Steam Line Drain Valves-02 Nos

6 LP Steam Strainer drain valves-01 No

7 Turbine drains, MAL Valves-07Nos

8 CEP A & B suction valves and discharge valves- 4 Nos.

9 Steam Turbine Condensor Vacuum breaking line valve- 1 No.

10 Steam Turbine JOP Line safety Valve.

Scope of work for servicing of above valves:-

a) Setting of scaffolding for valves & removal of insulation if required

b) Measurement of valve spindle travel before dismantling.

c) Removal and dismantling of valve assembly.

d) Cleaning and de-scaling of all internal components.

e) Inspection of valves, valve stems, bushes, etc. and checking of valves stems runout. Rectification / replacement of components.

f) Inspection of all sealing faces at the valve seat, disc top and rectification, as necessary and lap to achieve blue match to the extent possible.

g) Assembly of complete valves and connection of all piping. Checking

of valves for any leaks and proper functioning. Measurement of valve stem lifts/travel.

h) Insulation of valves with material if required.

i) If replacement of valves is required to ensure zero passing, same will be in the scope of BHEL.

G Hangers and Supports of Steam Turbine

Checking and setting of Hangers and Supports of critical steam pipes in turbine hall including erection of scaffolding and removal of the same.

Checking, minor repair, adjustment in cold setting and hot setting readings.

H Overhauling of Governing System Control Rack

Servicing of hydraulic amplifier, starting device, loading device and fire protection valve. Inspection and replacement of components, O-rings, oil seals and other parts, if required. Servicing, commissioning, resetting & stroke checking of Governing, LP/HP stop & control valves, etc. to design values.(achievable at site since equipment is old and used).

II ELECTRICAL SCOPE OF WORK

A Overhauling of Brushless Exciter

Electrical Scope of Work

1 Removal of exciter enclosure covers etc.

2 De-coupling of generator rotors to exciter.

3 Removal of upper half portion of main exciter and bearing.

4 Removal of exciter rotor.

5 Inspection of connecting pins of exciter/generator rotor for any damage etc

6 Checking of IR/PI value of exciter rotor before cleaning and varnishing.

7 Cleaning of complete main exciter with acetone or suitable cleaning agent.

8 After cleaning, varnishing of complete exciter Stator & exciter rotor.

9 Measurement of DC resistance and AC impedance of Exciter.

10 Removing of diodes and diode fuses.

11 Cleaning of diode wheels, all diodes and fuses.

12 Checking of blocking capability of diodes. Measurement of resistance of fuses. Replace the diodes and fuses if found defective.

13 Removal of PMG.

14 Cleaning of complete PMG with acetone or suitable cleaning agent after removal of dust etc.

15 After cleaning, varnishing of PMG.

16 PMG air gap measurement. Correct the same if required.

17 Checking of insulation of bearing and connection pipelines and replace the insulation if required.

18 Checking & cleaning of air filter cleaner and re-assemble or replace.

19 Check condition and performance of ground fault detection system and rectify the same if required.

20 Checking condition and performance of grounding brushes.

21 Fixing of PMG.

22 Fixing of diodes and diode fuses from diode wheel.

23 Checking of IR & PI value of exciter rotor and Exciter Stator after cleaning & varnishing.

24 Fixing of Exciter rotor.

		<p>25 Fixing of upper half portion of main exciter. 26 Coupling of generator rotor to exciter. 27 Fixing of Exciter enclosure covers etc. 28 Assembly and boxing up of complete exciter. Redowelling of exciter pedestal, PMG, if required.</p> <p>Mechanical Scope of Work 29 Inspection of exciter bearing.</p>
		<p>30 DPT/UT of exciter bearing and replacement if required 31 Checking of TOC and SOC, inter clearance, interference and key clearance etc. 32 Checking and blue matching of spherical portion of bearing and its housing 33 Checking of seating of sleeve and bearing saddles. 34 Checking of radial clearances of labyrinth rings, replacement and machining of seal strips if required. 35 Checking of jacking oil system. 36 Dismantle of air cooler of Generator & Exciter, cleaning of its tubes, replacement of gasket, hydraulic testing of cooler and reassemble the same. 37 Assistance in rolling and synchronisation of the machine and attending any defects observed during rolling with respect to scope of work carried out. And assistance in vibration analysis & balancing of unit if required.</p> <p>III OPTIONAL WORK A Replacement of Generator Fan Guard (Turbine Side) 1 Removal of Air Seal Ring with pipelines. 2 Removal of End Shield and Fan Guard. 3 Fitting of new fan guard/ winding cover and setting of clearances. 4 Cleaning of generator area to the extent possible and reassembly of end shields and air sealing ring.</p> <p>Exclusion in C&I scope of work 1 Instruments related to Turbine auxiliaries, TSE, Shaft Expansion, Seal oil, lube oil, Vacuum, coolers, Governing Rack, BFP, CEP, LPBypass, MOT, JOP, AOP, Steam system. 2 Any spares, instruments, junction boxes and fittings for instrument system 3 Any Fault in pro-control system to be rectified by PPCL. 4 Removal Installation and fixing of Turbovisory instruments like Vibration probes, axial shift and displacement sensor is excluded 5 Any other instruments, valves actuators which are not covered in scope of work.</p>
16 .	Special Terms & Conditions	<p>Special Terms and conditions: - 1. Completion Period-The completion period for subject work shall be 30 days from barring gear to barring gear. 2. Safety Measures-Contractor shall ensure that safety rules are observed (as per NIT safety clause) to avoid any accident which may cause loss of life to contractor's or IPGCL/PPCL staff and damage to IPGCL/PPCL property. In case of violation of these safety instructions, safety codes and applicable Act & Rules, which are necessary to ensure</p>

		<p>safety of men, material, environment and equipment, or contractor's wilful failure to comply with the instructions of Engineer in charge/Safety Engineer; IPGCL/PPCL shall impose a penalty@ 1% or Rs.500/-(Rs Five Hundred only) whichever is less for each instance of non-compliance subject to maximum 5% of the total contract value.</p> <p>3. PPCL obligations: -The following will be in the scope of supply of PPCL (free of cost)-</p> <ul style="list-style-type: none"> a) Providing electricity, water, light and compressed air. b) All spares and consumables directly going into the machine / equipment. c) Special tools and tackles as per availability. d) EOT crane e) Mobile Crane <p>4. Contractor's Obligations: -The following items are general in nature and are to be arranged by the contractor at his own cost: -</p> <ul style="list-style-type: none"> a. General purpose welding electrodes. b. DA and Oxygen gas. c. All general-purpose tools and tackles d. Welding machines e. Cutting set. f. Rustolene, marking cloth, cutting wheel, hacksaw blade, Persian blue, DP test kit, Ultrasonic test kit, old cotton dhotis etc. g. Crane operator for mobile and EOT crane. h. Removal and re-fixing of the insulation on steam turbine casing and HP/LP stop and control valve along with insulation material shall be in BHEL's scope as required. i. The rates include travel to site and back, accommodation and local travel to their team. j. Any machining works.
17 .	Execution & Billing By	<p>Company BHEL-DELHI(PSNR) 2nd FLOOR, INTEGRATED OFFICE COMPLEX LODHI ROAD 110003 NEW DELHI INDIA</p>



PRAGATI POWER CORPORATION LTD.

(A Government of NCT of Delhi Undertaking)

PAN NO. AACCP8035F

**C&M Department,
Pragati Power Station,
IP Estate, Ring Road,
New Delhi-110002
Fax: 011-23379164**

Vendor Code:103611
BHEL SSBG (NOIDA)
BHEL NEW BUILDING
7th FLOOR, PLOT No.25
SECTOR-16A, NOIDA
NOIDA-201301
INDIA
Tel No. 0120-2474070
Mob No. 9711199629
Fax No. 01202536902
Email ID. bhupesh@bhel.in

Purchase Order No.: 4010005257

PO Date: 04.08.2020

Subject: Procurement of 122 MW steam turbine LP free standing blades at PPS-I.

PPCL LOI No:- GM(C&M)/1000010666/19-20/768 Dated 31.07.2020

Our Enquiry No.: 1000010666

Your Offer No.:

Dear Sir,

We are pleased to accept your above cited offer along with correspondences thereof and place our Purchase Order No. 4010005257 dated 04.08.2020. Please arrange to deliver the materials as detailed in Annexure-1 subject to terms and conditions specified in Annexure-3 and in our General Purchase Conditions, other specifications and requirement. Duplicate copy of the Purchase Order may please be signed and returned back to us within 10 days of its receipt in token of acceptance of the same.

All other terms and conditions shall be as per our NIT.

Thanking You,

Regards,

(Naveen C. Sharma)

Addl. General Manager - C&M-I

Copy To:

- 1.M/s BHEL-HARDWAR
HEAVY ELECT. EQUIP.PLANT
HARDWAR-227350
2. AGM STORES
3. Manager(F) SB
4. OFFICE COPY

ANNEXURE - 1

Purchase Order Currency: Indian Rupee Our Bankers: State Bank of India, Rajghat, New Delhi-110002 Paying Authority: AM(Finance) SB., Rajghat Power House, Rajghat, New Delhi - 110002. Phone No. 011-23282731									
Consignee -Manager(Store) Delivery Address: PRAGATI POWER STATION I.P. ESTATE , RING ROAD NEW DELHI 110002, INDIA Telephone No. : 011-23379578 Fax No. :									
S.No.	Material Code	Description	Qty	UOM	Unit Rate	Discount%	Lumpsum Discount / Unit	Net Price	Total Amount
10	150303629	MOVING BLADE,0103070100 02,STG,M30-25	74	NO	3,53,000.00		0	3,53,000.00	2,61,22,000.00
Tax: IGST@18%									
20	150303632	MOVING BLADE,0103070100 05,STG,M30-25	74	NO	3,53,000.00		0	3,53,000.00	2,61,22,000.00
Tax: IGST@18%									
30	150303630	MOVING BLADE,0103070100 03,STG,M30-25	58	NO	3,95,000.00		0	3,95,000.00	2,29,10,000.00
Tax: IGST@18%									
40	150303633	MOVING BLADE,0103070100 06,STG,M30-25	58	NO	3,95,000.00		0	3,95,000.00	2,29,10,000.00
Tax: IGST@18%									
50	150303643	CLAMPING PIECE,010307010001 6,STG,M30-25	528	NO	3,250.00		0	3,250.00	17,16,000.00
Tax: IGST@18%									
60	150303644	LOCKING PLATE,01030701000 17,STG,M30-25	16	NO	4,300.00		0	4,300.00	68,800.00
Tax: IGST@18%									
70	150303645	LOCKING PLATE,01030701000 18,STG,M30-25	16	NO	4,420.00		0	4,420.00	70,720.00
Tax: IGST@18%									

Total Amount

INR9,99,19,520.00

ANNEXURE - 2**PRAGATI POWER CORPORATION LTD.**
(A Government of NCT of Delhi Undertaking)
TECHNICAL DATA SHEET

S.No.	Material Code	Specification
10	150303629	"PART NAME : MOVING BLADE, 2L, PART NUMBER : 010307010002, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE LEFT HAND SIDE SEVENTH STAGE MOVING BALDE"
20	150303632	"PART NAME : MOVING BLADE, 2R, PART NUMBER : 010307010005, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE RIGHTHAND SIDE SEVENTH STAGE MOVING BALDE"
30	150303630	"PART NAME : MOVING BLADE, 3L, PART NUMBER : 010307010003, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE LEFT HAND SIDE EIGHT STAGE MOVING BALDE"
40	150303633	"PART NAME : MOVING BLADE, 3R, PART NUMBER : 010307010006, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE RIGHT HAND SIDE EIGHT STAGE MOVING BALDE"
50	150303643	"PART NAME : CLAMPING PIECE, PART NUMBER : 0103070100016, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE"
60	150303644	"PART NAME : LOCKING PLATE, PART NUMBER : 0103070100017, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE"
70	150303645	"PART NAME : LOCKING PLATE, PART NUMBER : 0103070100018, VAR : 00, EQUIPMENT NAME : STEAM TURBINE GENERATOR, EQUIPMENT MANUFACTURER : BHEL, EQUIPMENT MODEL NUMBER : M30-25(M)/N30-2X5(M), ADDITIONAL INFORMATION : FOR LP TURBINE"

<div>PRAGATI POWER CORPORATION LTD. (A Government of NCT of Delhi Undertaking) TECHNICAL DATA SHEET -----</div>		
S.No.	Material Code	Specification

ANNEXURE - 3**Terms and Conditions**

1 .	Total Value	INR9,99,19,520.00
2 .	Discount Value	INR .00
3 .	Order Value	INR 9,99,19,520.00
4 .	Price Basis	Ex- Works HEEP Haridwar.
5 .	Packing & Handling Charges	Inclusive.
6 .	Freight Charges	Material shall be dispatched on freight to pay basis. BHEL shall only claim actual freight paid and taxes thereon. The same shall be reimbursed by the PPCL.
7 .	Inspection	Inspection will be carried out by authority of PPCL at PPS-I store after receipt of material at PPS-I store.
8 .	Price Variation	Firm.
9 .	Mode of Dispatch	By Road through BHEL approved transport contractors only
10 .	Payment Terms	<p>Original Invoice/Bills/Performa Invoice are to be submitted to Consignee with copy to paying authority & one copy to this office. In case of payment through bank, original documents are to be submitted to our banker with copy to consignee, paying authority and one copy to this office.</p> <p>10% of PO value is to be paid as interest free advance along with PO. BHEL is not liable for payment of interest charges on the advance amount paid by the purchaser during the execution of the contract, even if there be any delay beyond the stipulated schedule.</p> <p>Final 90% within 30 days after receipt of materials in good condition and acceptance at site stores with a provision of part payments against part dispatches with full applicable taxes & duties at actuals as applicable at the time of dispatch.</p> <p>Adjustments # Payment overdue on account of 10% advance, if pertaining to BHEL Hardwar, maybe adjusted form the dispatch invoices submitted against present supply .</p> <p>DOCUMENTS TO BE SUBMITTED BEFORE CLAIMING</p> <p>(i) Three sets of copy of Invoice to AGM (Store), C&M Deptt.,220 KV S/Stn Building, Pragati Power Station, IP Estate, Ring Road, New Delhi-110002 and one set to AM (store) PPS-I.</p> <p>(ii) Guarantee/Warranty Certificate</p> <p>(iii) Delivery Challan</p> <p>(iv)Interchangeability</p> <p>(v) LR/RR/AWB</p>
11 .	Delivery Period	<p>Delivery period 12 months which will commence from the date of receipt of commercially clear purchase order and receipt of 10% advance along with intimation to the release of payment, whichever is later.</p> <p>Delivery address: PPS-I, STORE Name of Concerned: Sh. Gopal Singh, Dy.Manager(Store) Email: s.gopal71@yahoo.com Mob-9891971122</p>

12 .	Insurance	On vendor account.
13 .	Bank Charges	Respective account.
14 .	Recovery for Delay in Delivery	Waived off.
15 .	WARRANTY/GUARANTEE	Under warranty condition in respect of any defect in or failure of goods supplied, or for any loss injury or damage attributes thereto, is limited to making good by replacement or repair defects which under proper use, appear therein and rise solely from faculty design, material or bad workmanship: not otherwise, within a period of 12 months after the original goods have been commissioned or 18 months from the date of supply, whichever is earlier. At the termination of said period, all liabilities on BHEL part will ceases to exists.
16 .	PBG AMOUNT	Waived off.
17 .	SECURITY DEPOSIT	Waived off.
18 .	INTERCHANGEABILITY CERTIFICATE	The items are interchangeable with the items existing in IPGCL/PPCL and if fails to interchange the same shall be replaced free of cost.
19 .	TEST CERTIFICATE	Not applicable.
20 .	QVC	Not applicable.
21 .	Quantity Tolerance	Not applicable.
22 .	Others	<p>1. GST= Extra as applicable at the time of delivery present rate is IGST @18%</p> <p>2.HSN Code-8406</p> <p>3.GSTIN:- 05AAACB4146P1ZL</p> <p>4.Replacement/Rectification of Damaged Goods:- Return of Goods mutually agreed between BHEL and PPCL for replacement Rectification by BHEL shall have to be booked to the Consigner on Fright prepaid and Door Delivery basis. The return of goods shall be done with the consent of BHEL and within 45 days from the date of receipt of the consignment. BHEL shall not be held liable in the event of any delay in this regard.</p> <p>5.Material Receipt, accounting & storage:- BHEL expects the purchaser to issue the documents towards material receipt, inspection & accounting within a period of 15 days from the date of receipt of each consignment. BHEL shall not be responsible for delay (beyond 15 days after the receipt of goods) in reconciliation and accounting of the consignment. The consignment booked under transporters Go-Down delivery basis shall have to be collected within 3 days from the date of receipt of information from the transporter about the arrival of the consignment. No claim on account of shortages, damages, demurrages, & loss of material shall be lodged with BHEL.</p> <p>6. Miscellaneous Recoveries:- Recoveries / adjustment of advance may only be made from the same BHEL agency as the one supplying the items covered in this offer.</p> <p>7. Quality plan and requisite certificates:- BHEL is an ISO certified</p>

company and the products are manufactured under strict quality control procedures complying to international / national standards, codes and statutory, regulations. BHEL follows its own standard quality procedures and technical delivery conditions during the manufacturing, inspection and testing the products. All material being manufactured/supplied by the undergo stringent quality control at various stages and final stages before dispatch. Inspection can be carried out by customer at their stores after the receipt of material at site.

BHEL will submit certificate of compliance (COC) only for these spares and no MDCCs. Etc. have been envisaged in our offer. Hence, BHEL will not be able to furnish any guarantee certificate/test certificate for spares. As such this clause may not be mentioned in PPCL order please.

8. Supply from BHEL/Customer approved vendors only:- Kindly note that the offered items shall be manufactured by BHEL or procured/supplied from BHEL approved vendors only and no customer approved vendors have been envisaged.

9. Extra Cost:- Any change in quantity of items resulting in price revision, either upward or downward, must be incorporated only after written consent of BHEL.

10. Statutory obligation:- In the event of any law or statutes which lead to increase in the cost of manufacturing or cost of contract performance during the execution of the contract, the same shall have to be borne by the purchaser and contract price may have to be accordingly modified.

11. Force Majeure:- BHEL shall not be in default or shall be liable for any loss or damage due to delay or failure to perform its obligations under the contract if such delay or failure delays or default by suppliers or BHEL#s inability to obtain raw material results from force majeure events defined here-in-under:

Natural Force Majeure Events:- Acts of God, including lightning, drought, fire and explosion, earthquake, landslide flood, cyclone etc.
Un/Non-Natural Force Majeure Events:- Act of war, invasion, arrived conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military actions, strikes and labour disturbances, quarantine restrictions, act of restraints of Govt.- State, Central or Municipal Corporation.

12. Arbitration:- As per NIT.

13. Legal Construction:- The contract shall in all respect be constructed and operate as an Indian contract in conformity with India Law.

14. Caution statement / Interchangeability:- The proposed offer is in conformity with the components/equipment supplied for the main plant unless stated explicitly otherwise by BHEL. You are requested to clearly bring out such modification/changes carried out on the components/equipment by yourselves or any other erection/service/field engineering. The responsibility lies solely on the part of the customer, to bring out such changes while sending the purchase enquiry/tender to BHEL so that the interchangeability and replacement is ensured.

15. Execution & Billing by:- BHEL Hardwar

		<p>16. Certification:- 1.BHEL is original equipment manufacturer of the quoted items and the services offered are for the proprietary item of BHEL.</p> <p>2. BHEL don't indulge in engagement of commission agents or liaison agents for dealing with the customers.</p> <p>17. Other T&C:- I. M/s BHEL has confirmed that procurement of BHEL proprietary items as per BHEL drawing or with its tracing objectionable and illegal and shall be considered as part of IPR violation/infringement.</p> <p>II. M/s BHEL has requested to clearly indicate in the purchase order, the statutory & regulatory requirements that govern the items quoted against their enquiry.</p> <p>III. Unilateral cancellation of order is not acceptable to BHEL # Midterm cancellation of the order, either partial or full, can be processed upon mutual consent.</p>
23 .	Dispatch Advice	The material shall be dispatched, in most securely packed conditions marked for handling during transit(if applicable).
24 .	Execution & Billing By	Company BHEL-HARDWAR HEAVY ELECT. EQUIP.PLANT 249403 HARIDWAR INDIA