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OFFICE OF THE ADDL. CHIEF ENGINEER (P&W)
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Dongalia, dtd. 24.04.2026

Sub: “Annual Overhauling of L&T make ESP of Unit#3, 2X660 MW, SSTPP, MPPGCL, Dongalia”

TENDER SCHEDULE & DETAILED SCOPE OF WORK

S. No.	PARTICULARS	UNIT	Quantity
1.	CLEANING, INSPECTION & ALIGNMENT RECTIFICATION OF ESP PASSES		
1.1	INTERNAL CLEANING OF ESP FIELDS & HOPPERS WITH WATER WASHING	Nos	108
1.2	PREPARATION OF SCAFFOLDING AND INTERNAL INSPECTION FOR FIELDS	Nos	54
1.3	CLEANING & INSPECTION OF FRP & ITS HEATING ELEMENTS	Nos	432
1.4	CLEANING & INSPECTION OF SUPPORT INSULATOR & ITS HEATING ELEMENTS	Nos	432
1.5	ALIGNMENT OF DISCHARGE ELECTRODE FRAME (COMPLETE FRAME)	Nos	20
2.	REPAIR & REPLACEMENT OF DAMAGED COMPONENTS OF ESP		
2.1	REPLACEMENT / REPAIRING OF ELECTRICAL SINGLE IMPULSE (ESI) RAPPING SYSTEM (INLET GAS DISTRIBUTION RAPPER, MODULOK COLLECTING ELECTRODE RAPPER, RIGITRODE DISCHARGE ELECTRODE RAPPER).	Nos	2000
2.2	REPLACEMENT OF FRP	Nos	90
2.3	REPAIR/ REPLACEMENT OF SUPPORT INSULATORS.	Nos	5
2.4	REPLACEMENT /REPAIR OF G.D. SCREEN.	Nos	30
2.5	ALIGNMENT OF COLLECTING ELECTRODE	Nos	600
2.6	REPAIRING OF RIGITRODE DISCHARGE ELECTRODE	Nos	700
2.7	RECLAMATION/ REPLACEMENT OF RAPPER PISTON, RAPPER ROD AND BOOT MOUNTING ASSEMBLY OF CERM /DERM/ GDRM	Nos	2000

Note: -

1. The proposed quantity for unit may vary on either side within the total financial commitment, however payment shall be made on actual quantum of work basis carried out during AOH.
2. Any other activity apart from above mentioned related to ESP if required /necessary for successful completion shall be inclusive and the agency has to carryout same at free of cost.
3. L-1 bidder shall be decided on lowest complete package basis.

1. CLEANING, INSPECTION & ALIGNMENT RECTIFICATION OF ESP PASSES:

Open all the manhole doors of ESP fields and all hoppers after issuance of permit. The contractor has to be carried out complete water washing of ESP internally as well as externally before starting of AOH work and the T&P required for the subject work shall have to arrange by the contractor.

1.1 INTERNAL CLEANING OF ESP FIELDS & HOPPER:

- i) Ensure permit of all ESP fields and also ensure earthing from local transformers. Connect the earthing rod to the field on which job is to be executed.
- ii) Open all the manhole doors of ESP fields and all hoppers and also open bottom dummy for cleaning

of ESP.

- iii) Remove all the NRV of ESP blower & MHV seat disk before washing and install thereafter or as per instruction of EIC.
- iv) ESP internals to be thoroughly cleaned by wire brush/broom and water jet (water washing) as per instruction of EIC. All accumulated ash in the field on collecting/discharge electrodes, and other ESP internals, hoppers to be removed by Poking / Brushing / vacuum cleaner. Any ash accumulation / bridging in the field to be cleared. Personnel engaged in internal washing will have to go inside the ESP for thoroughly clean for its internals.
- v) Scrap / non-usable materials like distorted / damaged / dislocated collecting electrodes (plates), discharge electrode, flow guide vanes, G.D. screens or any other material lying inside ESP / Inlet or outlet funnel / Hopper to be removed. If required, these materials to be cut up to manageable size to ensure removal through manhole doors.
- vi) Thorough Water washing from top to bottom has to be carried out after ensuring dry cleaning in all ESP fields & internals.

1.2 PREPERATION OF SCAFFOLDING & INTERNAL INSPECTION:

- i) After ensuring water washing & dryness of fields & its internals must be ensured.
- ii) Open the manhole doors of respective ESP fields and hoppers.
- iii) Prepare the scaffolding inside ESP from bottom to top with own arrangement (in each field/ hoppers) for proper inspection.
- iv) Inspection of field to Identify the cause of field non-availability like snapped discharge electrode, loose / misaligned collecting electrodes etc
- v) Inspect for condition of components like collecting plates, discharge electrodes, its frames and supports etc.

1.3 CLEANING & INSPECTION OF FRP & ITS HEATING ELEMENT:

- i) Dismantle the rapper and boot mounting assembly, rapper rod and FRP.
- ii) Clean the area around and inside of the FRP.
- iii) Proper checking of any damage /crack of FRP and its heating element
- iv) Replace the damaged or faulted FRPs.
- v) Close the covers after replacing the sealing ropes and sealant to boot.

1.4 CLEANING & INSPECTION OF SUPPORT INSULATOR & ITS HEATING ELEMENT:

- i) Open both the bolted covers of support insulator housing.
- ii) Clean the area around and inside of the shaft insulator.
- iii) Proper checking of any damage /crack of shaft insulator and its heating element
- iv) Close the covers after replacing the sealing ropes.
- v) If found damage, replacing with healthy support insulator as per procedure.

1.5 ALIGNMENT OF DISCHARGE ELECTRODE FRAME:

- i) Preparation of scaffolding with own arrangement
- ii) Inspection of Rigitrode Discharge electrode frames to identify misaligned frames.
- iii) Misaligned Discharge electrode frames are to be aligned with respect to the collecting plates.
- iv) Damaged/dislocated diagonal bracings to be positioned/replaced and fasteners are to be tack welded.
- v) Bend collecting plates are to be corrected by heating with oxy acetylene flame. Proper spacing to be maintained all along the length of collecting plates with respect to discharge electrode frame.

2. REPAIR & REPLACEMENT OF DAMAGED COMPONENTS OF ESP:

2.1 REPLACEMENT/REPAIRING OF ESI RAPPING SYSTEM OF CERM / DERM/ GDRM:

- i) Inspection of rapping assembly of CERM/DERM/GDRM to identify the damage.
- ii) All the parts like rapper body, rapper rod, boot, rapper rod coupling, spring retainer, support insulator etc shall be checked thoroughly.

- iii) Damaged part of rapper assembly needs to be repaired (if not available) & replacement (if available).
- iv) Re-fix new/repared parts on the shaft and align them.
- v) All the fasteners are to be tightened properly.

2.2 REPLACEMENT OF FRP (Fiber Reinforced Plastic):

- i) Inspection & identification of the FRP for any physical damage.
- ii) Replace the damaged FRP.
- iii) For replacement of FRP, damaged part has to be removed through freely removal or cutting arrangement (if found burnt) from the fixed portion.
- iv) Before installation of FRP's megger test has to be conducted in presence of field engineer/ EIC.
- v) Close the inspection door after replacing the sealing rope.
- vi) Shifting of all scrap from site to location as per directives of EIC or field engineer.

2.3 REPAIR/REPLACEMENT OF SUPPORT INSULATORS:

- i) Open both the bolted covers of support insulator housing.
- ii) Inspect the support insulator for any physical damage.
- iii) Position the lifting tool on the discharge electrode frame.
- iv) Raise the discharge electrode frame until the suspension tube is relieved of load Close the covers after replacing the sealing ropes if the insulator is in healthy condition.
- v) Dismantle the nut, suspension tube, support frame and damaged support insulator. Before unlocking the nut, arrest the suspension tube. It is essential to use alignment jig to ensure that the emitting frame is not disturbed from its original alignment after replacement of support insulator.
- vi) Remove the damaged insulator and place a new insulator by providing proper supporting pads.
- vii) Tighten all four adjusting nuts of support insulator just to bear the load of DE frame.
- viii) Remove lifting tool and check up for any deviation in alignment. If any deviation is observed repeat the above procedure.
- ix) Close the covers after replacing the sealing ropes.

2.4 REPLACEMENT /REPAIR OF G.D. SCREEN:

- i) Preparation of scaffolding arrangement at specified cross section where repairing/ replacement work has to be execute.
- ii) Damaged/eroded sections G.D. screens to be cut and removed.
- iii) New G.D. screen to be cut to suitable size and placed in position and welded to the adjoining healthy G.D. screen (if required).
- iv) Missing deflectors to be mounted on G.D. screen.
- v) Align the new GD screen with base support / frame. Repairment of base frame if required.
- vi) All GD screen must be intact as per OEM specification.

2.5 ALIGNMENT OF COLLECTING ELECTRODE:

- i) Preparation of scaffolding with own arrangement.
- ii) Cleaning of all the collecting electrodes by wire brush.
- iii) Repair of damaged portion of collecting electrodes
- iv) Bend collecting plates has to be repair through heating & mallet hammering at bend portion and make them straight. After straightening of the plates, gap between emitting and collecting electrode has to be maintained within the permissible limit as per OEM specification.
- v) Providing proper support and alignment to all misaligned plates after ensuring proper alignment.
- vi) Fix the collecting plate by proper mechanical locking at specially designed profile specified by OEM.
- vii) Fix the collecting plate to the clit and align it with remaining plates.
- viii) Normalization & Restoration of all distorted collecting plates in normal condition including closing of openings made for access.

2.6 REPAIRING OF DICHRAGE ELECTRODES:

- i) Preparation of scaffolding with own arrangement.
- ii) Open the respective ESP field manhole doors.
- iii) Inspect the field for the snapped/ loose/ missing discharge electrodes.
- iv) Repair the bend pins in discharge electrode.
- v) Repair the discharge electrode and align them.
- vi) Close all the manholes.

2.7 REPAIR/Reclamation of rapping rod, rapper piston, boot and boot mounting assembly OF CERM / DERM / GDRM:

- i) Identify the defective portion of the shaft.
- ii) Inspect RAPPER Assembly and identify eroded / damaged areas/ disturbed alignment of rapper assembly.
- iii) After ensuring rapper rod clamp-coupling center on penthouse top, w.r.t. this center point and install the rapper boot-mounting assembly in line with center of respective rapper rod clamp-coupling and then do the welding of boot- mounting assembly with penthouse roof. While welding rapper boot-mounting, ensure that all rapper boot-mounting top flanges are at same level.
- iv) Before welding the rapper boot mounting assembly following points to be ensured —
 - Distance of rapper boot-mounting flange to inner roof top surface as shown in the drawing.
 - Maintain verticality of rapper boot-mounting assembly.
 - Center of rapper boot-mounting in line with center of respective anvil beam and spirit level of anvil beam.
 - Spirit level of rapper boot-mounting top flange
- v) After ensuring above, seal welding of boot mounting with inner roof and penthouse top roof should be done. This seal welding is to be checked for lime- kerosene leak test and any defects / leakages found, is to be rectified.
- vi) After completing alignment & welding of boot mounting assembly, fix the other parts of rapper like; rapper rod, hypalon rubber seal, rapper studs and then rapper coil with plunger, in sequence. While fixing rapper coil with plunger, following check points are to be ensured-
 - Verticality of rapper coil.
 - Projection of rapper plunger outside the rapper coil
 - The above check points should be adjusted with the help of rapper studs. After correct alignment, tighten the rapper studs and secure it firmly with help of check nuts.
 - Similar procedure should be followed for all other rapper coils.
- vii) Inspect for alignment of rapper assembly with inside rapper anvil.
- viii) Removal of insulation and its reapplication.
- ix) Repair of same to avoid ingress of air.
- x) Reclaim the damaged portion and grind it to finish the surface
- xi) Replace the complete shaft also if necessary. New shaft is to be placed on supports and aligned together.
- xii) Reclamation of rapping rod, rapper piston, boot and boot mounting assembly shall be checked and repaired.
- xiii) If machining of the shaft is required, shifting the same to workshop and back will be in contractor's scope.
- xiv) Coupling and carbon bushes are to be mounted on the shaft and realigned.
- xv) Boot should be clamped properly and sealant should be applied properly.
- xvi) All the fasteners are to be tack welded after alignment.
- xvii) Shift the scraps to a place identified by the Engineer in charge

Note: -

- 1. Complete cleaning of dry and wet ash remains in the hoppers and dumped on the floor during internal, external cleaning & water washing of ESP shall have to be done by removing & dumping in to the ash dyke by the contractor immediately along with cleaning of trenches all around ESP.**
- 2. All the scrap evolved from the subject work has to be returned to (O&M)-Store-II immediately after completion of work.**
- 3. All other works which are not mentioned under scope of work & required for successful completion of work shall be in the contractor's scope as per instruction of OIC/EIC.**

Terms & conditions

1. Transportation of spares/ material from MPPGCL stores to work site will be in contractor scope and after completion of works, all scrap materials will have to be shifted by the contractor to the location specified by Engineer in Charge or to steel scrap yard of store division.
2. In view of planning of work, Contractor will be required to submit a PERT/Bar chart well in advance along with manpower deployment & T&P required for each work.
3. In the schedule, lump sum basis rates shall be considered as 100% scope of work. If actual work done is less, proportionate payment shall be made after joint inspection.
4. The AOH work of ESP will have to be carried out round the clock & will be completed within the time specified by the OIC/EIC.
5. The contractor shall have to take full care of auxiliaries during work of cleaning by brooming or water Washing/jetting & the same shall be covered properly before start of said work.
6. The contractor shall submit the manpower schedule and list of required T&P just after issue of LOI or order & shall arrange security gate pass as per MPPGCL procedure.
7. Contractor shall arrange medical first –aid box with minimum required medicines and bandages on working place at every time.
8. Daily progress report to be submitted to the Engineers in Charge positively by 05:00PM every day.
9. In case, it is proposed to sublet the contract, the same should be clearly mentioned in the offer. The details of the proposed firms / Contractors shall be appended.
10. The contractor has to follow the Work Compensation Act & Labour Act. If any kind of accident occurs during the work, only the contractor will be responsible for negligence. In this case, contractor has to bear all medical expenses as per labour law.
11. Before starting the work, the contractor has to submit valid labour license, labour insurance & agreement Bonds against the orders. The Insurance should cover all the personnel employed for subject work.
12. The contractor shall deploy sufficient/Skilled & trained manpower, tools and tackles, measuring instrument, consumable, scaffolding, platform etc. as required for the work. The contractor shall provide High Pressure Welder for the welding work on high pressure lines (if required).

Consumables: -

- ❖ Special purpose welding electrodes (i.e. any electrodes except used for general purpose) all type of gaskets & gland ropes shall be provided by MPPGCL.
- ❖ All other consumable excluding above i.e. rustoline, kerosene, diesel, cotton waste, sealant for rappers, holetite, marking cloth, Grinding/Cutting wheels shall be arranged by the contractor.

T&P: - All type of T&P including Bench machine & lifting machines for Collecting Electrode replacement & other special tool required to carry out the job covered in detailed scope of work shall be arranged by the contractor. The contractor has to submit test certificate of all critical T&P to be utilized during the contract.

TENDER SPECIFIC CONDITION

1. The clause No. 2.17 of General Condition of Contract i.e. “Contract Period/Completion Period” shall be read as below:-

The jobs are to be carried out during Annual overhauling of unit. However, the work is to be completed within 35 days from the date of handing over of site. The **Tentative schedule of overhauling of unit no. 3 – 1st July 2026 to 18th August 2026**, which may be revised as per discretion of MPPGCL. The firm should have capability to complete the work within stipulated period of time from the actual date of commencement of work as per directives of Controlling Officer. If any work remains balance due to some reasons then that balance work will be carried out later within the order validity period. However, the contract period shall be valid for 12 months from the actual commencement of work. The contract period may also be extended subsequently for a period of 3 months or up to 50% of original contract value if required by MPPGCL.

2. PENALTY: - In addition to the clause no. 2.26 of General Conditions of Contract “PENALTY” following penalty shall also be imposed for instant tender: -

- i. The contractor has to ensure compliance of safety rules, as per Govt. Safety Norms. All necessary protective gear viz., helmets, gloves etc. should be provided to each personnel and safety belts should be provided to personnel working elevated Zones /floors.

In case, if any worker is observed not following the safety rules and regulations as per requirement of factory act and other relevant law, penalty as deemed fit. (Not exceeding Rs. 500/- per day) shall be imposed by Engineer-in-charge and /or safety officer.

- ii. The contractor will be liable for the due observation and implementation of the statutory conditions and requirements of Factory Act and other labour laws as applicable to his workmen. If any penalty is imposed on Factory occupier / Factory Manager due to non compliance of labour laws the same shall be borne by the contractor.
- iii. The contractor shall maintain cleanliness and good housekeeping of the working area. The scrap material shall be removed regularly. If the area is not cleaned properly the contractor may be penalized which may extend up to 20% of the order value for which the work is assigned.
- iv. Contractor should mobilize the site along with manpower, T&P and consumable etc. within 72 hours from the intimation of Engineer in charge; else penalty up to 10 % per day may be imposed.
- v. All the statutory penalties imposed by the state / central government authorities shall be borne by the contractor.

3. GUARANTEE/ WARANTEE: - The clause no 2.23 shall be read as under: -

The work shall be of highest standard and shall be guaranteed for satisfactory performance for 1 Year after completion of work (i.e. from date of commissioning of unit against defective, spurious material used and poor workmanship).

In the event of firm's inability to adhere to the aforesaid provisions, suitable penal action will be taken against them which may interlaid include black listing of firm for future business with MPPGCL for a certain period along with forfeiting the SD furnished.

4. Clause 2.7 of General Conditions of Contract "EXECUTION OF AGREEMENT" shall be read as:

The successful bidder must assign & submit the acceptance of LOI/Order within 15 days from the date of issuance by MPPGCL. The bidder should present himself or his duly authorized representative in person within 15 days after acceptance of order to execute an agreement as per prescribed proforma as per annexure -VI on non-judicial stamp paper (as per gazette notification of GoMP dtd. 09.09.2025) With revenue stamp of Rs.2 affixed on it before commencement of work for the due and faithful fulfillment of the contract as under: -

S. No.	Contract value (in Rs.)	Worth of non-judicial stamp paper (in Rs.)
1.	Up to 50,00,000/-	1000/-
2.	Above 50,00,000/-	0.2 % percent of contract value subject to a maximum of 10,00,000/-

The cost of stamp papers shall be borne by the contractor/his authorized representative.

--SD--
(Rajesh Sahariya)
Superintending Engineer (Works)
SSTPP, MPPGCL, Dongalia