

OFFICE OF THE EXECUTIVE ENGINEER,
GENERATION DIVISION - IST SUMBAL

JK-PDC

(Kangan)

(Email id: xxncsumbal@gmail.com)

Subject: Notice inviting Budgetary Offers.

Sir,

Budgetary offers for restoration of UNIT-II of USHP-I, Sumbal as per attached scope of work is sought within a week's time positively from approved registered companies / reputed agencies with relevant experience for carrying out works of underwater parts of hydro power station clearly mentioning rates, taxes and duties. The scope of work is given as under:

S.No	Title of work	Detailed Work Description	Qty
A	Pre-Shutdown Survey	Record all essential parameters/measurements.	01 JOB
B	Dismantling of the Machine	<ol style="list-style-type: none">1. Fabrication of platform in the Draft Tube Cone assembly.2. Dismantling of PMG and Exciter assemblies.3. Dismantling of Carbon Brush Holders and Slip Rings Assembly.4. Dismantling of Bearing Oil Coolers of all bearings, Stator Air/water Coolers, Vapour Seal, etc.5. Dismantling of Top Air Guide / Baffles and Top Bracket assembly.6. Dismantling of Bottom Air Guide/ Baffles, Vapour Seal, etc.7. Dismantling of Guide Bearing Pad assembly (12 Nos).8. Dismantling of Thrust Bearing Pad assembly (08 Nos).9. De-coupling of Turbine and Generator Shaft after proper marking.10. Lifting of Generator Rotor assembly and placing in the service bay.11. Dismantling of Lower Bracket assembly along with Brakes and Jacks assembly.12. Dismantling of Toothed wheel, Speed sensors and Over speed device.13. Dismantling of Guide Vane Servomotors connected pipelines.14. Dismantling of Guide Vane link mechanism, bush housing and connected grease pipelines.15. Dismantling of Turbine Guide Bearing assembly oil chamber.16. Dismantling of Regulating Ring assembly.17. Dismantling of Air Valve and connected pipelines.18. Dismantling of Turbine Shaft Sealing system assembly.19. Dismantling of Turbine Top Cover, Turbine Shaft and Turbine Runner assembly.20. Dismantling of all 20 No. Guide Vanes.21. Dismantling of the entire pivot Bushes.22. Dismantling of top as well as Middle Bushes from the dismantled Guide Vane bearing housings.23. During the dismantling, all the critical parameters shall be observed/ measured for records to help in taking decision for any corrective action to be taken.	01 JOB

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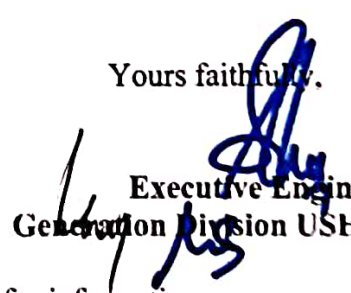


C	Post-Dismantling Inspection & Testing/ Measurements	<ol style="list-style-type: none"> 1. Thorough cleaning of all dismantled components of the unit and identification of damaged components. 2. Thorough cleaning of the complete Generator Stator assembly including its Core surface as well as the Stator Winding over hang portions both at the connection & the non-connection ends of the Generator using a suitable cleaning agent. 3. Thorough cleaning of the all the Generator Rotor Poles windings using a suitable cleaning agent. 4. Measurement of the diameters of all Pivot holes and the Bearing Housings for deciding the outer diameters of all the three sets of Guide Vane Bushes. 5. Non-Destructive Testing including Dye-Penetration Test and the Ultrasonic Testing of all the 08 No. thrust Bearing Pads, 12 No. Generator Guide Bearing Pads and the Turbine Guide Bearing to determine their healthiness. 	01 JOB
D	Post-Dismantling Analysis:	Compilation of all the measurements made during Post-Dismantling Inspection & Testing/ Measurements as at (C) above analysis of the all the observations/ measurements & deficiencies and deciding the action plan based on the outcome of the analysis made above.	01 JOB
E	Repair of the Dismantled Assemblies	<ol style="list-style-type: none"> 1. Complete overhauling of Top cover assembly and set of the Guide Vane Bush Housings 2. Complete overhauling of Rotating Labyrinths including HVOF Coating of Upper and Lower parts. 3. Generator Thrust and Guide Bearing assembly including pads to be tested by means of Dye-Penetration and Ultrasonic testing. Polishing the surface of Generator Shaft Guide Bearing Journal and Mirror Disc as per SOP 7. Bedding and Thrust Clearance adjustment of Guide vanes. 4. The Turbine Bearing to be tested by means of Dye-Penetration and Ultrasonic testing. Polishing the surface of Guide Bearing Journal as per standard technical procedure to remove any high points and ensure a smooth bearing surface. Scrapping and blue-matching of Turbine Guide Bearing with the Turbine Shaft Bearing Journal. 5. The top cover assembly to be checked for damages which cause improper fitment on the stay ring assembly. The flange surface shall be checked and machined if required. The fitment holes and dowels shall be checked and repaired if required. 6. A complete set of 20 No. new Top Bushes and 20 No. Bottom Bushes shall be manufactured and supplied by firm for their installation in the repaired Guide Vane Bearing bodies. Supply of a set of Thrust washers, Cup Seals as well as 'O'-Rings including their fasteners shall be made by firm. All the bearing bodies shall be painted with one coat of red oxide/Zinc primer and two coats of coal tar epoxy paint, after repair. 	01 JOB
F	Re-Assembly & Re-Commissioning	<ol style="list-style-type: none"> 1. Assembly of all the Lower Bushes in Pivot Ring assembly. 2. Lowering of Guide Vanes in turbine pit. 3. Lowering of Top Cover and Turbine Shaft assembly along with Runner. 4. Tightening of Lower Top Cover using a new set of fasteners. 5. Assembly of Guide Vanes Bush Housing. 6. Assembly of Regulating Ring after replacement of its vertical & horizontal bronze segments. 	01 JOB

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| | <p>7. Assembly of Guide Vane Servo motor assemblies and connected pipelines.</p> <p>8. Assembly of Guide Vanes Lever & Link mechanism and grease pipelines.</p> <p>9. Adjusting of Guide Vane Vertical and Top/Bottom clearances as best as possible.</p> <p>10. Lowering of Lower Bracket assembly with Brake/ Jack assembly.</p> <p>11. Lowering of Generator Rotor assembly.</p> <p>12. Reinstallation of Upper Bracket assembly.</p> <p>13. Checking of alignment and dynamic level of Generator Rotor Assembly and correction of the same.</p> <p>14. Coupling of Generator Shaft and Turbine Shaft assemblies.</p> <p>15. Dismantling of Turbine Shaft holding device.</p> <p>16. Checking of combined unit shaft axis alignment and dynamic level of Turbine and Generator and correction of the same.</p> <p>17. Centering of the unit.</p> <p>18. Measurement & recording of the magnetic axis centering of the generator.</p> <p>19. Checking the Stator form and Rotor form.</p> <p>20. Re-dowelling of Exciter, if required.</p> <p>21. Assembly of Turbine Guide Bearing & Generator Guide Bearing and setting of their respective Bearing clearances.</p> <p>22. Assembly of Shaft Sealing System assembly.</p> <p>23. Boxing up of the unit.</p> <p>24. Conduction of pre-commissioning checks.</p> <p>25. Closing of DT and Penstock manhole doors.</p> <p>26. Assistance in commissioning of the unit.</p> <p>27. Measurement of unit vibration in all its modes of operation using State of the art Vibration equipment and dynamic balancing of the unit, if required.</p> | |
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Yours faithfully,

No: GDS/435-37
Dated 20-07-2021


Executive Engineer
Generation Division USHP-1, Sumbal

Copy to the:-

- 1): Chief Engineer, Generation Wing, Kmr for information.
- 2): Superintending Engineer, Generation Circle-II, JKPDC for information.
- 3): IT cell, JKPDC with a request that the notice be uploaded on official website of JKPDC.