Vedanta Limited, Jharsuguda

Scope of Work

Turbine capacity enhancement of our 3615 MW Power Plant

Date: 02.06.21

Vedanta's Aluminium & Power Business is India's largest primary Aluminium producer having an installed smelting capacity of ~2.2 MTPA. It operates a 1.6 MTPA Aluminium smelter and 3615 MW thermal power generation facility (9x135 MW & 4x600MW) EPC from SEPCO III , China commissioned in the year 2007 & 2010 respectively in Jharsuguda, Odisha.

Both the power station at Jharsuguda is in operational to support Aluminum smelter complex as well as commercial power business.

The 4x600 MW has been commissioned between the period 2010-12 with Boilers from M/s Harbin China, TG from M/s Dongfang China and Main plant control system is from M/s. Schneider Electric where as 9x135 MW has been commissioned between the period 2006 -08 with Boilers from M/s Shanghai Electric Ltd , TG from M/s Shanghai Turbine , China and main plant control system is from M/s Foxboro.

In order to meet the additional demand at smelters, we are planning to do the De bottlenecking of the associated operational and design problems in order to increase the generation capacity by ~10 % for each unit at our power station with optimum investment. In this process, we would like to take the help of expert services in steps on possible increase in capacity so that cost-effective solution can be arrived for implementation.

Following proposal has been made in phase manner for the **CAPACITY ENHANCEMENT OF ALL 13 nos TURBINE of 3615 MW IN OUR POWER STATION BY RENOVATION & MODERNISATION APPROACH keeping same Boiler Output** at Jharsuguda in which it has been identify that maximum possible generation without/minute changing in few of the equipment's or system with cost optimal solutions on sustainable basis for the designed plant life to be done by the consultancy service carrying following technical scope:

1. Feasibility study for Identification of potential bottlenecks and associated operational and design issues to run the units at TMCR condition at about enhanced capacity of ~10 % for power station units at Jharsuguda round the clock without any major modifications to equipment or equipment upgrades.
2. Debottlenecking/maintenance required if any for continuous & sustained generation
3. Reduction of Heat Rate by ~ 10%.
4. To make the operating units well equipped with modified/ augmented latest technology.
5. To overcome technological obsolescence and non-availability of spares.

Vendor need to adhere to following in addition to the submission of the feasibility study as mentioned above:

1.0 Visit to the site, discussion and feedback from site officials and collection of data / drawings / operating performance etc within 07 working days after receipt of LOI/PO.

2.0 Study of the Turbine and Generator and explore the possible ~ 10% increase in generation with cost effective solutions. For establishing the base line data, one unit PG test shall be carried out by using online instruments as per ASME test code if required.

3.0 Study of the auxiliary systems for the maximum possible capacity and verify whether they can support the optimized generation level. This study of the auxiliaries needs to be confirmed not only in capacity prospective but also in reliability and efficiency prospective.

4.0 Study of the electrical systems like Generator/switch gear/ switch yards/Different Transformers, Control systems (DCS, PLC systems) wherever additional capacities are getting added to meet the identified optimum level of generation.

5.0 The possible changes/modifications required in O&M philosophy, Electrical systems & control systems with respect to new identified next level capacities by adhering the equipment, systems safety.

6.0 Vendor will attend a project kickoff meeting with Vedanta team to review scope and identify additional information and data request for review within 2 working days after receipt of Letter of Award / PO.

7.0 Total manufacturing duration and execution time is to be defined during technical discussion.

Terms & Conditions

Mobilization: - Mobilization of manpower, material, tools and machinery shall be done within 1 week from the date of issuance of PO or date of intimation of site clearance by Vedanta EIC. In case there is delay in issuance of gate pass by Vedanta due to non-provision of required documents as per the process, the same shall be in vendor's account.

Contract Duration/Completion of Work: - Complete scope of work shall be completed within 01 year from the date of issuance of LOI or order.

Boarding & Lodging: Boarding and lodging of manpower supplied by vendor for completion of job shall be in scope of vendor.

Transportation: Transportation of manpower, material and machinery required for the completion of work shall be in scope of vendor.