



## INVITING EXPRESSION OF INTEREST

**Tender Specification No.** CGM/E&S/1x800 MW/Umred Project/ Hydrogeology /EOI - 2 / 2018-19

**Name of work:** Mahagenco's proposed 1x800 MW Ultra Supercritical Thermal Power Project at Umred WCL coal mine area -  
Inviting expression of interest from Reputed Institutes/  
Agency for Hydrogeology study.

**Date of Submission:- 20/04/2018 up to 17:00Hrs**

**Contact Person : Shri Santosh Thakur, Executive Engineer(E&S),  
O/o Chief General Manager (E&S), M.S.P.G.C.L., Mumbai 400051  
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***For Further details visit our Website:***  
**<https://www.mahagenco.in/index.php/2012-07-20-02-16-22/head-office-tenders>**

**Chief General Manager (E&S)  
MAHAGENCO, Mumbai**

Expression of interest are invited from Reputed Institutes/ organizations for Hydrogeology study at at Umred WCL coal mine area as per scope of work furnished below with pre-qualifying conditions stated below-

**Pre-qualifying conditions stated below-**

- a. The agency should have minimum 5 years relevant experience and in-house capabilities for conducting Hydrology study*
- b. The agency Should have completed at least 5 works of similar nature of Govt / Semi Govt / Public or private sector.*
- c. The agency Should have minimum turnover of Rs.50 Lakhs per year over the last 3 financial years*
- d. The agency should have experienced survey team and manpower.*

All intending reputed organizations are requested to submit their expression of interest along-with profile and documents in support of prequalifying conditions at the following address so as to reach this office on or before **20<sup>th</sup> April -2018:-**

**Office of:-  
Chief General Manager (E&S)  
Mahagenco, A-wing, 4<sup>th</sup> Floor,  
HDIL Tower  
Prof. Anant Kanekar Marg,  
Bandra(E) Mumbai.400051.**

## **SCOPE OF WORK :**

**Name of work : Mahagenco's proposed 1x800 MW Ultra Supercritical Thermal Power Project at Umred WCL coal mine area -**  
Inviting expression of interest from Reputed Institutes for Hydrogeology study for Mahagenco's proposed 1x800 MW Ultra Supercritical Thermal Power Project at Umred WCL coal mine area, village Heoti, Taluka Umred, Dist.-Nagpur, Maharashtra state.

### **The Details of Umred Project are: -**

The proposed project site is mined area which was back filled over a period 30 years. There is no village/habitations located inside the proposed site area. The land terrain with variations of up to 30 meters is seen in the proposed area. Total land required for proposed 1x800MW Ultra Supercritical Pit Head Thermal Power Plant will be 499 acres. The identified site will be taken on long lease from WCL and no land acquisition is required for the main power plant facilities including ash pond.

WCL have confirmed for supply of coal for the proposed project. Coal from the Umred, Dinesh, MKD-I and Gokul coal mines of Umred area of WCL will be the source for the proposed power plant. Total 3.68Million Tons per annum coal will be required for proposed 1x800MW Ultra Super Critical Pit head Thermal Power Plant. The required coal will be transported by conveyor system.

The available sources of water for the plant are viz Treated waste water from Nagpur Municipal Corporation (NMC) and River water from Goshikhurd dam as an alternative source. The treated waste water from NMC will have to sourced from Nagpur which is located at a distance of around 45 km. The Goshikhurd dam is located at a distance of around 56 km from the proposed site.

In view of this, you are invited to submit your offer for the work mentioned in subject. The scope of the work in brief is as follows.

### **Scope of work:**

The Hydrogeology studies are for the compliance of TOR of MoEF&CC. The Scope of work includes study and Design of the protection work to take care of Hydrology of the River During Flood & suitable diversion of drains along the project boundaries.

The scope includes all necessary approvals from related departments/collection of documents/data necessary for above work within time specified.

The study shall comply all the requirements for obtaining Environmental Clearance from MoEF&CC for the project.

MSPGCL shall depute on representative for facilitating joint the site inspection with the department concerned at time if required. All the details/documents required for the proposal shall be collected by agency.

Amb river is passing through the project site hence detailed Hydrogeological study of the area to assess the impact on ground and surface water regimes are to be carried out with following scope of work.

### **1. Hydrometeorology**

- Rainfall
- Intensity of heaviest rainfall in 24 hrs.
- Potential evapotranspiration
- Climatic water balance.

### **2. Area drainage**

- River morphology
- Geomorphology of watershed
- Morphometric analysis of watershed
- Salient feature of mine/pit head area drainage
- Impact of Amb river diversion of proposed site

### **3. Hydrology**

- Define hydrologic cycle of proposed site
- Storm peak runoff
- Intensity of peak runoff of different return period
- Surface runoff & ground water runoff (base flow)
- Separation of base flow
- Control of storm runoff
- Annual runoff yield
- Rainfall & runoff relation ship
- Define location of nala bund reservoir at appropriate site if require
- Impact of runoff on proposed nala bund
- Impact of nala bund reservoir on river morphology and plant site.

#### **4. Hydrogeology**

- Conceptual hydrogeological model
- Pumping test for aquifer parameter
- Water table, flow of ground water, hydraulic gradient
- Sub surface flow under proposed site
- Delineation of recharge & discharge area
- Rainfall - runoff - recharge relation ship
- Impact of ground water due to plant site and Amb river.

#### **5. Hydrochemistry**

- Collection & analysis of water sample of surface and ground water.
- Classification of surface & ground water quality.
- Modeling of contaminate of ground water due to heavy metal content in coal ash, if any.
- Chemical interaction of ash pond, decant and ground water.
- Impact of thermal plant on surface & ground water quality.

**6.** Any other scope of work covered under TOR.

#### **Deliverables:**

- 1) 30 Hard & soft copies of Hydrogeology study report.

#### **Time limit:**

Over all time limit for completion of the work shall be 90 days from the date of issue of work order. Time is the essence of this contract and for any delay on the part of agency shall be levied as stated under penalty clause. However, completion of most of the activities are depends on the MPCB and MoEF&CC, hence the time schedule may be revised in future if required.

You may also send the information for past experience in the field, in-house facilities, staff expertise, and accreditation from competent authorities as may be necessary for your consideration as consultant for the said work.

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