

Dated: April 06, 2010.

To
M/s Haryana Power Generation Corporation Ltd.
Shakti Bhawan, SCO – 16, 2nd Floor
Sector -11, Panchkula
Haryana.

Sub: Expansion of 2x300 MW (Unit-I & II) by addition of 1x660 MW (Super Critical) Coal Based Thermal Power Plant at Yamuna Nagar, in Haryana - Reg. TOR.
Sir,

The undersigned is directed to refer to your letter dated 26.11.2009 on the above mentioned subject.

2. It is to inform that the proposal was again considered by the Expert Appraisal Committee during its 65th Meeting held during February 12-13, 2010, for determination of the Terms of Reference (TOR) for undertaking detailed EIA study in accordance with the provisions of the EIA notification dated September 14, 2006.

3. Based on the information provided by you with regard to the above mentioned project proposal, the following Terms of Reference (TORs) is prescribed for preparation of the Environmental Impact Assessment (EIA) Report and Environment Management Plan (EMP), in respect of your above mentioned project.

The following measures shall be undertaken immediately for the existing units:

- Immediate corrective measures shall be taken to comply with emission limit of particulate matter.
- Measures to control fugitive emission specially from Boilers shall be submitted.
- It shall be ensured that no leakage of ash slurry in the conveying pipes takes place at any point of time. Accordingly the project proponent shall submit a detailed in-built monitoring mechanism to ensure the same.
- Garland drains all around the ash dyke shall be immediately constructed and details submitted.
- Extensive plantations of native species all around ash dyke. The density of tree shall not be less than 1500 per acre and survival rate not less than 75%.
- While considering the proposal for environmental clearance, the implementation of the above measures i.e (a) to (e) above shall be reviewed through a site visit. **The project proponent shall intimate the Ministry well in advance for the site visit before they contemplate submitting application for environmental clearance for the expansion.**

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No additional land shall be acquired for the expansion project including Ash Pond.

Detailed hydro-geological study shall be re-conducted (if not already done) from an institute/ organisation of repute to assess impact on ground and surface water regime. Specific mitigation measures shall be spelt out and action plan for implementation of the same shall be provided.

Action plan for identification of local employable youth for training in skills relevant to the project for eventual employment in the project itself shall be formulated.

Layout plan indicating break-up of plant, green belt, infrastructure, roads etc. shall be provided.

Land use based on satellite imagery or authenticated map indicating drainage, cropping pattern, water bodies (rivers, nullahs, ponds etc.), location of **nearest villages, creeks, rivers, reservoirs, national parks, wildlife sanctuaries, tiger reserves, biosphere reserves, heritage sites etc** in the study area shall be provided. Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden.

Study on land-use pattern in the study area shall be carried out, including identification of common property resources available for conversion into productive land and action plan for abatement and compensation for damage to agricultural land/ common property land (if any) in the nearby villages, due to proposed project shall be prepared.

Detailed socio-economic study shall be carried out for the study area comprising of 10 km from the plant site.

CSR component shall be prepared based on need based assessment study to be carried out in the study area. Income generating measures which can help in upliftment of poor section of society which is consistent with the traditional skills of the people shall be identified. The programme can include activities such as development of fodder farm, fruit bearing orchards, vocational training etc. In addition, vocational training for individuals shall be imparted so that poor section of society can take up self employment and jobs. Separate budget for community development activities and income generating programmes shall be specified. Financial allocation to be taken up under CSR shall be specified taking into consideration that the same shall not be less than 0.4% of capital cost of the project as one time investment for CSR activities and 1/5th of this one time investment as recurring cost per annum till the operation of the plant.

Detailed study on the impact on river ecology due to the proposed discharge of treated wastewater which ultimately drains into the river shall be carried out and submitted alongwith the EIA Report.

Location of intake and outfall points (with coordinates) should be given. These locations should be selected based on detailed modeling studies. Details of modeling and the results obtained there from should be furnished.

Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.

One season site-specific meteorological data shall be provided.

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One complete season AAQ data (except monsoon) to be given along with the dates of monitoring. The parameters to be covered shall include RSPM (PM10,PM2.5), SO₂, NO_x, Hg and Ozone (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone and sensitive receptors including reserved forests. There should be at least one monitoring station each in the upwind and in the pre dominant downwind direction at a location where maximum ground level concentration is likely to occur

Detailed plan for raising Green belt of 100 m width and consisting of at least 3 tiers around plant boundary with tree density not less than 2500 trees per Ha shall be submitted.

Impact of the project on the AAQ of the area. Details of the model used and the input data used for modelling should also be provided. The air quality contours may be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The wind roses should also be shown on this map.

Fuel analysis to be provided (sulphur, ash content and heavy metals including Pb, Cr, As and Hg). Details of auxillary fuel, if any including its quantity, quality, storage etc should also be given.

Quantity of fuel required its source and transportation. A confirmed fuel linkage should be provided.

Source of water and its availability. Commitment regarding availability of requisite quantity of water from the competent authority shall be provided.

Details of rainwater harvesting and proposed utilisation in the plant shall be provided.

Feasibility of zero discharge shall be examined and detailed justification shall be submitted if in case the same is not possible. Proposed discharge (if any), its quantity, quality and point of discharge, users downstream etc. shall be provided.

Optimization of COC for water conservation. Other water conservation measures proposed in the project should also be given. Quantity of water requirement for the project should be optimized.

Details of water balance taking into account reuse and re-circulation of effluents.

Detailed plan of ash utilization / management shall be provided including examination for setting up of cement grinding unit / brick kiln etc. or provide adequate justification if otherwise.

Details of evacuation of ash shall be provided including details of HCSD system.

Details action plan for arresting leachate in ash pond and details of lining proposed for making impermeable the bottom and sides of ash pond including soil analysis report and shall be submitted.

Details regarding infrastructure facilities such as sanitation, fuel, restroom, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure would need to be constructed and the agency responsible for the same with time frame.

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EMP to mitigate the adverse impacts due to the project along with item wise cost of its implementation.

Risk assessment including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point in time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be provided.

Details of litigation pending or otherwise with respect to project in any courts, tribunal etc. shall be provided.

4. Besides the above, the following general points will be followed:

- All documents to be properly referenced with index, page numbers and continuous page numbering.
- Where data is presented in the report especially in table, the period in which the data was collected and the source should invariably be indicated.
- Where the documents provided are in a language other than English, an English translation should be provided.
- The Questionnaire for environmental appraisal of thermal power projects as devised earlier by the Ministry shall also be filled and submitted.

In addition to the above, information on the following may also be incorporated in the EIA report.

1. Is the project intended to have CDM-intent?

(i) If not, then why?

(ii) If yes, then

- Has PIN (Project Idea Note) {or PCN (Project Concept Note)} submitted to the ?NCA? (National CDM Authority) in the MoEF?
- If not, then by when is that expected?
- Has PDD (Project Design Document) been prepared?
- What is the Carbon intensity? from your electricity generation projected (i.e. CO₂ Tons/MWH or Kg/KWH)
- Amount of CO₂ in Tons/year expected to be reduced from the baseline data available on the CEA's web-site (www.cea.nic.in)

2. Notwithstanding 1(i) above, data on (d) & (e) above shall be worked out and reported.

5. After preparing Draft EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned issues, the same shall be submitted to the SPCB for conducting public hearing as per procedure of EIA notification 2006. The issues emerged during public hearing shall be further

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incorporated in the Draft EIA/EMP report. The final EIA/EMP report along with public hearing report and the requisite documents (*including written objections, if any*) shall be submitted to the Ministry for appraisal by the Expert Appraisal Committee for consideration of awarding environmental clearance under the provisions of Environmental Impact Assessment notification dated September 14, 2006.

The Environmental clearance shall be applied only after firm coal and water linkages and other statutory clearances as applicable are obtained.

Yours faithfully,

(Lalit Kapur)
Director

Copy to:

- The Secretary, Department of Environment, Govt. of Haryana.
- The Chairman, Haryana State Pollution Control Board, C-11, Sector 6, Panchkula, Haryana
- The Chief Conservator of Forests, Ministry of Environment and Forests, Regional Office (CZ), Sector -31A, Dakshin Marg, Chandigarh – 160 030.
- Guard File.

(Lalit Kapur)
Director