



**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,  
(SEIAA), ORISSA.**

(Constituted vide order No. S.O. 2674 (E) Date 17<sup>th</sup> Nov. 2008 of Ministry of Environment & Forest, Govt. of India, Under Environment Protection Act, 1986.) Qr. No. 5RF-2/1, Unit-IX, Bhubaneswar-751022  
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Ref. No. \_\_\_\_\_

Dt. \_\_\_\_\_

To

**Bhushan Energy Ltd.**

**41, H.I.G., B.D.A., Jaydev Vihar, Bhubaneswar – 751013**

**Sub.:** Environmental clearance in favour of the M/s Bhushan Energy Ltd. for setting up of 2x150 MW coal base Thermal Power Plant at Meramandali, Dist. Dhenkanal.

Sir,

This has reference to letter No. Nil dt. 24.02.2009, letter No. Nil dt. 19.11.2009 and letter No. BEL/EMD/EC/09/03 dt. 28.11.2009 along with the application for Terms of Reference (TOR) for Environmental clearance on the above mentioned subject, I am directed to say that the SEIAA considered the application on the proposal for setting up of 2x150 MW coal based Thermal Power Project at Meramandali, Dist. Dhenkanal.

The proposal is for grant of environmental clearance for setting up of 2x150 MW coal based thermal power project at Meramandali, District - Dhenkanal, Orissa. The TOR for this project was prescribed on 14.11.07 by EAC of MOEF, Govt, of India. There are no sanctuaries, National parks, Tiger reserve or Biosphere reserve existing within 10 km radius.

The proposed plant will be located inside the existing premises of integrated steel plant of M/s. Bhushan Steel Ltd. at Meramandali in the district of Dhenkanal. Bhushan Energy Ltd is a subsidiary of Bhushan Steel Ltd. The plant is located at a distance 18 km from Angul and 42 km from Dhenkanal.

The major drainage channel of the area is river Brahmani and its tributaries Singra Jhor, Lingra Jhor Tikira and Samakoi; Lingra Jhor is passing close to the plant site. The unit will require 296.8 acre land which will be leased out by Bhushan Steel Ltd to M/s. Bhushan Energy Ltd. Out of 296.8 acre, 75.1 acre will be used for power plant and 221.7 acres will be used for ash disposal and other facilities.

Water requirement is 1385 m<sup>3</sup>/hr and will be sourced from existing water reservoir of M/s. Bhushan Steel Ltd. The unit will use middlings of 1376000 TPA and char of 594000 TPA

as fuel in the thermal power plant. Middlings will be sourced from coal washery and char from DRI plants of Bhushan Steel Ltd. If adequate middlings will not available then coal will be purchased from MCL. Public hearing was held on dt. 31.10.2008.

2. The SEIAA hereby accords environmental clearance in favour of the project for a period of 5 years for setting up of 2×150 MW coal based Thermal Power Project at Meramandali, Dist. Dhenkanal under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments there to under various MOEF circulars there under and subject to conditions specified below.

Specified Conditions:

- i) The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by him in Form-1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.
- ii) The applicant will take necessary steps for socio-economic development of the people of the area Primary Socio Economic Survey of the core area on need based assessment for providing employment, education, health care, drinking water and sanitation road and communication facilities etc. A report is to be submitted to the proposal to SCIA on 1<sup>st</sup> June & 1<sup>st</sup> December of each calendar year.
- iii) The applicant will comply to the points. Concerns and issues raised by the people during public hearing on 4<sup>th</sup> February, 2009 in accordance with the commitments made by him thereon.
- iv) The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.
- v) For post environmental clearance monitoring, the applicant will submit half yearly compliance report in respect of the stipulated terms and conditions of this Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
- vi) High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>.
- vii) The proponent shall treat the flue gas through Flue Gas De-sulphurisation (FGD), if SO<sub>2</sub> emission level exceeds the prescribed norm.
- viii) Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- ix) Fly ash shall be collected in dry form and storage facility (soils) shall be provided. 100% fly ash utilization shall be ensured as per fly ash notification of MOEF, Govt., of India. Unutilized fly ash and bottom ash shall be stored in the ash pond separately through high

concentration slurry disposal method. Mercury levels along with other heavy metals (Pb, Cr, As etc.) should be monitored in the fly ash/ bottom ash, leachates and effluents emanating from the ash pond.

- x) The ash pond should be constructed with impervious lining and ash pond embankment should be stone pitched.
- xi) The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. Arrangements shall be made so that effluents and storm water do not get mixed.
- xii) A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt /plantation.
- xiii) Rainwater harvesting should be adopted. Central Groundwater Authority/Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished to the SEIAA, Orissa.
- xiv) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Details of these measures to be taken along with location plant layout shall be submitted to the SEIAA, Orissa.
- xv) Storage facilities for auxiliary liquid fuel such as LDO and/HFO/LSHS shall be made in the plant area where risk is minimum. On site and off site Disaster Management Plans shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the Disaster Management Plan (DMP). Sulphur content in the liquid fuel will not exceed 0.5%.
- xvi) Regular monitoring of ground water in and around the ash pond area shall carried out, records maintained and half yearly reports shall be furnished to the SEIAA, Orissa.
- xvii) A green belt of adequate width and density preferably with local species along the periphery of the plant & alongside roads etc shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover. The project proponent shall ensure proper maintenance of green belt throughout the year & for this purpose they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared accordingly and submitted to the SEIAA, Orissa.
- xviii) First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- xix) Noise levels emanating from turbines and air compressors shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipments like

earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.

- xx) Regular monitoring of ground level concentration of SO<sub>2</sub>, Nox, SPM, RSPM and mercury shall be carried out in the impact zone and records to be maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be taken immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB, Orissa.
- xxi) Provision shall be made for housing of construction labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxii) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards. A report is to be submitted to SEIAA, Orissa.
- xxiii) Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the appropriate authorities.
- xxiv) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported.
- xxv) The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment Protection (EP) Act, 1986.

**Bhagirathi Behera, (IFS)**  
Member Secretary, SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

Copy forwarded to the Ministry of Environment & Forests Govt. of India, Paryavaran Bhawan, C.G.O. Complex, Lodhi Road, New Delhi-110003 for kind information.

Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

Copy forwarded to the Principal Secretary to Govt., Forests & Environment Dept. for kind information.

Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

Copy forwarded to the Chairman, State Pollution Control Board, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-8, BBSR for kind information.

Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

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Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

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Member Secretary  
SEIAA

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Member Secretary  
SEIAA

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Copy forwarded to the Chairman/ Member Secy./ Member for kind information.

Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

Copy forwarded to the Chairman SEAC/All members SEAC, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.

Member Secretary  
SEIAA

Memo no \_\_\_\_\_ dt \_\_\_\_\_

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Member Secretary  
SEIAA