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**BY SPEED POST**

**J-13012/54/2007-IA.II (T)**  
**Government of India**  
**Ministry of Environment & Forests**

Paryavaran Bhawan  
CGO Complex, Lodi Road  
New Delhi-110 003  
Dated: February 15, 2011.

To

M/s Tata Power Company Ltd.  
C-43, Sector-62  
**Noida- 201 307.**

***Sub: 1x660 MW Coal Based Thermal Power Plant at village Naraj Marthapur, in Cuttak Distt., in Orissa - reg. Environmental Clearance.***

Sir,

The undersigned is directed to refer to letters dated 26.04.2010 and 16.08.2010 on the subject mentioned above. The Ministry of Environment & Forests has examined the application.

2. It has been noted that the proposal is for setting up of 1x660 MW Coal Based TPP at village Naraj Marthapur, in Cuttak Distt., in Orissa. Coal will be obtained from Mandakini Coal Block in Talcher Coal Mines and imported coal from Indonesia. Blending will be in the ratio 80:20 (Domestic: Imported). The total requirement will be 3.2 MTPA. Ash and sulphur content of domestic coal will be 40% and 0.5 respectively. Ash content in imported coal will be 5.5 %. Three industries are located nearby viz. (i) Ferro Manganese and Captive TPP Plant of M/s Rawmet at 1.0 km; (ii) Steel Plant and Captive TPP of M/s Aarti Steel at 2 km; and (iii) Steel Plant and Captive TPP of M/s Maheswari Steel at 2 Km. Water requirement will be about 43680 cum/day, which will be sourced from Mahanadi River, downstream of Mundali Weir. Water allocation of 40 cusecs has been received from Govt. of Orissa. The proposed plant will be set up in 990 acres (400.24 Ha), 780.08 acres is private land, 46.12 acres is forest land (Gramya Jungle), 40.86 acres under irrigation, 17.79 acres of Gochar land, 22.25 acres of community land and 77.54 acres is a leasable land. The government land is about 204.86 acres. The proposal for forest diversion has been approved by DFO and awaiting clearance. The co-ordinates of the plant site will be at Latitude 20°26'02" N to 20°27'43" N and Longitude 85°45'28" E to 85°47'07" E. About 629 land losers will be involved. No relocation of homestead land will be involved. Chandaka Dampara wildlife sanctuary & National park is located at about 3.0 km from the plant boundary. Nandankan National Park is located at about 7.5 km from the plant boundary. A wildlife conservation plan has been prepared and vetted by the Office of the Chief Wildlife Warden, Chandaka Wildlife Division. There are also about five reserved forests with 7.0 km from the site. Public hearing was conducted on 29.05.2009. Cost of the project will be Rs 3800.0 Crores.

3. The project has been considered in accordance with the provisions of the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated September 14, 2006 and its amendment.

4. Based on the information submitted by you, as at Para 2.0 above and others and presentation made before the Expert Appraisal Committee (Thermal Power) in its 3<sup>rd</sup> Meeting held during August 9-10, 2010, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA notification dated September 14, 2006, subject to the compliance of the following Specific and General conditions:

**A. Specific Conditions:**

- (i) Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry **within six months**.
- (ii) Prior clearance under the Forest (Conservation) Act, 1980 for the diversion of 46.12 acres of forest land (Gramya Jungle) shall be obtained.
- (iii) Environmental clearance is subject to obtaining prior clearance from the National Board of Wildlife. The environmental clearance granted does not necessarily imply that forestry and wildlife clearance shall be granted to the project. The investment made in the project, if any, based on environmental clearance granted in anticipation of the clearance from forestry and wildlife angle shall be entirely at the cost and risk of the project proponent and Ministry of Environment and Forests shall not be responsible in this regard in any manner.
- (iv) Wildlife conservation plan approved by the Office of the concerned Chief Wildlife Warden shall be implemented before commissioning of the plant. Status of implementation shall be submitted every six months to the Ministry.
- (v) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.6 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MOEF for suitable amendments to environmental clearance condition wherever necessary.
- (vi) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and Particulate Matter (PM<sub>2.5</sub> & PM<sub>10</sub>). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.
- (vii) Source sustainability study of water requirement shall be carried out by an institute of repute. The study shall also specify the source of water for meeting the requirement during lean season. The report shall be submitted to the Regional Office of the Ministry **within six months**.

- (viii) Hydro geological study of the area shall be reviewed annually and report submitted to the Ministry.
- (ix) No ground water shall be extracted for use in operation of the power plant even in lean season.
- (x) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (xi) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.
- (xii) COC of 5.0 shall be adopted.
- (xiii) Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself. The action taken report and details thereof to this effect shall be submitted to the Regional Office of the Ministry and the State Govt. Dept. concerned from time to time.
- (xiv) Provision for installation of FGD shall be provided for future use.
- (xv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>.
- (xvi) 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.
- (xvii) Utilisation of 100% Fly Ash generated shall be made from 4<sup>th</sup> year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xviii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- (xix) Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.

- (xx) For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that **the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up**. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.
- (xxi) Adequate land shall be identified for development of fodder farm and shall be developed and made available to the community in lieu of Gochar land diverted / acquired for the project. The project proponent shall in consultation with the District Administration undertake the task and shall also ensure that the same is completed before commissioning of the power project.
- (xxii) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xxiii) Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- (xxiv) Atleast two nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.
- (xxv) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- (xxvi) A good action plan for R&R (as applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy **within three months** from the date of issue of this letter.
- (xxvii) The project proponent shall ensure that land losers are not deprived of sustainable livelihood or that they become non-eligible for gainful employment. The project proponent shall also formulate sustainable livelihood scheme for landless and marginalised section of society (such as landless farmers) in the area who are directly or indirectly affected due to power project.
- (xxviii) An amount of Rs 15.20 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 3.0 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be

undertaken shall be **submitted within one month** along with road map for implementation.

(xxix) While identifying CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs.

(xxx) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time

**B. General Conditions:**

- (i) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not do not get mixed.
- (ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (iii) 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.
- (iv) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.
- (v) Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.

- (vi) Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.
- (vii) Monitoring surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.
- (viii) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (ix) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment 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.
- (x) Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> & PM<sub>10</sub> and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.
- (xi) Provision shall be made for the housing of construction labour (as applicable) 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.
- (xii) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee

and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.

- (xiii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xiv) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the Organization.
- (xv) The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM<sub>2.5</sub> & PM<sub>10</sub>), SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.
- (xvi) The environment statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.
- (xvii) **The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.**
- (xviii) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. **Criteria pollutants levels including**

**NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.**

- (xix) 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 to the Ministry.
- (xx) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.
- (xxi) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.

4. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

5. The environmental clearance accorded **shall be valid for a period of 5 years** to start operations by the power plant.

6. Concealing factual data or submission of false/fabricated data and 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) Act, 1986.

7. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

8. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

Yours faithfully,

(Dr. P.L. Ahujarai)  
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Orissa, Bhubaneshwar.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Orissa State Pollution Control Board, A-118, Nilkanta Nagar, Unit - VIII, Bhubaneshwar- 751 012.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment & Forests, A/3, Chandesekhapur, Bhubaneswar - 751023.
7. The District Collector, Cuttack District, Orissa.
8. The Director (EI), MOEF.
9. Guard file.
10. Monitoring file.

  
(Dr. P.L. Ahujarai)  
Director