



BY SPEED POST

**J-13012/117/2008-IA.II (T)
Government of India
Ministry of Environment & Forests**

Paryavaran Bhawan
CGO Complex, Lodi Road
New Delhi-110 003
Dated: 18th March, 2011

To

M/s Jindal Power Ltd.
Jindal Centre
12, Bhikaji Cama Place
New Delhi - 110 066

Sub: Expansion of 4x250 MW by addition of 2x600 MW Coal Based Thermal Power Plant at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh - reg. Environmental Clearance.

Sir,

The undersigned is directed to refer to your letters dated 22.10.2010, 03.11.2010 and 18.11.2010, 15.02.2011 and 24.02.2011 on the subject mentioned above. The Ministry of Environment & Forests has examined the application.

2. It has been noted that the proposal is for expansion of 4x250 MW Coal Based thermal power plant by addition of 4x600 MW at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh. No diversion of forest land is involved. The co-ordinates of the plant site are at Latitude 22°5'42" N to 22°6'12" N and Longitude 83°26'16" E to 83°27'27" E; ash dyke site are at Latitude 22°8'49" N to 22°9'30" N and Longitude 83°26'24" E to 83°27'44" E; and water reservoir at 22°4'06" N to 22°4'48" N and Longitude 83°26'01" E to 83°26'39" E. Letter of assurance for supply of required coal for 2x600 MW from M/s South Eastern Coalfields Limited has been obtained. Ash content in coal will be maximum 40% and Sulphur content 0.5 % (maximum). Lean Concentration Slurry Disposal system will be adopted for fly ash disposal. Water allocation has been obtained from the State Govt. There are no wildlife sanctuary, national park, bio-diversity reserve, heritage site etc. within 10 km of the plant boundary. Public hearing was conducted on 08.05.2010. Cost of the project will be Rs. 13410.0 crores for 2400 MW.

3. The proposal was considered by the Expert Appraisal Committee (Thermal) in its meeting held on 9th - 10th August, 2010. It was brought to the notice of the Ministry that M/s Jindal Power Limited had shifted the site and started construction for expansion project without obtaining requisite prior environmental clearance and which is not in consonance with the

provisions of the Environment (Protection) Act, 1986. The Committee sought the additional information. On receipt of information from the project proponent the project was reconsidered in its meeting held on 28th September, 2010 and 1st - 2nd November, 2010. The Committee recommended the project for environmental clearance for 2x600 MW out of 4x600 MW as the coal linkage is available for 2x600 MW capacity subject to stipulation of environmental safeguards.

4. In view of the Expert Appraisal Committee (Thermal) recommended above and as per the procedure prescribed vide Circular No. J-11013/41/2006-IA.II (I) dated 16.11.2006, the proponent was asked to place the matter before the Board of Directors of Company and submit a written commitment in the form of formal resolution that the violation of the Environment (Protection) Act, 1986 will not be repeated.

5. The Ministry therefore received the resolution passed by the Board of Directors of M/s Jindal Power Limited by circulation on 15.02.2011 and submitted vide letter No nil dated 15.02.2011 placed at **Annexure-I** of this environmental clearance and the environment policy at **Annexure-II**, adopted by the company as per the resolution passed by the Board of Directors of M/s Jindal Power Limited in its meeting held on 23rd February, 2011 submitted to the Ministry vide letter dated 24th February, 2011.

6. Based on the information submitted by you, presentations made by you and your consultant, M/s EMTRC Consultants Pvt. Limited, New Delhi, before the Expert Appraisal Committee, the Ministry of Environment and Forests hereby accords environmental clearance for expansion by addition of 2x600 MW at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. Specific Conditions:

- (i) Environmental clearance shall be applicable for 2x600 MW. However at a later stage when firm coal linkage for third and fourth unit of 600 MW are also available, the project proponent may request the Ministry for inclusion of these units of 600 MW each, for which the Ministry shall consider appropriately.
- (ii) Prior permission/clearance from the Ministry of Coal shall be obtained before undertaking construction activity for the expansion project clearly indicating that the plant site is not in techno economically mineable coal bearing area.
- (iii) Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.

- (iv) Provision for installation of FGD shall be provided for future use.
- (v) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³. 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.
- (vi) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % 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.
- (vii) Stack of 275 m height shall be installed and provided with continuous online monitoring equipments for SO_x, NO_x and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.
- (viii) Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponent's expenses in consultation with the state Govt.
- (ix) Detailed hydro-geological study shall be conducted (including sustainability of water source study) shall be carried out by an institute of repute and report submitted to the Regional Office (RO) of the ministry. Further hydro-geological study shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the RO of the Ministry.
- (x) Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry within three months.
- (xi) No ground water shall be extracted for use in operation of the power plant even in lean season.
- (xii) 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.
- (xiii) 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.

- (xiv) COC of 5.0 shall be adopted. 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 get mixed. A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (xv) 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.
- (xvi) Utilisation of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xvii) 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 form. 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.
- (xviii) Ash pond shall be lined with HDP/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.
- (xix) Disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be carried out only after obtaining permission from DGMS and 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.
- (xx) 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 adequate Green Belt shall be raised and detail justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 85 %.
- (xxi) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.

- (xxii) Further an amount of atleast 0.4% of the cost of the project (for 2x600 MW) shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure 1/5th of the above per annum shall be earmarked till the operation of plant as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.
- (xxiii) While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted 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 shall be undertaken. 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. Vocational training programme for possible self employment and jobs shall be imparted to identified villagers free of cost.
- (xxiv) 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.
- (xxv) For the tribal families affected directly or indirectly (if any) by the proposed project, specific schemes for up-liftment of their sustainable livelihood shall be prepared with time bound implementation and in-built monitoring programme. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time.
- (xxvi) Information on all new activities like proposed settling up of a Coal Handling Plant, a Coal Gasification Plant, Coal stock yard etc. including the proposed pipe coal conveyer from Prasada to M/s JPL, at Tamnar shall be brought to the notice of the people both through EIA/EMP studies and at the time of the Public hearing for the proposed Steel Plant of M/s JSPL in an explicit, comprehensive and understandable fashion.

B. General Conditions:

- (i) A well designed rainwater harvesting shall be put in place before commissioning of the plant. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished.

- (ii) 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.
- (iii) 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.
- (iv) 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.
- (v) 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.
- (vi) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (vii) 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.
- (viii) Regular monitoring of ambient air ground level concentration of SO₂, NO_x, PM_{2.5} & PM₁₀ 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.

- (ix) 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.
- (x) 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>.
- (xi) 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.
- (xii) 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.
- (xiii) The proponent shall upload the status of compliance of the stipulated environmental clearance 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_{2.5} & PM₁₀), SO₂, NO_x (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.
- (xiv) The environment statement for each financial year ending 31st 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.

- (xv) 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.
- (xvi) 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 NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.
- (xvii) 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.
- (xviii) 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.
- (xix) 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.

7. 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.

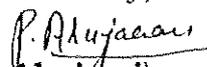
8. The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.

9. 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.

10. 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.

11. 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, Handling and Transboundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

Yours faithfully,


(Dr. P.L. Ahujarai)
Scientist 'F'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Chhattisgarh, Raipur.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, State Env. Conservation Board : Nanak Niwas, Civil Lines, Raipur, Chhattisgarh - 421 001
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 (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Ravishankar Nagar, Bhopal - 462016.
7. The District Collector, Raigarh District, Chhattisgarh.
8. Guard file.
9. Monitoring File.


(Dr. P.L. Ahujarai)
Scientist 'F'

Annexure I



CERTIFIED TRUE COPY OF THE RESOLUTION PASSED BY BOARD OF DIRECTORS OF JINDAL POWER LIMITED BY CIRCULATION ON 15TH FEBRUARY, 2011

GIVING OF COMMITMENT FOR ENVIRONMENT CLEARANCE FOR 2X600MW COAL BASED THERMAL POWER PLANT AT TAMNAR IN GHARGHODA TEHSIL, DISTRICT RAIGARH, CHHATTISGARH

"RESOLVED THAT

whereas Ministry of Environment & Forests (MoEF), Government of India has, vide its letter no. J-13012/117/2008-IA.II(T) dt. February 14, 2011, a copy whereof was circulated to the Directors for reference, communicated that the Competent Authority has approved the proposal of the Company for grant of environmental clearance for setting up of 2X600MW coal based thermal power plant at Tamnar in Gharghoda Tehsil, District Raigarh, Chhattisgarh.

whereas as a condition of issue of formal Environmental Clearance, MoEF has advised the Company that the matter relating to violations should be put up to the Board of Directors for consideration of the Company's environment related policy/ plan of action and a written commitment in the form of formal resolution be submitted to it to the effect that no violations of Environment (Protection) Act etc. will be repeated.

whereas the members of the Board of Directors, in its meeting held on 27.07.2010, were fully briefed about the complaint filed by Regional Office, Chhattisgarh Environment Protection Board, Raigarh in the court of Chief Judicial Magistrate, a copy whereof was circulated to the Directors for reference, and the Company's action plan for environmental protection.

whereas the Company has not willfully and/or knowingly violated any of the provisions of Environment (Protection) Act and/or Rules made there under and that there has not been any other prosecution against the Company as regards the violation of provisions of Environment (Protection) Act and/or Rules made there under.

RESOLVED FURTHER THAT the company will not in future, knowingly and/or willfully violate the provisions of Environment (Protection) Act and/or the rules and abide by all the provisions of the said Act and/or the rules there under.

RESOLVED FURTHER THAT Shri R.S. Sharma, Managing Director, Shri Sushil Maroo, Dy. Managing Director and Shri Anand Goel, Director of the Company be and are hereby severally authorized to sign any papers or documents for the said purpose and submit a copy of this resolution/ and or any other document or paper as may be required from time to time to MoEF and/or any other authority.

For Jindal Power Limited

A handwritten signature in black ink, appearing to read "Anuraj".

Dy. Company Secretary

ANNEXURE - A

JINDAL
POWER

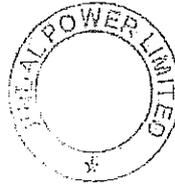
CERTIFIED TRUE COPY OF THE RESOLUTION PASSED BY THE BOARD OF DIRECTORS OF JINDAL POWER LIMITED in its MEETING HELD ON FEBRUARY 23, 2011 AT JINDAL CENTRE, 12, BHIKAJI CAMA PLACE, NEW DELHI - 110 066

ENVIRONMENT POLICY OF THE COMPANY

"RESOLVED THAT the Environmental Policy as placed before the Board be and is hereby noted for guiding Company's environment actions in line with the policy.

RESOLVED FURTHER THAT the Board shall be briefed periodically and a compliance report should be submitted to the Board regularly."

For Jindal Power Limited



Dhruv
Dy. Company Secretary



Jindal Power Limited

Environmental Policy

Jindal Power Ltd (JPL), India's leading electricity generating company in the private sector aspires to become a globally admired organization that enhances the quality of life of all stakeholders through sustainable development with utmost care for the environment and needs of the society. The Company aims to be the most efficient and reliable power producer; and carry out its business/operations with utmost regard for safety and care for the environment. The Company is committed to protect and improve the environment and abide by the laws & regulations concerning the environment.

A two pronged strategy is adopted to adhere to the Environmental Policy viz. the guiding principles and implementation.

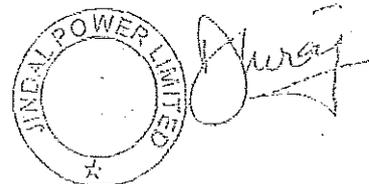
Guiding principles

1. All business decisions to be guided by sensitivity towards the environment and need for sustainable development.
2. To be sensitive to the importance of environmental impact and social welfare.
3. Maximize participation of employees, contractors and customers in preserving the ecological balance.
4. Optimize use of natural resources like land, water and fuel.
5. Strive for continuous improvement through monitoring, regular review and adoption of latest technologies.

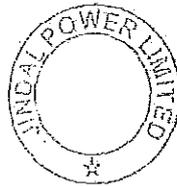
Implementation

JPL institutionalizes the implementation of environmental policy/action plan which inter-alia include the following:

1. Identify, assess and manage environmental impact and integrate sound environment management practices in all its business activities.
2. Adopt clean & latest energy efficient and environment friendly technologies for continual improvement in environment.
3. Promote efficient use of energy and natural resources through cost effective conservation and energy management technologies.
4. Ensure safe and proper storage, use of all materials including wastes and proper disposal of all wastes and minimize their creation while pursuing to prevent pollution.



5. Enhance awareness, skill and compliance of our employees, contractors, suppliers & service providers to enable them to demonstrate their involvement, responsibility and accountability for sound environmental performance.
6. Increase greenery in and around plant and coal mines; develop and rehabilitate abandoned sites through afforestation and landscaping, developing green belt and promote & preserve the bio-diversities in the area of our operations.
7. Head of each project/business units will be responsible for meeting all the environment laws & regulations and effective implementation of company 's environment policy.
8. Head of Environment Department at Corporate level shall coordinate with all business units/projects for effective guidance, directions and compliance of all environmental activities, and shall be responsible for periodic reviews and audits.
9. With an aim for effective implementation, the Board of JPL shall be briefed periodically about the environmental performance of all its projects/business units and due compliance of all environmental laws & regulations.



Juraj