



J-13011/56/2006-IA.II (T)
Government of India
Ministry of Environment, Forest and Climate Change

3rd Floor, Vayu Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Dated: 08.04.2016

To

M/s. Essar Power M.P. Ltd.
Prakash Deep Building,
10th Floor, 7 Tolstoy Marg,
New Delhi- 110001
Tel. No. 011-43501000; Fax: 011-43501046/47

Sub: 3x600 MW Mahan Super Thermal Power Plant at Tehsil Mada, District Singrauli, Madhya Pradesh by M/s. Essar Power (M.P.) Ltd. – reg. amendment and extension of validity of EC.

Sir,

This has reference to your letter & online application dated 13.05.2015 on the above subject. It is noted that the Environmental Clearance for the said project (4x500 MW) was accorded on 20.04.2007 and the same was amended for change in capacity & Unit size (3x600 MW) on 10.02.2009. Further, an amendment to the EC for change in source of coal from domestic to imported and road transportation of coal for an *interim period not exceeding three years* was accorded on 23.08.2013. COD of Unit I was declared on 29.04.2013 and COD of Unit II was expected by December, 2015.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 38th Meeting held during 25th -26th June, 2015. In acceptance of the recommendation of the EAC and in view of the information/clarifications furnished by you, with respect to the above mentioned power project, the Ministry accords amendment in *EC to source the coal from captive Tokisud mine & e-auction in addition to the imported coal till 22.08.2016 and extension of validity of EC by 5 years i.e. till 19.04.2017 to start the production/operations by all the three Units subject to stipulation of the following additional conditions.*

- xxxiv) *The Sulphur and ash contents of domestic coal shall not exceed 0.5% and 35 % respectively. The coal shall be sourced through e-auction only in case of emergency and non viability of imported coal. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to the environmental clearance. However, for the imported coal, the ash and sulphur contents will be as specified in the earlier order.*
- xxxv) *The road transportation shall be restricted to the route as approved earlier vide amendment dated 23.08.2013.*
- xxxvi) *The transportation by road shall be through mechanically covered trucks to the extent feasible, else through tarpaulin covered trucks so as to prevent coal dust dispersion in the atmosphere.*
- xxxvii) *Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.*
- xxxviii) *Monitoring of 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 also be undertaken and results/findings submitted along with half yearly monitoring report.

- xxxix) 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.
- xl) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- xli) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.
- xlii) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

3 All other conditions mentioned in this Ministry's letters of even no. dated 20.04.2007, 10.02.2009 and 23.08.2013 shall remain the same, as applicable.

4. This issues with the approval of the Competent Authority.

Yours faithfully,


(Manoj Kumar Gangeya)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. The Secretary, Environment and Forests Department, Government of Madhya Pradesh, Bhopal.
5. The Chairman, Madhya Pradesh Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal-462016, Madhya Pradesh.
6. The Additional Principal Chief Conservator of Forests (C), Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Ravishankar Nagar, Bhopal - 462016.
7. The District Collector, Singrauli District, Madhya Pradesh
8. Guard file/ Monitoring File.
9. Website of MoEF&CC.


(Manoj Kumar Gangeya)
Director



J-13011/56/2006 - IA. II (T)
Government of India
Ministry of Environment & Forests

Tel no: 011- 2436 4067
Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi -110003.

Dated: 23.08.2013

OFFICE ORDER

Sub: Mahan Super Thermal Power Project (3x600 MW) at Singrauli Tehsil, Sidhi District, in Madhya Pradesh - Change in source of coal - reg.

Sir,

This has reference to your letter dated 17.03.2012, 27.09.2012 and 21.11.2012 on the above mentioned subject.

2. It is informed that your request for amendment in the environmental clearance accorded for the above mentioned power project has been examined and was placed before the Expert Appraisal Committee (Thermal Power) in its 52nd, 62nd, 64th and 66th Meetings held during July 2-3, 2012, December 4, 2012, January 7-8, 2013 and February 5-6, 2013 respectively.

3. It is hereby now informed that in acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) the following amendment shall be made in this Ministry's letter of even no. dated 20.04.2007 and its amendment dated 10.02.2009.

a) At para no. 2, the sentence 'Coal for this project will be obtained from Mahan Coal Block at a distance of about 3-4 km through conveyor', shall be now substituted by the following:

'Coal requirement of about 5.5 MTPA for this project will be obtained from Indonesia from M/s PT Virema Impex ("Virema") having its registered office at Level 9, The City Tower, Jl. M.H. Thamrin No.81, Jakarta - 10 310, Indonesia, for an interim period not exceeding three years till Mahan Coal Block becomes operational'.

b) Under para no.3, the condition no. (v) read as "Ash and sulphur content in coal to be used in the project shall not exceed 35% and 0.5% respectively", shall be now read as under:

"Ash and sulphur content in imported coal to be used in the project shall not exceed 12 % and 0.8 % respectively".

- c) Under para no.3, the condition no. (vii) read as “*High Efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.9% shall be installed to ensure that particulate emission does not exceed 100 mg/Nm³*”, shall be now read as under:

“High Efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.9% shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³”.

- d) Under para no.3, the condition no. (xi) read as “*Fly ash shall be collected in dry form and ash generated shall be used in a phased manner as per provisions of the notification on Fly Ash Utilisation issued by the Ministry in September, 1999 and its amendment. By the end of 9th year full fly ash utilization should be ensured. Unutilised ash shall be disposed off in the ash pond in the form of High Concentration slurry*”, shall be now read as under:

“Fly ash shall be collected in dry form and ash generated shall be used in a phased manner as per provisions of the notification on Fly Ash Utilisation issued by the Ministry in September, 1999 and its amendment. 100% fly ash utilization should be ensured at the end of 4th year. Unutilised ash shall be disposed off in the ash pond in the form of High Concentration Slurry”.

- e) After clause no. (xxvi), under para no.3 of this Ministry’s letter of even no. dated 03.10.2008, the following shall be added:

- (xxvii) The project proponent shall upload the status of compliance of the conditions stipulated in the environmental clearance issued vide this Ministry’s letter of even no. dated 20.04.2007, in its website and updated periodically and also simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests.
- xxviii) Criteria pollutants levels including NO_x, RSPM (PM₁₀ & PM_{2.5}), SO_x (from stack & ambient air) shall be regularly monitored and results displayed in your website and also at the main gate of the power plant.
- xxix) Avenue plantation along the route (both sides of the road) of imported coal transportation from railway siding at Mahadiya/Singrauli Railway Siding to Rajmilan-Bandhoura- Power Plant site, over a distance of 63 kms shall be raised by the project proponent at its own cost. The status of implementation shall be submitted to the Regional Office of the Ministry.
- xxx) It shall be ensured that only mechanized covered trucks are used for imported coal transportation.
- xxxi) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute once the power plant becomes operational. Thereafter mechanism for an

- in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- xxxii) The recommendation of the Central Electricity Authority issued vide its letter no. 159/100/TP&I/CEA/2011, dated 01.02.2013, on the feasibility of transportation of coal from Mahadiya Railway Siding to Mahan TPP site shall be implemented.
- (xxxiii) The project proponent shall maintain a long book of imported coal and Bill of Imports for coal to establish that the coal used for the power project are additional coal coming to the country. These documents shall be submitted to the Regional Office of the Ministry from time to time.
4. All other conditions mentioned in this Ministry's aforesaid letter of even no. 20.04.2007 shall remain the same.

This issues with the approval of the Competent Authority.

Yours faithfully,


(Dr. Saroj)
Director

M/s Essar Power (M.P) Ltd.
Essar House
11 K.K. Marg, Mahalaxmi
Mumbai - 400 034.

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Madhya Pradesh, Bhopal.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Prisar, E-5 Arera Colony, Bhopal - 462 016
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, Sidhi District, Madhya Pradesh.
8. Guard file.


(Dr. Saroj)
Director

No. J-13011/56/2006-IA.II(T)
Government of India
Ministry of Environment & Forests

Paryavaran Bhavan,
CGO Complex, Lodhi Road,
New Delhi 110003.

February 10, 2009

To

M/s Essar Power(M.P.) Ltd.,
21, Feroze Gandhi Road,
Lajpat Nagar-III,
New Delhi 110024.

SUB: Change in capacity and unit size from 4x500 MW to 3x600 MW Mahan Thermal Power Project at Singrauli Tehsil, Sidhi District, Madhya Pradesh by M/s Essar Power (MP) Ltd. – Environmental clearance – Regarding.


The undersigned is directed to refer to your communication No. Essar/Mahan/MoEF/08-09/01 dated 17th December, 2008 regarding the change in capacity and unit size from 4x500 MW to 3x600 MW for the above mentioned project which was accorded environmental clearance vide letter of even number dated 20.04.2007.

The request has been considered and it has been noted that due to change in capacity and in configuration, the land requirement will come down from 744 ha to 700 ha. Coal consumption and water consumption will also be reduced by 1.5 million TPA and 15,600 m³/day respectively. There will also be corresponding reduction in the ash generation.

In accordance with the recommendation of the Expert Appraisal Committee, this Ministry has no objection for the change in capacity and unit size from 4x500 MW to 3x600 MW subject to strict implementation of all the conditions contained in the environment clearance letter of even number dated 20th April, 2007.

This issues with the approval of the competent authority.

Yours faithfully;


(G.K. Pandey)
Adviser

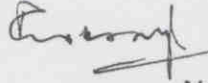
Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110 001.
2. The Secretary (Environment), Government of Madhya Pradesh, Bhopal-462 004.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110 066.
4. The Chairman, Madhya Pradesh Pradushan Niwaran Mandal, Paryavaran Parisar, Sector E-5, Arera Colony, Bhopal-462 016 - with a request to display a copy of this letter at the Regional Office, District Industries Centre and Collector's office for 30 days.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD- cum-Office Complex, East Arjun Nagar, Delhi-110 032.
6. The Chief Conservator of Forests (C), Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.-3, E-5, Arera Colony, Bhopal - 462 016.
7. Director (EI), MOEF.
8. Guard file.
9. Monitoring file.



(G.K. Pandey)
Adviser

e c
San A.K. Srivastava M.D.
Mahan ofhi

 23.4.07

No.J-13011/56/2006-IA.II(T)
Government of India
Ministry of Environment & Forests

By Speed Post

Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi-11003.

Dated 20th April, 2007

To

The Vice President
M/s Essar Power (M.P.) Ltd.,
21, Feroze Gandhi Road,
Lajpat Nagar-III, New Delhi-110 024.

Sub: Mahan Super Thermal Power Project (4x500 MW) at Singrauli Tehsil, Sidhi District, Madhya Pradesh by M/s Essar Power (M.P.) Ltd. – Environmental Clearance regarding.

Sir,

The undersigned is directed to refer to your communication no. nil dated 1st November, 2006 regarding the subject mentioned above. Subsequent information furnished vide letter no. Essar/Mahan/MoEF/07 dated 15.01.2007 has also been considered.

2. It is noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994 to set up a thermal power station of 2000 MW (4x500 MW) in two stages of 1000 MW of each. Coal for this project will be obtained from Mahan Coal Block at a distance of about 3-4 km through conveyor. The coal will have an ash content of 35% and sulphur content of 0.5%. The total land requirement is estimated as 744 ha including 70 ha forestland. Out of the total land 40 ha is for colony, 4 ha for coal conveyor and 14 ha for water pipeline. It is estimated that 192000 m³/day of water will be required for consumptive use and will be sourced from Govind Ballabh Pant Reservoir. COC of 5 will be adopted. Closed circuit cooling with induced draft cooling towers will be adopted. It is estimated that 8740 m³/day of effluents will be generated which will be discharged outside the plant premises into Bhalea nallah. There will be 771 project displaced families. Mohan Ban Reserve Forest is at 4 km distance. No National Park/Wildlife Sanctuary is reported within 10 km area. Public hearing was held on 9th September, 2006. Total cost of the project is Rs. 8800.00 crores which includes Rs 100.00 crores for environmental protection measures.

3. The proposal has been considered in accordance with para 12 of the EIA Notification dated 14th September, 2006 read with para 2.2.1 (i) (a) of the circular no. J-11013/41/2006-IA.II(I) dated 13th October, 2006 and environmental clearance is hereby accorded under the provisions there of subject to implementation of the following terms and conditions:

- (i) The total land requirement shall not exceed 744 ha for all the activities / facilities of the power project put together.
- (ii) Forestry clearance for diversion of 70 ha forestland involved in the project shall be obtained before starting construction on the forestland.
- (iii) R&R in sufficient detail shall be finalized before award of the project and a copy of the detailed R&R shall be submitted to MoEF within three months of the issue of this letter or before the award of the project whichever is earlier.
- (iv) The PAFs/PAPs losing their homesteads or a major portion of the land shall not be ousted from the land till they are settled at the alternate sites.
- (v) Ash and sulphur content in the coal to be used in the project shall not exceed 35% and 0.5% respectively.
- (vi) Two bi-flue stacks of 275 m height each shall be provided with continuous online monitoring equipments. Exit velocity of at least 25 m/sec shall be maintained.
- (vii) High Efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.9% shall be installed to ensure that particulate emission does not exceed 100 mg/Nm³.
- (viii) Space provision shall be made for Flue Gas De-sulphurisation (FGD) unit, if required at a later stage.
- (ix) Low NO_x burners shall be provided.
- (x) Adequate dust extraction system such as bag filters and water spray system in dusty areas such as coal and ash handling areas, transfer areas and other vulnerable areas shall be provided.
- (xi) Fly ash shall be collected in dry form and ash generated shall be used in a phased manner as per provisions of the notification on Fly Ash Utilization issued by the Ministry in September, 1999 and its amendment. By the end of 9th year full fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry.

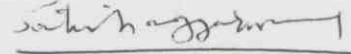
- (xii) Ash pond shall be lined with HDPE geo synthetic membrane to avoid leaching. Adequate safety measures shall also be implemented to protect the ash pond bund from getting breached.
- (xiii) A conservation plan for Schedule-I animals reported in the study area of the project, shall be prepared in consultation with an expert organization like Wildlife Institute of India at Dehradun and duly approved by State Wildlife Department of Madhya Pradesh. A copy of the same shall be submitted to the Ministry and the Regional Office at Bhopal within six months of the date of issue of this letter. The plan so prepared shall be implemented effectively. Necessary allocation of funds for the same shall be made and will be included as project cost.
- (xiv) Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority / State Ground Water Board and a copy of the same shall be submitted within three months to the Ministry.
- (xv) The treated effluents conforming to the prescribed standards only shall be discharged in the Bhalea nallah.
- (xvi) Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and periodic reports shall be furnished to the Regional Office of this Ministry.
- (xvii) A 100 m wide greenbelt shall be developed all around the plant area and 20 m wide green belt shall be developed all around the ash pond and township covering a total area of 211 ha.
- (xviii) First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (xix) Leq of Noise level should be limited to 75 dBA and regular maintenance of equipment be undertaken. For people working in high noise areas, personal protection devices should be provided.
- (xx) Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. 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.
- (xxi) 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, informing that the project has been accorded environmental clearance and copies of clearance letters 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://www.envfor.nic.in>.

- (xxii) A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.
 - (xxiii) A half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry, its Regional Office at Bhopal, CPCB and SPCB.
 - (xxiv) Regional Office of the Ministry of Environment & Forests located at Bhopal 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.
 - (xxv) Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
 - (xxvi) Full cooperation should be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Bhopal/ the CPCB / the SPCB who would be monitoring the compliance of environmental status.
4. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.
 5. The environmental clearance accorded shall be valid for a period of 5 years to the start of operations by the power plant.
 6. In case of any deviation or alteration in the proposed project 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 incorporate additional environmental protection measures required, if any.
 7. The above stipulations shall 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, The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, the Public Liability Insurance Act,

1991 and rules there under and the EIA Notification, 2006 and the amendments made therein from time to time.

Yours faithfully,



(Dr. S.K. Aggarwal)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110 001.
2. The Secretary (Environment), Government of Madhya Pradesh, Bhopal-462 004.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110 066.
4. The Chairman, Madhya Pradesh Pradushan Niwaran Mandal, Paryavaran Parisar, Sector E-5, Arera Colony, Bhopal-462 016 - **with a request to display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's office for 30 days.**
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110 032.
6. The Chief Conservator of Forests (C), Regional Office (WZ), Ministry of Environment & Forests, Kendriya Paryavaran Bhawan, Link Road No.-3, E-5, Arera Colony, Bhopal - 462 016.
7. Director (EI), MOEF.
8. Guard file.
9. Monitoring file.



(Dr. S.K. Aggarwal)
Director