



**F.No. J-13012/62/2008-IA. II (T)**  
**Government of India**  
**Ministry of Environment, Forests & Climate Change**

Indira Paryavaran Bhawan  
Jorbagh Road  
New Delhi-110 003

Dated: 05.11.2019

**OFFICE ORDER**

**Sub: 2x685 MW Super Critical Imported Coal Based Thermal Power Plant at Village Raikheda, Gaitara and Chicholi, in Tilda Block, in Raipur District in Chhattisgarh- reg. transfer of Environmental Clearance.**

The undersigned is directed to refer your online application No. IA/CG/THE/121250/2019 dated 11.10.2019 and documents submitted vide your letter dated 31.08.2019 for transferring the Environmental Clearance dated 9.5.2011 from "M/s GMR Chhattisgarh Energy Ltd." to "M/s Raipur Energen Ltd."

2. It has been noted that the Environmental Clearance for 2x685MW Super Critical Imported Coal based Thermal Power Project has been issued to M/s GMR Chhattisgarh Energy Ltd. vide Ministry's letter dated 09.05.2011. Subsequently, amendments in EC regarding change in coal quality and change in co-ordinates of ash pond has been issued vide Ministry's letter dated 13.6.2013. Further, temporary permission to transport coal by road for a period of three years has been accorded vide Ministry's letter dated 18.11.2014. Another amendment in EC for switching 50% of coal to be sourced from Imported to Domestic coal has been issued vide Ministry's letter dated 4.2.2015.

3. It has been noted that the ownership of the above mentioned power project has been transferred from M/s GMR Chhattisgarh Energy Ltd. to M/s Raipur Energen Ltd. which is a 100% subsidiary of M/s Adani Power Ltd. Further, M/s GMR Chhattisgarh Energy Limited vide Resolution dated 26.7.2019 has expressed the No Objection to transfer the Environmental Clearance to M/s Raipur Energen Ltd. Further, M/s Raipur Energen Ltd. has also given an undertaking vide dated 24.9.2019 that the same terms and conditions prescribed in the Environmental Clearance and amendments are acceptable and the compliance of the said conditions will ensured.

4. The Registrar of Companies has changed the company from M/s GMR Chhattisgarh Energy Ltd. to M/s Raipur Energen Ltd. vide Certificate Dated 20.8.2019. It has been informed that the power plant has been operational since 2017. It has been informed that the power project was under stressed category which has been acquired by M/s Adani Power Ltd. in July, 2019. The status of compliance to meet the revised emission norms (PM: 50 mg/Nm<sup>3</sup>, SO<sub>2</sub>: 200 mg/Nm<sup>3</sup>; NOX: 300 mg/Nm<sup>3</sup>) has been provided and informed that the PM emissions are within the standards. It has been informed that Flue-Gas Desulphurisation (FGD) is proposed to be installed. It has been informed that the detailed specifications are under preparation and the Orders for installation of FGD is expected to be placed within 60 days. For NOX control, both units have low NOX burners with over fired air system. Optimization of combustion systems will be done to progressively reduce the emissions by the year 2022.

5. The Ministry has examined the application. In view of the above, **the Ministry hereby transfers the Environmental Clearance dated 9.5.2011, and subsequent permissions/amendments dated 13.6.2013, 18.11.2014 and 4.2.2015** infavor of M/sRaipur Energen Ltd. subject to following additional conditions:

- i. Progress of installation of new pollution control equipment such as Flue-Gas De-sulphurisation (FGD) System and Optimization of combustion process to meet the new emission standards vide Ministry's Notification dated 7.12.2015 shall be submitted. Further, a copy extensions of timelines to install pollution control equipment beyond 7.12.2017 shall be submitted to the Ministry and its Regional Office.
- ii. The details of quantity and quality of coal transported, source, mode of transportation, electricity units generated and Plant Load factor shall be submitted for six months (April-September, October-March) along with the compliance report.

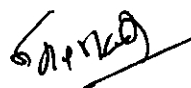
6. The name of the addressee with respect to above mentioned project shall be substituted by the following:

**M/s Raipur Energen Ltd.**

Skip House, 25/1 Museum Road,  
Bangalore Karnataka-560025.

7. All other conditions mentioned in this Ministry's aforesaid letter no. J-13012/62/2008-IA.II(T), dated 09.05.2011 and subsequent permissions/amendments dated 13.6.2013, 18.11.2014 &4.2.2015shall remain the same and shall be binding on M/s Raipur Energen Ltd.

This issues with the approval of the Competent Authority.

  
(Dr. S. Kerketta)  
Director, IA.I(T)

**M/s Raipur Energen Ltd.**


**(A subsidiary of M/s Adani Power Ltd.)**

Skip House, 25/1 Museum Road,  
Bangalore Karnataka-560025.

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 Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building Civil Lines, Nagpur-440001.
5. The Secretary (Environment), Environment Department, Government of Chhattisgarh, Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist-Raipur(C.G.)-492002.
6. The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh – 421001.
7. The District Collector, Raipur District, Government of Chhattisgarh, Room No-15,Collectorate, Near Ghadi Chowk,Raipur, Chhattisgarh-492001.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.



**Director, IA.I(T)**



**J-13012/62/2008-IA.II (T)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**

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

Dated: 09.12.2015

To

M/s. GMR Chhattisgarh Energy Ltd.  
Skip House, 25/1,  
Museum Road,  
Bangalore- 560 025

Tel. No. 0771-3263737

**Sub: 2x685 MW Super Critical Imported Coal Based TPP at Villages Raikheda, Gaitara and Chicholi, Block Talda, District Raipur, Chhattisgarh by M/s GMR Chhattisgarh Energy Ltd. -reg. amendment of EC for change in source of coal.**

Sir,

This has reference to your online application dated 07.08.2015 and information/documents submitted vide letters dated 24.07.2015 & 28.08.2015, on the above subject. It is inter-alia, noted that EC was accorded to the above project on 09.05.2011 considering imported coal (South Africa) as an interim arrangement till the domestic coal linkage is provided. The EC was later amended on 13.06.2013 for change in ash pond coordinates etc., on 18.11.2014 for temporary road transportation approval (from Railway siding to Plant) for 3 years and on 04.02.2015 for usage of Indonesian coal in addition to South African coal & blend of maximum 50% domestic E-auction Coal. The COD of Unit-I was declared on 01.06.2015 and the COD of Unit II is planned for 01.12.2015.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 41<sup>st</sup> Meeting held on 27<sup>th</sup> August, 2015. In acceptance of the recommendation of the EAC and in view of the information/documents/clarifications furnished by you, with respect to the above mentioned power project, the Ministry hereby **amends the EC for usage of 100% Domestic Coal sourced from Talabira-I &/or Ganeshpur Coal mine, and in the worst case scenario, usage of 50% Blended Coal as approved earlier subject to the following additional conditions.**

- i) *The Sulphur and ash content of coal shall not exceed 0.7 % and 34 % respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry for consideration.*
- ii) *The PP shall advertise in the local leading newspapers and place on the website, the proposed amendment of EC (after receipt from the Ministry) for change in source of coal for public information.*

3. All other conditions stipulated in this Ministry's letters of even no. dated 09.05.2011, 13.06.2013, 18.11.2014 and 14.02.2015 shall remain the same, as applicable.

This issues with the approval of the Competent Authority.

Yours faithfully,



(B.B. Barman)  
Scientist 'F'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary, Environment and Forest Department, Government of Chhattisgarh, Raipur.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Chhattisgarh Environment 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 Additional Chief Conservator of Forests (C), Ministry of Env., Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur- 440001
7. The District Collector, Raipur District, Chhattisgarh.
8. Guard file/ Monitoring File.
9. Website of MoEF&CC



(B.B. Barman)  
Scientist 'F'



J-13012/62/2008-IA.II (T)  
Government of India  
Ministry of Environment, Forests and Climate Change

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

Dated: 04.02.2015

To

M/s. GMR Chhattisgarh Energy Ltd.  
Skip House, 25/1,  
Museum Road, Bangalore- 560 025  
Chhattisgarh.

Tel. No. 0771-3263737

**Sub: 2x685 MW Super Critical Coal Based TPP at Villages Raikheda, Gaitara and Chicholi, in Tilda Block, Raipur Distt., Chhattisgarh by M/s GMR Chhattisgarh Energy Ltd. – reg. Amendment of EC for change in source of coal.**

Sir,

This has reference to your letter dated 10.11.2014 on the above subject. It is noted that the Environmental Clearance for the said project was accorded on 09.05.2011. An amendment to the EC and permission for road transportation of coal for a limited period of three years were accorded on 13.06.2013 and 18.11.2014 respectively.

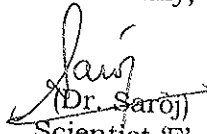
2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 26<sup>th</sup> Meeting held during November 27-28, 2014. In acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) and in view of the information/clarification furnished by you, with respect to the above mentioned power project, the Ministry accords amendment in *EC for including the source of imported coal from Indonesia in addition to South Africa and blend of maximum 50% domestic e-auction coal* subject to the following additional conditions.

- (i) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.7 % and 34% respectively for at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary.
- (ii) The PP shall advertise in the local newspapers and place on the website, the proposed amendment for public information.

3. All other conditions mentioned in this Ministry's letters of even no. dated 09.05.2011, 13.06.2013 and 18.11.2014 shall remain the same.

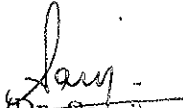
4. This issues with the approval of the Competent Authority.

Yours faithfully,

  
(Dr. Saroj)  
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 Environment 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, Raipur District, Chhattisgarh.
8. Guard file/ Monitoring File.

  
(Dr. Saroj)  
Scientist 'F'



J-13012/62/2008-IA.II (T)  
Government of India  
Ministry of Environment, Forests and Climate Change

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

Dated: 18.11.2014

To

M/s. GMR Chhattisgarh Energy Ltd.  
Skip House, 25/1,  
Museum Road, Bangalore- 560 025  
Chhattisgarh.

Tel. No. 0771-3263737

**Sub: 2x685 MW Super Critical Imported Coal Based TPP at Villages Raikheda, Gaitara and Chicholi, Tilda Block, Raipur Distt., in Chhattisgarh by M/s GMR Chhattisgarh Energy Ltd. - reg. temporary permission for road transportation of coal.**

Sir,

This has reference to your letter dated 28.05.2014 on the above subject. It is noted that the Environmental Clearance for the said project was accorded on 09.05.2011 and an amendment on 13.06.2013.

2. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 18<sup>th</sup> Meeting held during 31<sup>st</sup> July and 1<sup>st</sup> August, 2014. In acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) and in view of the information/clarification furnished by you, with respect to the above mentioned power project, the Ministry accords temporary permission for road transportation of coal for a limited period of **three years** subject to compliance of the following conditions:

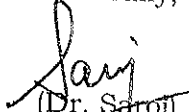
- (i) *The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.*
- (ii) *Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authorities.*
- (iii) *Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall facilitate the traffic control on the road in consultation with the State Government Authorities.*
- (iv) *The PP shall advertise in the newspaper and place on the website, the amendment issued by the Ministry for public information.*

3. Further under Para no. 4, of this Ministry's letter of even no. dated 09.05.2011 and its amendment dated 13.06.2013, after condition no. (xxxiii), the following conditions shall be added.




- xxxiv) Harnessing solar power within the premises of the plant particularly at available rooftops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- xxxv) Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.
- xxxvi) The project proponent shall formulate a well-laid Corporate Environment Policy, identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.
4. All other conditions mentioned in this Ministry's letters of even no. dated 09.05.2011 and its amendment dated 13.06.2013 shall remain the same.
5. This issues with the approval of the Competent Authority.

Yours faithfully,

  
(Dr. Saroj)  
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 Environment 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, Raipur District, Chhattisgarh.
8. Guard file/ Monitoring File.

  
(Dr. Saroj)  
Scientist 'F'



J-13012/62/2008 - IA. II (T)  
Government of India  
Ministry of Environment & Forests

Tel no: 011- 24364067  
Paryavaran Bhavan, C.G.O. Complex,  
Lodi Road, New Delhi -110003.

Dated: 13.06.2013

**OFFICE MEMORANDUM**

**Sub: 2x685 MW Super Critical Imported coal based TPP of M/s GMR Chhattisgarh Energy Ltd. at villages Raikheda, Gaitara and Chicholi, in Tilda Block, in Raipur Distt., in Chhattisgarh - Amendment of Environmental Clearance reg.**

This has reference to your letters dated 12.09.2012, 29.10.2012 and 27.11.2012 regarding amendment in the environmental clearance accorded by this Ministry vide its letter of even no. dated 09.05.2011.

2. The request has been examined and it is informed that the request was placed before the Expert Appraisal Committee (Thermal Power) I its 60<sup>th</sup>, 62<sup>nd</sup> and 64<sup>th</sup> Meetings held during November 5-6, 2012, December 4, 2012 and January 7-8, 2013 respectively. It is further informed that in acceptance of the recommendation of the Expert Appraisal Committee (Thermal Power) the following changes as mentioned under shall be made in this Ministry's letter of even no. dated 09.05.2011.

a) At para no. 2, in the 8<sup>th</sup> line, before the sentence 'Imported coal from South Africa will be used for an interim period until domestic coal is available', the following sentence shall be now added:

"The co-ordinates of the ash pond location will be in between 21° 27' 06" N, 21° 26' 25" N, 21° 26' 29" N' and 81° 52' 07" E, 81° 50' 52" E and 81° 51' 39" E".

b) Under para no. 4, A Specific Condition, the specific condition no. (v) read as "High Efficiency Electrostatic Precipitators (ESPs) shall be installed followed by installation of Bag Filter and it shall be ensured that particulate emission does not exceed 50 mg/Nm<sup>3</sup>", shall be now read as under:

"High Efficiency Electrostatic Precipitators (ESPs) shall be installed and it shall be ensured that particulate emission does not exceed 50 mg/Nm<sup>3</sup>".

c) After clause no. (xxx), under para no. 4, A Specific Condition, the following shall be added:

(xxxix) The GCV of the imported coal from South Africa shall not be less than 4911 Kcal/kg and the ash and sulphur contents shall not exceed the limits stated under:

Ash contents : 33.7%  
Sulphur contents : 0.7%

(xxxii) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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.

(xxxiii) Continuous monitoring for heavy metals in and around the ash pond area shall be carried out through reputed institutes like IIT, Kanpur and records/ data maintained.

7. All other conditions mentioned in this Ministry's aforesaid letter of even no. 09.05.2011 shall remain the same.

This issues with the approval of the Competent Authority.

Yours faithfully,

  
(Dr. Saroj)  
Director

✓ M/s GMR Chhattisgarh Energy Ltd.  
B-137, VIP Estate  
Vidhansabha Road, Khamardih  
Raipur - 490001, Chhattisgarh.

Copy to:

1. The Secretary (Environment), Environment Department, Government of Chhattisgarh, Raipur.
2. The Chairman, State Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh - 421 001
3. The Chief Conservator of Forests, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Ravishankar Nagar, Bhopal - 462016.
4. The District Collector, Raipur District, Chhattisgarh.
5. Guard file.

  
(Dr. Saroj)  
Director





**BY SPEED POST**

**J-13012/62/2008-IA.II (T)  
Government of India  
Ministry of Environment & Forests**

Ph: 011- 2436 3973  
e-mail: plahujarai@yahoo.com  
Paryavaran Bhawan  
CGO Complex, Lodi Road  
New Delhi-110 003  
Dated: 9<sup>th</sup> May, 2011.

To

M/s GMR Energy Ltd.  
Old Udaan Bhawan  
2<sup>nd</sup> Floor, Terminal-I  
IGI Airport, Palam  
New Delhi – 110 037.

**Sub: 2x685 MW Super Critical Imported Coal Based Thermal Power Plant at villages Raikheda, Gaitara and Chicholi, in Tilda Block, in Raipur Distt., in Chhattisgarh - reg. Environmental Clearance.**

Sir,

The undersigned is directed to refer to your letters dated 04.01.2011, 31.01.2011 & 06.05.2011 and subsequent communication no. 2930/F-4-80/S-2/31/IWS/09 dated 19<sup>th</sup> April, 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 setting up of 2x685 MW Super Critical Imported Coal Based Thermal Power Plant at villages Raikheda, Gaitara and Chicholi, in Tilda Taluk, in Raipur Distt., in Chhattisgarh. Land requirement will be 850 acre, which is in CSIDC area. The total land required is in possession. Out of total land required, 422.0 acres is revenue land; 92.0 acres is double crop agricultural land; 323.0 acres is single crop agricultural land; and 13.0 acres is waste land. The co-ordinates of the site are at Latitude 21<sup>0</sup>26'25"N to 21<sup>0</sup>27'48"N and Longitude 81<sup>0</sup>50'26"E to 81<sup>0</sup>52'07"E. Imported coal from South Africa will be used for an interim period until domestic coal is made available. Imported Coal requirement will be 4.2 MTPA and domestic coal requirement will be 6.3 MTPA. Ash and Sulphur contents in imported coal will be between 29.0% to 33.7% and 0.6% to 0.7% respectively. Ash pond/dyke area requirement will be 200 acres. The co-ordinates of ash pond site are at Latitude 21<sup>0</sup>26'28"N to 21<sup>0</sup>27'00"N and Longitude 81<sup>0</sup>50'26" E to 81<sup>0</sup>51'39" E. About 2.10 MTPA of Fly Ash will be generated in case of domestic coal and 0.97 MTPA of Fly Ash will be generated in case of imported coal. Stack height will be 275 m. Water requirement will be 36 MCM and sourced from the Mahanadi River through a pipeline at a distance of 35 km. Natural draft cooling system will be installed for the units. There are no national parks, wildlife sanctuaries, heritage sites, tiger/biosphere reserves etc. within 10 km of the site. Moherenga R.F and Khaulidabri P.F are located at 1.0 Km and 5.0 Kms respectively from the plant boundary. Public hearing was conducted on 15.01.2009. Cost of the project will be Rs 8290.0 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.

4. Based on the information submitted by you, as at Para 2 above and others and presentation made by you and your consultant viz. M/s Vimta Labs Ltd., Hyderabad, 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) In case source of fuel supply now proposed to be run on imported coal from South Africa for running the power plant is proposed to be changed to domestic coal at a later stage, the project proponent shall apply for such a change in environmental clearance along with necessary documents as required under EIA notification, 2006 (and its amendments). In such a case the necessity for holding public hearing again or otherwise will be determined by the Ministry in consultation with the Expert Appraisal Committee (Thermal Power).
- (iii) Provision for installation of FGD shall be provided for future use.
- (iv) Stack of 275 m height shall be installed and provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and 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 be monitored on periodic basis.
- (v) High Efficiency Electrostatic Precipitators (ESPs) shall be installed followed by installation of Bag Filter and it shall be ensured that particulate emission does not exceed 50 mg/Nm<sup>3</sup>.
- (vi) 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.
- (vii) 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.
- (viii) Transport of coal to the plant site shall be strictly by rail. The project proponent shall therefore immediately take up the matter with the Railways. Status of implementation shall be submitted to the Regional Office of the Ministry from time to time.



- (ix) Existing de-generated water bodies (if any) within 5.0 Km of the site shall be regenerated at the project proponent's expenses in consultation with the state govt.
- (x) The proponent shall sponsor a detailed study regarding water availability in Mahanadi River for all competing sources such as drinking, agriculture, industrial, minimum flow of water in the river during the lean season etc through institutions like IIT, Delhi/IIT, Roorkee. The draft terms of reference shall be submitted within three months which shall be finalized by the Expert Appraisal Committee. The preliminary report on the above study shall be submitted within one year.
- (xi) The project proponent shall undertake proactive water harvesting measures and water storage for a larger period not less than 30 days storage shall be developed. The rain water harvesting system 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. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry within six months.
- (xii) Hydrogeology of the in and around the project area 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 Regional Office of the Ministry.
- (xiii) No ground water shall be extracted for use in operation of the power plant even in lean season.
- (xiv) 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.
- (xv) Water requirement shall be optimized to around 32 MCM and shall accordingly adopt higher COC of at least not less than 5.0.
- (xvi) 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.
- (xvii) 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.



- (xviii) Monitoring surface water quality in the region 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.
- (xix) 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.
- (xx) The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.
- (xxi) Utilisation of 100% Fly Ash generated shall be made from 4<sup>th</sup> year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xxii) 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.
- (xxiii) 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.
- (xxiv) For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be done after obtaining due permission from DGMS and after ensuring 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.
- (xxv) Green Belt consisting of 3 tiers of plantations of native species around plant and at least 75 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- (xxvi) At least three 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.
- (xxvii) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.



- (xxviii) A time bound implementation of the CSR shall be formulated within six months and submitted to the Ministry. 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.
- (xxix) An amount of Rs 33.16 Crores shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure of Rs 6.63 Crores per annum shall be earmarked 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.
- (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. 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) 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.
- (iv) 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.
- (v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (vi) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dBA from the source. 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.
- (vii) Regular monitoring of ambient air 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.
- (viii) 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.
- (ix) 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>.
- (x) 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.
- (xi) An Environmental Cell comprising of atleast one expert in environmental science / engineering, occupational health and social scientist, shall be created 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 organization and he shall be held responsible for implementation of environmental regulations and social impact improvement/mitigation measures.
- (xii) 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<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.



- (xiii) 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.
  - (xiv) 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.
  - (xv) 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 update the same from time to time at least six monthly basis. Criteria pollutants levels including NO<sub>x</sub> (from stack & ambient air) shall be displayed at the main gate of the power plant.
  - (xvi) 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.
  - (xvii) 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.
  - (xviii) 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.