



No. J-13012/31/2009-IA.II(T)
Government of India
Ministry of Environment, Forest and Climate Change

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

Dated: 12.9.2018

To

The General Manager (Environmental Engineering)
M/s NTPC Ltd.
NTPC Bhawan, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003.

Phone No. 011-30003200; E-mail: environment.ntpc@gmail.com.

Sub: 2x660 MW (Stage-III, Expansion) Coal based Ultra Super Critical Talcher Thermal Power Project, Near Talcher Town, Tehsil Talcher Sadar, Angul District, Odisha by M/s NTPC Ltd-reg. Environmental Clearance.

Sir,

The undersigned is directed to refer your online application No. **IA/OR/THE/66791/2014** dated 16.2.2018, Ministry's letter dated 9.5.2018 and the documents submitted vide letter dated 8.6.2018 w.r.t the aforesaid project.

2. It has been noted that ToR for establishing 2x660 MW Talcher Thermal Power Project (Expansion) has been issued vide Ministry's letter dated 22.10.2014 which was valid for two years, i.e. till 21.10.2016. Further, ToR has been extended for one year, i.e. till 21.10.2017 on 13.1.2017 and for one more year, i.e. till 21.10.2018 on 15.9.2017. Proposed project is listed as Category 'A' project at Sl.No.1(d) of Schedule of EIA Notification, 2006 and subsequent amendments.

3. It has been noted that M/s NTPC is proposing to enhance the capacity of Talcher Thermal Power Station (TTPS) by adding 2 nos. units of 660 MW each, as Talcher Thermal Power Project (TTPP) Stage-III (2x660 MW). Proposed Power Plant is located within the premises of Talcher Thermal Power Station (TTPS) is situated near Talcher town in Angul district of Odisha having existing capacity of 460 MW [Stage-I (4x60 MW) + Stage-II (2x110 MW)]. The project was implemented by erstwhile Orissa State Electricity Board (OSEB) and was subsequently taken over by NTPC on 03.06.1995 and is under commercial operation. NTPC vide letter No. 01/CP/SP/CEA dated 14.06.2017 to CEA, has indicated phasing out/retiring of the Talcher Thermal Power Plant 460 MW (4x60 MW and 2x 110 MW) by 31.12.2023.

4. The proposed power project is located in Talcher Critically Polluted Area having a cluster of steel, aluminium, thermal power, chemical and mining industries etc. as identified by the CPCB. A moratorium on Environmental Clearance for the project located in areas of Angul, Talcher (Odisha) was imposed by MOEF&CC vide OM dated 13.01.2010 and subsequently lifted vide OM dated 31.03.2011.

5. It has been noted that the total land requirement for proposed project is 446 acres. No additional land acquisition is envisaged for proposed expansion Stage-III

(2x660 MW) of TTPS. The plant facilities for this expansion stage would be accommodated within the land available in the existing power station and township of Talcher TPS, Stage-I & II. Total land required for proposed expansion project is about 193 acres, including 2.337 acres of government forest land near upstream of Samal Barrage on Brahmani River, is proposed to be acquired from state government. Make-up Water Pipelines (about 30 km) are proposed to be laid along the Right Bank Canal of Samal Barrage up to TTPP. About 223 acres of land would be required for Right of Use (ROU) for about 30 meter wide corridor and about 30 Km long pipeline. In-principle (Stage-I) approval for diversion of 0.95 ha forest land for construction of intake water pump house at Samal, Talcher in Angul District has been obtained vide Ministry's (RO, Bhubaneshwar) letter dated 12.6.2018.

6. It has been informed by you that there are no defense installations, National Parks, Wildlife Sanctuary, Elephant/Tiger Reserve, Elephant corridors and other wildlife protected areas etc. within 10 km radius. However, one (Ananta Sayi Vishnu at Saranga) monument of archaeological importance and some Reserve/Protected Forests are located within 10 km of the proposed project site.

7. Coal requirement for Talcher TPP Stage-III (2 x 660 MW) is estimated to be about 6.9 MTPA considering 85% PLF. Expected Coal quality is Total moisture 11 – 17%, Ash content is 34% (maximum), GCV is 2900-4100 kcal/kg, Sulphur: 0.5-0.55%. The envisaged mode of coal transportation from the coal mines to the power plant is by Rail in BOBR wagons. The rakes shall be unloaded at the track hopper terminal. Coal will be transported by Rail.

8. It has been informed that Standing Linkage Committee (Long-Term) for Power Sector, Ministry of Coal, Government of India has recommended the long term coal linkage with subsidiaries of CIL to the proposed Talcher TPP Stage-III (2x660 MW) at its meeting held on 10.04.2018. Ministry of Coal has issued Minutes of Meeting dated 15.05.2018 stating that coal for Talcher TPP will be supplied from CIL. The linked mine/Subsidiary for Talcher TPP Stage-III (2x660 MW) project has not been identified by Coal India Limited (CIL) as yet. It is expected that coal mine of Mahanadi Coalfields will be allotted for the proposed project. In order to meet ash content up to 34%, coal from CIL fields can be suitably blended to achieve ash content of coal less than 34%. Further setting up of a coal washery and its operation requires huge volume of water and land which NTPC may not be in a position to do so. However, NTPC will put all its efforts to impress upon CIL to supply the required quality of coal.

9. It has been further informed by you that the makeup water required at inlet of various locations involving the process of the power generation, cooling, ventilation, service water, and Ash handling, ash slurry system etc is 3800 m³/hr. Water Balance Diagram of about 5 Cycle of Concentration (COC) is envisaged for the proposed project. WRD, Government of Odisha vide letter dated 04.06.2018 has allocated 16.49 cusecs of water for existing plant and 39 cusecs of water in phased manner for operation of proposed Talcher Thermal Power Project Stage-III (2x660 MW).

10. It has been informed by you that Ultra-super critical technology envisaged to be used in proposed Talcher TPP which has steam parameters higher than supercritical/ sub-critical technology. In preliminary design consideration main steam pressure will be 270 kg/cm² (a) at HPT inlet, main steam temperature at HPT inlet will be 600°C and hot reheat steam temperature at IPT inlet will be 600°C. Adoption of Ultra-super critical technology with above USC steam parameters will increase the plant efficiency by approximately 3.12 % point, while the carbon emission would reduce by approximately 7.5% per kWhr.

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11. The expansion of Talcher Thermal Power Project with addition of Stage-III (2x660 MW) involves demolition of old quarters and common facilities in existing township/infrastructures. The existing township/ infrastructures (about 190 acres) will be demolished in phased manner. No additional raw water reservoir is proposed for expansion project (Stage-III). However, existing raw water reservoir of Talcher TPS would be relocated and utilized for Stage-III also.

12. It has been noted that a railway siding already exists within project site which will be extended with use of proposed railway land. Construction of marshalling yard on railway land (about 30 acres) is envisaged, and its availability on lease from railways will be explored. The ash pipeline is envisaged to be laid along the existing ash pipeline towards MCL mine voids. The ash pipe line from bifurcate point (from existing route) to Jagannath Mine voids will be laid on MCL land after consultation with MCL. NTPC already has provision of MGR System at existing Talcher TPS, which is around 3 kms from MCL mines siding, it has conveyor system for transportation of coal. Talcher TPS stage-III (2x660 MW), NTPC shall take care of the norms laid down by Ministry of Power for transportation of coal by closed pipe conveyor system/MGR system, whichever is applicable.

13. It has been noted that the baseline data was collected during 1st March 2015 to 31th May 2015 (Pre-monsoon Season) within a study area of 10 km radial distance around the proposed Talcher Thermal Power Project Stage-III (2x660 MW). Ambient Air Quality monitoring commenced from 03rd March, 2015 and was extended up to 06th June, 2015 to collect adequate number of samples. The predominant wind direction at site is from WNW and West direction. Ambient air quality has been collected from seven locations. Air quality (98 percentile values) is in the range of PM₁₀: 70-112 µg/m³, PM_{2.5}: 29-48 µg/m³, SO_x: 18.6-27.4 µg/m³, NO_x: 22.1-31.1 µg/m³, Hg: <0.001 µg/m³ & O₃: 27.6-39.6 µg/m³.

14. It has been noted that one month additional baseline ambient air quality data has been collected from 2.5.2018 to 29.5.2018 at four locations (two locations from the stations mentioned in the EIA report and two from continuous AAQ Stations at Talcher TPS) as suggested by EAC. The data has been compared with the Odisha SPCB values. The SO₂ and NO₂ values are well within the National Ambient Air Quality Standards (NAAQS). However, the PM₁₀ & PM_{2.5} are slightly higher than the NAAQS in downwind direction. The values are slightly higher due to domestic coal burning, Brick Kiln, poor road conditions, and other industrial activities in the area. Although the values recorded by consultant hired by NTPC are on higher side but in most of the locations, it is at par with the Odisha SPCB.

15. Cumulative prediction of air quality for the worst case scenario considering for stack height 150 /275 m for Talcher TPS Stage-III (2x660 MW) is enclosed. For the stack height of 275 m, the maximum ground level concentrations (98 percentile) for PM, SO₂ and NO_x was observed 91.57, 35.98 and 39.68 µg/m³ including the resultant incremental value of 2.57, 8.58 and 8.58 for respectively at the distance of 1600, 1300 and 1300 m in E and ESE direction. Whereas, for the stack height of 150 m, the maximum ground level concentrations (98 percentile) for PM, SO₂ and NO_x was observed to be 91.74, 36.50 and 40.20 µg/m³ including the resultant incremental value of 2.74, 9.10 and 9.10, respectively at the distance of 1600, 1300 and 1300 m in E and ESE direction.

16. The noise levels observed are in the range of during day time 46.5 – 63.7 dB(A) and for night time 36.6 – 53.2 dB(A) for the various zones. The ambient noise levels of the study area are well within the National Ambient Standards for Noise w.r.t residential area, commercial area, silence zone and industrial area categories.

17. Surface water quality of Samal Barrage, Brahmini River at different locations is found to meet the BDU Criteria class "C" of CPCB except BOD concentration in few of the samples. No metallic contamination was found in surface water samples.

18. The pH value of water samples in all the location (ranging from 7.25-7.92) did not show any significant variations and all the values were within permissible limit. The EC values were found to be in the range of 345 - 1220 $\mu\text{mhos/cm}$. The electric conductivity values of Chalagarh Village are high with respect to other locations. The chloride values in ground water sample found in the range of 26 - 212 mg/l. The chloride concentration for all ground water samples was within desirable as well as permissible limit of IS. The total hardness value in ground water sample found in the range of 120 - 385 mg/l and found within permissible range. Calcium and Magnesium concentration for all ground water samples were within permissible range. The concentration of Nitrates as NO_3 found to be in the range of 0.26 - 4.1 mg/l. The concentration of Nitrates was reported to be within the desirable as well as permissible limit of IS. Zinc is within the desirable limit at all locations, while Fe was observed more than permissible limit only at Chalagarh. The concentration of Cu was observed within the desirable limit. Other metals in ground water were below detection limit. All the parameters (except Fe at one location) in ground water sample of study area are well within the permissible limit of Indian Standard IS: 10500.

19. Soils of the study area are moderately fertile in the study area with medium level of available nutrients. Soils are observed generally slightly to moderately alkaline in nature. Most of the study area soils are with medium to high level of organic carbon contents as well as organic matter. Soils are low to medium in available nitrogen content. Medium phosphorous levels were also observed in the soils of study area. Low to medium potassium levels are observed in the soil of the area.

20. No threatened species of flora and fauna are found in the study area. There are 142 urban and rural settlements situated in the study area 10 km radius from the proposed plant. As per 2011 census, 2,08,929 persons were inhabited in these 142 settlements out of which 63,680 are from SC/ST. Literacy levels in the study area at 74.15% as per 2011 census data.

21. No ground water source will be tapped for meeting the water requirements during operation phase of power plant. The entire water requirement of the project will be drawn from Samal Barrage on Brahmani River.

22. It is proposed to use closed cycle cooling system with cooling towers would be adopted for condenser and auxiliary cooling. The system has been optimized to operate at about 5 Cycles of Concentration (COC) for conservation of water.

23. Executive Engineer, Head works Division, Samal vide letter dated 24.05.2018 has provided the details of Upstream of Samal Barrage. It has informed that provision of drawl of water from Upstream of Samal Barrage is $9.909 \text{ m}^3/\text{sec}$. and there currently are no proposed/upcoming power plants in this area. The availability of water after considering the existing project at Upstream of Samal Barrage is $1.808 \text{ m}^3/\text{sec}$ (63.85 Cusecs) which is more than the water requirement (39 Cusecs) for proposed Talcher TPP Stage-III (2x660 MW). Executive Engineer, Angul Irrigation Division, Hakimpada, Angul vide letter dated 29.05.2018 has provided the details of downstream of Samal Barrage. Further, it is also informed that Department of Water Resources, Govt. of Odisha has allocated 35.81 Cusecs of water from downstream of Samal Barrage to M/s NSL Nagapatnam Power & Infratech Limited. But currently construction of said project not started and not withdrawing the water from Brahmani River.

24. As the project is designed with Zero Liquid Discharge (ZLD), the wastewater from the project during normal operations will not be discharged outside into any water body. Approx. 750 m³/hr of wastewater will be generated from various process of the power plant viz. CT Blow down, Clarifier Sludge, Tube settler sludge, Filter Backwash, Boiler Blowdown, DM Neutralization Pit and Domestic Sewage.

25. Approximately 80% (1.84 MTPA) of it will be flyash and balance 20% (0.46 MTPA) will be in the form of bottom ash. Ash generated from the power plant will be utilized as per MOEF&CC notifications (03.11.2009 & amendment dated 25.01.2016). The Ash generated from Talcher TPS Stage-I & II (existing units 460MW) is already being disposed in Balanda mine voids 2 & 3. NTPC Talcher is also issuing dry flyash to flyash brick manufacturing units and asbestos cement units. The ash generated from the proposed Talcher Stage-III is proposed to be disposed in the Mine Voids of Jagannath Mines (abandoned mine voids of MCL). Jagannath mine is located about 14 km away from the plant. The permission for disposal of ash in mine voids of Jagannath mines will be obtained from MoEF&CC separately. Gypsum produced by the FGD system is envisaged to be removed by conveyers to a storage shed for further use by cement industries or disposal in an environmentally friendly manner.

26. It is proposed to install adequately designed, high efficiency electrostatic precipitator having an efficiency that limits the outlet emission to 30 mg/Nm³. NOx emission values from the steam generator shall be limited to the applicable values by employing low NOx burners (LNB), combustion staging and reducing NOx in the tail flue gas using either SNCR (selective non-catalytic reduction) or SCR (selective catalytic reduction) technology as applicable. Wet lime stone based flue gas desulphurization (FGD) system shall be installed at the tail end of the steam generator downstream of the ESP to capture SO₂. To facilitate wider dispersal of pollutants and gaseous pollutions, a 150 m/275 m high twin-flue reinforced concrete chimney is envisaged after ESP. The chimney shall be provided with personal access doors and sampling ports for continuous online monitoring. Talcher TPS Stage-III has provision of dust suppression system in the Coal Handling Plant (CHP) area to minimize suspended particulate matter in the working area. The dust suppression consists of water spraying which shall be provided along the conveyor belts.

27. Public Hearing was conducted by Odisha SPCB on 12.07.2017 at D.A.V. School, Talcher TPS, Talcher, Odisha with presence of about 1300 people. Public Hearing was chaired by Sh. Sh. Srinibas Behera, ADM Angul and other member of panel was Sh. Binod Bihari Dash, Regional officer, OSPCB, Angul. NTPC official made presentation about proposed Talcher TPP Stage-III (2x660 MW) and EIA study before public. The main issues raised by public are employment, free education, free health facilities at Talcher TPS hospital, free electricity, infrastructure development, drinking water, CSR and pollution due to fly ash and other emissions etc. Local people protested initially for these issues but later on supported the said project for development of area.

28. CPCB vide letter dated 06.04.2018 has issued directions to the existing Talcher TPS (460 MW), under Section-5 of Environmental Protection Act, 1986, for installation of pollution control equipment's (FGD, Low NOx burners, providing Over Fire Air (OFA), retrofit of ESP) to comply New Emission norms of MoEF&CC by 31.12.2020. It is also directed by CPCB that plant shall not operate beyond 31.12.2020, if it fails to comply with new/revised emission limits for SO₂, NOx and PM.

29. NTPC Talcher Thermal Power Plant (460 MW) was inspected on 23.05.2018 and monitoring was carried out on 23.05.2018 & 24.05.2018 by SPCB, Odisha to verify the status of compliance of Consent to Operate. Point-wise compliance and monitoring report of Odisha SPCB vide letter dated 29.05.2018 for Consent to Operate dated 31.03.2018 for existing Talcher Thermal Power Plant for Phase-I: 4x60 MW and Phase-II: 2x110 MW has been submitted.

30. The Community Development initiatives of Talcher TPS are broadly planned in the area of Education, Health, Infrastructure/asset Creation, Water supply, women empowerment, Capacity building and other Welfare activities, etc. The proposed draft Plan for Community Development activities and implementing Public Hearing commitments for Talcher Stage-III (2x660 MW) has been prepared. The Capital budget is envisaged around Rs 19.50 Crs.

31. Total estimated project cost is Rs. 7,732.35 Crores. A cost provision Rs.2016.5 crores towards providing environmental measures Environmental Management Plan which includes Rs. 5 crores towards afforestation, greenbelt & landscaping has been made in project cost. Greenbelt of 8.09 Ha is proposed to be developed. In addition, 12.14 Ha around Talcher TPS in nearby villages will be developed with greenbelt if land is provided by the Government. Employment during construction phase is 1500. It has been informed by you that no litigations/court cases are pending against the project or existing power plant.

32. The proposal for grant of Environmental Clearance has been considered in the 16th and 18th meeting of EAC (Thermal Power) held on 19.4.2018 and 27.6.2018. Project proponent along with EIA Consultants M/s EQMS India Pvt. Ltd. (QCI-NABET Accredited Consultant for Category 'A' Thermal Power Projects, accreditation certificate valid till 21.5.2018), have made the presentation. In acceptance of the recommendations of the Re-constituted EAC (Thermal Power) in its 18th meeting held on 27.6.2018 and in view of the information, clarifications, documents submitted by you, **the Ministry hereby accords the Environmental Clearance to the 2x660 MW (Stage-III, Expansion) Coal based Ultra Super Critical Talcher Thermal Power Project** as per the Project Activity listed at Sl.No.1(d) of the Schedule under the provisions of EIA Notification dated September 14, 2006 and subsequent amendments therein subject to compliance of the following Specific and General conditions.

A. Specific Conditions:

- (i) Ash ponds near Village Jhadiamba (133.848 acres) and Village Santhapada (156.538 acres) shall not be taken up as the ash is proposed to dispose it in the abandoned mine voids.
- (ii) The Ash content and Sulphur contents in the Coal shall not exceed 34% and 0.55%, respectively. In case of change in coal characteristics, a fresh reference is to be made to Ministry for reviewing the incremental impact, if any and adequacy of the conditions.
- (iii) The capital CSR/CER budget shall be in line with Ministry's OM dated 1.5.2018 or Rs.19.5 crores whichever is higher. The amount shall be implemented during project construction in the surrounding villages.
- (iv) As the coal source is determined, the details regarding characteristics of coal along with transport mode shall be submitted to Ministry. Coal transportation shall be done by rail only. In any event, coal shall not be transported by road.
- (v) The ash which is sent to South Balanda mines shall be mixed with 8% lime before disposing into the mines.

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- (vi) The new emission standards notified vide Ministry's S.O.3305(E) dated 7.12.2015 shall be achieved for existing units as per the extended timelines given by CPCB. Further, the proposed units shall achieve new emissions standards from the date of commissioning of the plant.
- (vii) Considering the proposed project is located in the Talcher Critically Polluted Area, the stack height of 275 m shall be erected to achieve maximum dispersion.
- (viii) The ash pond near Village Santhapada shall not be used as it is near to Brahmani River and high chances of breaching and contaminating the water body.
- (ix) As per the Revised Tariff Policy notified by Ministry of Power vide dated 28.01.2016, project proponent shall explore the use of treated sewage water from the Sewage Treatment Plant of Municipality/ local bodies/ similar organization located within 50 km radius of the proposed power project to minimize the water drawl from River Brahmani/other surface water bodies.
- (x) Compliance of EC conditions, E(P) Act, 1986, Rules and MoEF&CC Notifications issued time to time shall be achieved by a qualified environment officer to be nominated by the Project Head of the Company who shall be responsible for implementation and necessary compliance.
- (xi) Thermal Power Plant shall achieve specific water consumption, zero liquid discharge and emission standards as per MoEF&CC Notification S.O. 3305(E) dated 7.12.2015 or subsequent notifications issued time to time.
- (xii) MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 regarding use of raw or blended or beneficiated or washed coal with ash content not exceeding 34% shall be complied with, as applicable.
- (xiii) MoEF&CC Notifications on flyash utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 and subsequent amendments issue time to time shall be complied with.
- (xiv) Construction and inert waste generated during phasing out of existing plants shall be disposed as per Construction and Demolition Waste Management Rules, 2016.
- (xv) Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within **six months**.
- (xvi) 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.
- (xvii) Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.
- (xviii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 30 mg/Nm³ or as would be notified by the Ministry, whichever is stringent. 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 along with an environment friendly sludge disposal system.
- (xix) 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.

- (xx) 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.
- (xxi) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
- (xxii) 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.
- (xxiii) 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.
- (xxiv) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.
- (xxv) No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.
- (xxvi) Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.
- (xxvii) Green Belt consisting of three tiers of plantations of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.
- (xxviii) The project proponent shall formulate a well laid Corporate Environment Policy and 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.
- (xxix) CER 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 CER 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.
- (xxx) CER activities will be carried out as per OM No. 22-65/2017-IA.II dated 01.05.2018 or as proposed by the PP in reference to Public Hearing or as

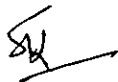
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earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

- (xxxii) 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.

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 get mixed.
- (ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (iii) Storage facilities for auxiliary liquid fuel such as LDO/ 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) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (v) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from 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.
- (vi) 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.
- (vii) Utilization 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.
- (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 Delhi Pollution Control Committee and may also be seen at the Website of MoEF&CC 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, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
 - (xi) 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.
 - (xii) 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.
 - (xiii) **The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to MoEF&CC, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance 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, MoEF&CC.**
 - (xiv) The progress of the project shall be submitted to CEA on six monthly basis.
 - (xv) Regional Office of the MoEF&CC 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.**
 - (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 / CPCB/ SPCB who would be monitoring the compliance of environmental status.
- C) An as built or as completed report on EMP to be submitted stating the scope/extent of work envisaged in the EIA along with estimated cost vis-à-vis the

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actual completed works and cost incurred. A certificate/completion certificate accordingly, shall have to be submitted before commissioning of the TPP.

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

34. The environmental clearance accorded **shall be valid for a period of 7 years** from the date of issue of this letter to start operations by the power plant.

35. 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.

36. 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.

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

38. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

This issues with the approval of the Competent Authority.

Yours faithfully,


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

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 Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (EZ),A/3, Chandrasekharpur, Bhubaneswar-751023.
5. The Additional Chief Secretary, Department of Forest and Environment, Government of Odisha, Secretariat, Bhubaneswar-751001.
6. The Chairman, Odisha State Pollution Control Board, A-118, Nilkanta Nagar, Unit-VIII, Bhubaneswar-751012.

7. The District Collector, Angul District, Govt. of Odisha, Mishrapada, Angul, Odisha-759122.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.



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