

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY
CHHATTISGARH
Government of India
Ministry of Environment and Forests

1-Tilak Nagar,
Shiv Mandir Chowk,
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E-mail: seiaaccg@gmail.com
Website – www.seiaaccg.org
Raipur, Date 23/11/2009

No. 378/SEIAA-CG/EC/TPP/KOR/77/09

To,

M/s Aryan Coal Beneficiation Pvt. Ltd.,
Rajendra Nagar Chowk,
Link Road (Above Hero Honda Show Room),
Bilaspur (C.G.) 495 001
Works: Village - Chakabura, Tehsil - Katghora,
District - Korba (C.G.)

- Sub: - Proposed 30 MW Coal Washery Rejects Based Thermal Power Plant of M/s Aryan Coal Beneficiation Pvt. Ltd. at Village - Chakabura, Tehsil - Katghora, District - Korba – Environment Clearance Regarding.
- Ref: -
- 1- Your application no. ACBPL/BSP/POL/Power/, dated 02/11/2007 submitted to Ministry of Environment and Forests, Government of India.
 - 2- Terms of Reference (TOR) for preparing draft EIA report for Environment Clearance issued by Ministry of Environment and Forests, Government of India vide letter no. J-13012/252/2007-IA-II(T), dated 25/01/2008.
 - 3- Ministry of Environment and Forests, Government of India letter No. J-13011/252/2007-IA.II(T) dated 07/07/2008.
 - 4- Your letter no. nil, dated 25/10/2008 and subsequent correspondence ending dated 21/09/2009.

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The undersigned is directed to refer to your communication dated 02/11/2007, 25/10/2008, 07/02/2009, 26/05/2009, 03/06/2009 and 21/09/2009 regarding the subject mentioned above.

It is noted that the proposal is for grant of Environmental Clearance for setting up of a Coal Washery Rejects Based Thermal Power Plant of capacity 30 MW at Village-Chakabura, Tehsil-Katghora, District-Korba(C.G.). The land requirement is about 8.96 ha. Water requirement of 87 m³/hr would be met from Kholar nala. The water had been allocated for existing 30 MW power plant and coal washery. The water requirement for proposed 30 MW power plant would be met by total allocated water for the existing 30 MW power plant. Hence, no additional water will be required over and above the allocated water of the existing 30 MW power plant and coal washery for proposed 30 MW power plant. No ground water resources would be used for supply of water. Washery reject-780 tonnes per day (0.2847 million tonnes per annum) would be use as fuel. Washery reject would be supplied from the existing washery at Chakabura. Tube conveyor system would be provided for transportation of fuel. Treated wastewater from Central Monitoring Basin shall be

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reused for ash handling, industrial washing/cleaning and in dust suppression system. Circulating Fluidized Bed Combustion Boilers (CFCB) will be installed. ESP of 99.8 % efficiency to ensure the particulate emissions less than 50 mg/Nm³ in one field out condition would be installed. A stack of 90-m height with flue gas velocity 23.0 Nm³/sec would be installed. Crusher would be provided with bag filters. Dust suppression systems shall be provided to control the fugitive emission. About 3.23 ha (covering more than 35% of the total project area) has been allocated for greenbelt development. Annual fly ash generation will be about 0.14 million tonnes (390 tonnes per day). Fly ash 312 tonnes per day and bottom Ash 78 tonnes per day would be generated. Dry fly ash collection system has been envisaged for ash utilization. Ash shall be transported in closed bulkers and put to utilization in cement production. The Public Hearing was conducted on 14/05/2008. The cost of the project is Rs. 102 crores.

The State Level Expert Appraisal Committee, Chhattisgarh considered the project in the 20th, 28th and 32nd meeting of SEAC, Chhattisgarh held on 27/12/2008, 31/03/2009 and 26/05/2009 respectively. Project proponent made the presentation before SEAC, Chhattisgarh in 32nd meeting on 26/05/2009. Based on the consideration of the documents submitted, the presentation made and discussion held in 32nd meeting of SEAC held on 26/05/2009, the State Level Expert Appraisal Committee, Chhattisgarh recommended for grant of Environmental Clearance as per the provisions of Environmental Impact Assessment Notification, 2006 and the subsequent amendments.

The proposal and recommendation of State Level Expert Appraisal Committee, Chhattisgarh was considered in the 11th meeting of SEIAA, Chhattisgarh held on 10/11/2009. The SEIAA, Chhattisgarh perused the information submitted by project proponent. After detailed deliberations, the SEIAA, Chhattisgarh decided to accept the recommendations of SEAC, Chhattisgarh and to grant Environment Clearance. Accordingly, SEIAA, Chhattisgarh hereby accords Environmental Clearance subject to strict compliance of the terms and conditions mentioned below:-

- (i) The acquisition of land for the 30 megawatt Coal Washery Rejects Based Thermal Power Plant shall be restricted to maximum 8.96 ha. with the following break-up: -

Plant area and auxiliaries	4.91ha
Green belt	3.23 ha
Common/Storage	0.82 ha
Total	8.96 ha

- (ii) The consumption of coal washery rejects shall be 780TPD (0.2847MTPA) which will be sourced from the operating 6 MTPA washery at Chakabura of M/S Aryan Coal Beneficiation Private Limited.
- (iii) Project proponent shall provide adequate facility for proper treatment of industrial and domestic effluent. Project proponent shall provide effluent treatment plant before commissioning of the plant. All the effluent treatment system shall be kept in good running condition all the time and failure (if any), shall be immediately rectified without delay otherwise same alternate arrangement shall be made. Project proponent shall ensure the treated effluent quality within standard prescribed by Ministry of Environment & Forests, Government of India.

- (iv) Any liquid effluent what so ever generated from industrial activities shall not be discharged into the river or any surface water bodies under any circumstances, and it shall be reused wholly in the process/plantation. All the industrial effluent generated shall be re-circulated/reused after proper treatment. Project proponent shall provide sewage treatment plant of adequate capacity for treatment of domestic effluent generated from township. The un-treated/treated domestic effluent shall not be discharge into the river or any surface water bodies. The treated domestic effluent shall be used for plantation purpose after proper disinfections. Industry shall make proper arrangements of suitable drains/pipe networks to ensure adequate flow for utilization of treated effluent inside the premises. The concept of zero discharge shall be maintained all the time except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.
- (v) Project proponent shall provide adequate measuring arrangements for the measurement of water utilized in different categories and effluent generated before commissioning of the plant.
- (vi) As no additional water will be required for proposed 30 MW power plant over and above the previous allocated water for the existing 30 MW power plant and coal washery, hence, closed cycle cooling system (water cooled condensers) with COC of at least 6 shall be adopted.
- (vii) Project proponent shall explore the possibility of independent and dedicated air cooled condensers with auxiliary system for each turbine unit.
- (viii) Project proponent shall provide adequate air pollution control arrangements at all point and non point sources. Electro Static Precipitator(s) having efficiency of not less than 99.8 % (with maximum designed emission of particulate matter less than 50 mg/Nm³ in one field out condition) in all the boilers, suitable & effective air pollution control equipments (adequate dust extraction system such as cyclones/ bag filters) for the control of emission from processes/ operations and for the control of emission during the handling & transportation of raw materials/washery rejects/ash etc. shall be installed before commissioning of the plant. Project proponent shall install suitable & effective air pollution control equipments at all transfer points, junction points etc., also. All the conveying system, transfer point, junction point etc. shall be covered. Close conveying system (Tube conveyor) with dust suppression mechanism shall be used for transport of coal washery reject from the coal washery and for carrying the ash to the disposal areas. Adequate provision shall be made for sprinkling of water at strategic locations for ensuring fly ash does not get air borne. For controlling fugitive dust, regular sprinkling of water in coal handling and other vulnerable areas of the plant shall be ensured. The emission of pollutants from any point source shall not exceed the following limit: -

Particulate Matter	50 mg/Nm ³ (Fifty Milligram per Normal Cubic Meter)
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Project proponent shall provide proper space provision for further retrofitting of air pollution control systems in case of further stringent of particulate matter emission limit.

- (ix) All air pollution control systems shall be kept in good running conditions all the time and failure (if any), shall be immediately rectified without delay otherwise same alternate arrangement shall be made. In the event of any failure of any pollution control system adopted by the industry, the respective production unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- (x) Regular monitoring of ground level concentration of SO₂, NO_x, SPM and RSPM 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 CECB Raipur. Periodic reports shall be submitted to SEIAA Chhattisgarh and the Regional Office Bhopal, of Ministry of Environment & Forests, Government of India.
- (xi) Project proponent shall provide a single flue stack of 90 meters height with top internal diameter of 3.5 meter for adequate dispersal of gaseous pollutants emitted from boilers with continuous online monitoring instrument for Sox, NO_x, and Particulate Matter. Exit velocity of flue gases shall not be less than 23.0 Nm³/sec for adequate dispersal of gaseous pollutants. Continuous record of exit velocity shall also be maintained and submitted to the SEIAA, CG and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal on a yearly basis. The height of other stack(s) shall not be less than 30 meters.
- (xii) Sulphur and ash contents in the fuel: coal washery reject to be used in the project shall not exceed 0.4% and 55% respectively at any given time.
- (xiii) Adequate number of permanent ambient air quality monitoring stations (not less than four) in the core zone as well as buffer zone for SPM, RPM, CO, NO_x and SO₂ shall be set-up in the down wind direction as well as where maximum ground level concentrations are anticipated in consultation with the Chhattisgarh Environment Conservation Board. Monitoring net-work shall be designed taking into account the environmentally and ecologically sensitive targets, land use pattern, location of the stacks, meteorological conditions and topographic features including existing ambient air quality data. The data so collected shall be properly analyzed and submitted to the SEIAA, CG and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal in every six months.
- (xiv) Space provision for installation of flue gas de- sulphurization plant (FGD) shall be made so that the same could be installed, if required from environmental angle. Due to commissioning of the power generation units, if 98 percentile values for SO₂ (based on actual monitored field data) in the ambient air of nearby areas exceed the prescribed permissible limit for respective sensitive areas, rural, residential and other areas; project proponent shall install flue gas de-sulphurization units immediately without any delay.
- (xv) Project proponent shall install separate electric metering arrangements with time totalizer for the running of pollution control devices. These arrangements shall be made in such a fashion that any non-functioning of pollution control device/devices shall immediately stop the electric supply to

the fuel supply system and shall remain tripped till the pollution control device/devices are made functional again/rectified to achieve the desired efficiency.

- (xvi) To reduce the load on surface water source, dry ash extraction, handling and disposal system shall be adopted. No ash dyke shall be constructed. Project proponent shall incorporate total ash utilization as integral part of the project. Project proponent shall install dry fly ash extraction system so that ash generated during the power generation, collected in dry form and it shall be utilized 100% for other beneficial uses such as brick/block/products making, road construction, cement making, abandoned mines filling and low lying area filling etc. as per guidelines/notification of Ministry of Environment and Forests, Government of India/Central Government/Central Pollution Control Board. Project proponent shall provided silos of adequate capacity with pneumatic/automatic arrangement of dry fly ash withdrawal to avoid dust emissions for dry collection and withdrawal of fly ash generated to facilitate the use of fly ash for different beneficial purposes such as brick/block/products making, road construction, cement making, etc. No permanent storage of fly ash shall be created and during the transition. Project proponent shall also use fly ash/bottom ash/pond ash based products for the construction activities.
- (xvii) Project proponent shall install fly ash brick/block/products-manufacturing machine of adequate capacity before start of construction activities of super structure of 30 megawatt units. Project proponent shall utilize the fly ash bricks/blocks etc. manufactured by own fly ash brick/block manufacturing machine in its construction activities. Project proponent shall procure fly ash from nearby power plants for manufacturing of fly ash brick/block/products till the commissioning of the power plant. After commissioning of the power plant, the fly ash generated from power plant shall be utilized for manufacturing of fly ash brick/block/products. Project proponent shall install additional fly ash brick/block/products-manufacturing machine of adequate capacity before commissioning of the power plant.
- (xviii) Project proponent shall follow the guidelines, notification etc. for utilization of fly ash/bottom ash/pond ash issued by Ministry of Environment and Forests, Government of India/Central Government/Central Pollution Control Board from time to time. 100% fly ash utilization shall be achieved within 9 years in accordance with the notification on fly ash utilization SO 763 (E) dated 14/09/1999 and the amendments made therein from time to time. Industry shall abide by the decisions taken by Ministry of Environment and Forests, Government of India/Central Government/ Central Pollution Control Board from time to time regarding use of fly ash/bottom ash/pond ash.
- (xix) Project proponent shall take effective steps for safe disposal of solid wastes and sludge. Project proponent shall obtain authorization from Board for management and handling of hazardous wastes as per Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
- (xx) All the internal roads shall be made pucca before commissioning of the power plant. Good house keeping practices shall be adopted by the project proponent.

- (xxi) Project proponent shall take proper action to control the noise pollution. Project proponent shall install appropriate noise barriers /control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation to control the noise. Earplugs/ear muffs etc. shall be provided to the employee working in the area of generator halls and other high noise areas. Leq of /noise levels emanating from turbines shall be limited to 75 dBA. The noise level shall not exceed the limits 75 dB (A) during the daytime and 70 dB (A) during the nighttime within the factory premises. Project proponent shall take adequate measures for control of noise level below 85 dB (A) in the work environment. 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.
- (xxii) Project proponent shall provide appropriate arrangements to avoid air pollution, water pollution, noise pollution etc. during construction phase and during transportation of plants/machineries/equipments/ construction materials etc. to the site for 30 megawatt units. For controlling fugitive dust during transportation and construction works, regular sprinkling of water in village roads and other vulnerable areas of the plant shall also be ensured. The emission from vehicles engaged for transportation of plants/machineries/ equipments/construction materials etc. to the site shall be ensured within prescribed vehicle emission norms. First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (xxiii) The construction of effluent treatment plant and installation of air pollution control equipments shall be taken up simultaneously with other civil/mechanical works of 30 megawatt units. The progress of the activities related to the project shall be submitted periodically to SEIAA, CG and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal.
- (xxiv) Project proponent shall provide adequate number of influent and effluent quality monitoring stations/points in consultation with Chhattisgarh Environment Conservation Board. Regular monitoring shall be carried out for relevant parameters. Regular monitoring of surface and ground water quality including heavy metals shall be undertaken around the project area to ascertain the change in the water quality, if any, due to leaching of contaminants from disposal area/project area. Result and data collected shall be analyzed to ascertain the status of water quality and findings shall be submitted. Continuous monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers at suitable locations at the proponent's cost in and around project area in consultation with Regional Director, CGWB, Central Region, Bhopal. Project proponent shall install at least four observation wells around the fly ash disposal area.
- (xxv) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in fuel yard, especially during summer season. Copy of the these measures with full details along with location plant layout shall be submitted to SEIAA, CG and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal.



- (xxvi) Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster Management plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the DMP. Sulphur content in the liquid fuel will not exceed 0.5%.
- (xxvii) A wide green belt of broad leaf local species shall be developed in at least 35% of the project area. As far as possible maximum area of open spaces shall be utilized for plantation purposes. Project proponent shall abide by the decisions taken by Ministry of Environment and Forests, Government of India/Central Government/ Central Pollution Control Board from time to time in this regard. Tree density of 1500–2000 trees per hectare with local broad leaf species should be maintained. At least 3.23 ha (about one third of the total plant area) shall be used for green belt development.
- (xxviii) Project proponent shall ensure that all along the fuel, dust / ash disposal area erosion (wearing away) during rain and sump capacity shall be designed keeping 50% safety margin above the peak sudden rainfall and maximum discharge in the area adjoining the project site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains. Project proponent shall provide adequate collection and treatment arrangement for proper management of storm water. The surface run-off shall be de-silted through a series of check dams and drains.
- (xxix) Rain water harvesting structures shall be provided to reduce load on ground water. Entire rain water shall be properly stored and used for various processes. Project proponent shall adopt rainwater-harvesting technique in the project area and residential area for recharge of ground water. The rainwater-harvesting technique shall be incorporated right from the design stage of all structures. Project proponent shall develop rainwater-harvesting structures to harvest the rainwater for utilization in the lean season as well as to recharge the ground water table. A detailed scheme for rainwater harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority/State Ground Water Board. A copy of the same shall be submitted within three months to the SEIAA, CG and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal. No ground water shall be used for any purpose.
- (xxx) Project proponent shall establish an environmental management cell to carryout function relating to environmental management under the supervision of senior executive who will directly report to the head of organization. A full-fledged laboratory with qualified technical/scientific staffs to monitor the influent, effluent, ground water, surface water, soil, stack emission and ambient air quality etc. shall be provided.
- (xxxi) Adequate funds shall be allocated for undertaking CSR activities (community welfare, environmental development activities apart from committed plantation) and in any case it shall not be less than Rs. 11.0 lakhs per year with 10% annual increase in subsequent years. Details of

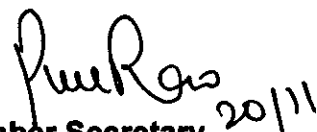
- (xli) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Chhattisgarh Environment Conservation Board and may also seen at Website of the Ministry of Environment and Forests at www.envfor.nic.in and website of SEIAA, Chhattisgarh at www.seiaacg.org.
- (xlii) Half yearly report on the status of implementation of the stipulated conditions, monitoring data along with statistical interpretation and environment safeguards shall be submitted to the Chhattisgarh Environment Conservation Board, Raipur, Regional Office, Chhattisgarh Environment Conservation Board, Korba, SEIAA, Chhattisgarh and Regional Office, Ministry of Environment & Forests, Government of India, Bhopal.
- (xliii) Regional Office of the Ministry of Environment and Forests at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environment 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.
- (xliv) Full cooperation shall be extended to the Scientists/Officers from the SEIAA, Chhattisgarh, Ministry of Environment & Forests, Government of India/Regional Office, Ministry of Environment & Forests, Government of India, Bhopal/the CPCB/the Chhattisgarh Environment Conservation Board, who would be monitoring the compliance of environment status.
- (xlv) The environment clearance accorded shall be valid for a period of 5 years to start of production operations by the power plant.
- (xlii) In case of any deviation or alteration in the proposed project from those submitted to this SEIAA, Chhattisgarh for clearance, a fresh reference should be made to the SEIAA, Chhattisgarh to assess the adequacy of the condition(s) imposed and to add additional environment protection measures required, if any. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests, Government of India/SEIAA, Chhattisgarh.
- (xlvii) The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.
- (xlviii) The project authorities shall inform the Regional Office, Ministry of Environment & Forests, Government of India, Bhopal and SEIAA, Chhattisgarh about date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
- (xlix) The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) act, 1986 and rules there under, Hazardous Wastes (Management, Handling and Trans

Boundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

- (I) Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

Please acknowledge the receipt of this letter.


For & on behalf of
State Level Environment Impact
Assessment Authority, Chhattisgarh


Member Secretary
State EIA Authority, Chhattisgarh
Raipur (C.G.)

Endt. No. /SEIAA-CG/EC/TPP/KOR/77/09 Raipur, Date / /2009

Copy to:-

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi- 110 001.
2. The Secretary, Department of Environment, Mantralaya Chhattisgarh, Raipur- 492 001
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi- 110 066.
4. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, Delhi – 100 032.
5. The Chairman, Chhattisgarh Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road Avanti Vihar, Raipur (C.G.).
6. Director, Ministry of Environment & Forests, Government of India, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi.
7. 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.


Member Secretary
State EIA Authority, Chhattisgarh
Raipur (C.G.)