

ACTIVITY 2(a)- COAL WASHERY

STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR COAL WASHERY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

A. Statutory Complinance

- (i) Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head in mine lease area; not available at pit head then facilitate transportation of unwashed coal to washery through conveyor belt to avoid dust pollution. Regrading other location option analysis criteria should be followed.
- (ii) A brief description of the coal washery alongwith its layout, pillar corditates, the specific technology used and the source of coal should be provided. If the washery is located within the mine lease or near to the mine lease its location should be cited seperately also, providing pillar corditates and site layout plan.
- (iii) O.M.no.J-11013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- (iv) PP shall submit clarification from PCCF that mine does not falls under animal corridors of any National Park and Wildlife Sanctuary within 15 to 20 km distance with certified map showing distance of nearest sanctuary.
- (v) Permission of drawl of water shall be pre-requisite for consideration of EC.
- (vi) Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- (vii) The washery shall not be located in wild life sanctuary & eco-sensitive zones areas and also minimum 1 km from the distance from the boundary of Wild life sanctuaries
- (viii) A three -tier thick Green belt should be developed surrounding the washery comprising atleast 33% of the total land aquired for washery plant and a time bound budgetary plan with the species selected and survival rate to be provided in the EIA/EMP report .
- (ix) Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the time bound Action Plan and budgetary provisions be submitted in tabular form in EIA/ EMP report. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.

B. Infrastructure and washery Plant management

- (x) Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- (xi) Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.
- (xii) Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable

distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.

- (xiii) Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- (xiv) The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- (xv) The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- (xvi) Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.

C] Mapping and Monitoring

- (xvii) A Study Area Map of the core zone as well as the 10km area of buffer zone showing major source inventories like industries mines, washery and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith the comments of the Chief Wildlife Warden of the State Govt. The above details to be furnished in tabular form also
- (xviii) The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the peak capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- (xix) Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.
- (xx) Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SO_x and NO_x, noise, water (surface and groundwater), soil be submitted. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.
- (xxi) The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- (xxii) PP to carry out source apportion ate study of polluting units ie. Mine, other washery, industries or power plant etc located to be considered in buffer zone of mines w.r.t

ecosystem services and biodiversity of the area. PP shall collect one season baseline data of all environmental parameters

- (xxiii) The PP should submit the photograph of monitoring stations & sampling locations while carrying out base line monitoring. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should also furnish the copy of original Lab reports of air, water, soil and noise quality and NABL/MoEF&CC certificates of the respective laboratory.
- (xxiv) A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road.
- (xxv) The socio-economic study to be conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
- (xxvi) The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
- (xxvii) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
- (xxviii) For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.
- (xxix) Analysis of samples indicating the following be submitted:
 - a. Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - b. Characteristics and quantum of coal after washing.
 - c. Characteristics and quantum of coal rejects.

C. EMP measures

- (xxx) Detailed design of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
- (xxxi) Proposal to use LNG/CNG /Others (electric) based transportation trucks. In house study to reduce the carbon footprint for washery should be provided.
- (xxxii) Plan to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.
- (xxxiii) Detailed plan to tap renewable energy within the washery to be provided
- (xxxiv) A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

Corporate Environment Responsibility:

- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
- d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- e) Environment Management Cell and its responsibilities to be clearly spell out in EIA/ EMP report

D. Miscellaneous

- (xxxv) PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes
- (xxxvi) The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)
- (xxxvii) The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter's section.
- (xxxviii) Detailed Chronology of the project starting from the Land acquired, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively.