

Paper No: 12 **Environmental Management**

Module: 16 **Environmental Clearance for category B2 and mining of minor mineral Projects**



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Description of Module	
Subject Name	Environmental Sciences
Paper Name	Environmental Management
Module Title	Environmental Clearance for category B2 and mining of minor mineral Projects
Module Id	EVS/EM-XIX/16
Pre-requisites	
Objectives	To learn about Environmental Clearance for category B2 and mining of minor mineral Projects
Keywords	EIA, Amendment, Environment, Monitoring, Notification

Module 16: Environmental Clearance for category B2 and mining of minor mineral Projects

1. Introduction
2. Procedure for environmental clearance for B2 category projects
3. Procedure for environmental clearance for mining of minor minerals including cluster
4. Appendix VII
5. Appendix VIII
6. Appendix IX
7. Appendix X
8. Appendix XI



1. Introduction

The present module will discuss the environmental clearance process for category B2 projects and mining of minor mineral Projects Procedure of Environment Clearance. As discussed in the previous module, the category B has been further categorized as B1 and B2. The category B2 includes the projects which do not require Scoping and Public consultation. The category B2 includes the following types of projects.

- Thermal power plants based on coal/lignite/naphtha and gas of capacity ≤ 5 MW.
- The mineral beneficiation activity listed in the Schedule as Category 'B', with throughput 90,000 TPA, involving only physical beneficiation.
- All nontoxic secondary metallurgical processing industries involving operation of furnaces only, such as induction and electric arc furnaces, submerged arc furnaces, and cupola with capacity $> 30,000$ TPA but $< 60,000$ TPA provided that such projects are located within the notified Industrial Estates.
- All stand-alone grinding units listed in the Schedule as Category 'B' subject to the condition that transportation of raw material and finished products shall be primarily through Railways.
- All Chlor Alkali plants with production capacity < 300 TPD (located within notified industrial area) listed in the Schedule as Category 'B'.
- All new or expansion projects of leather production without tanning, located within a notified industrial area/estate, listed in the Schedule as Category 'B'.
- Single Super Phosphate (SSP) plants involving only the activity of granulation of SSP powder.
- All manmade fibre manufacturing units producing fibres from granules or chips.
- All Aerial Ropeway projects, listed in the Schedule as Category 'B', should be categorized as Category B2.
- Mining of minor minerals of lease area less than 25 hectare.

Certain cases as enlisted in **APPENDIX – IX** are exempted from requirement of environmental clearance. The major difference between B1 and B2 projects are:

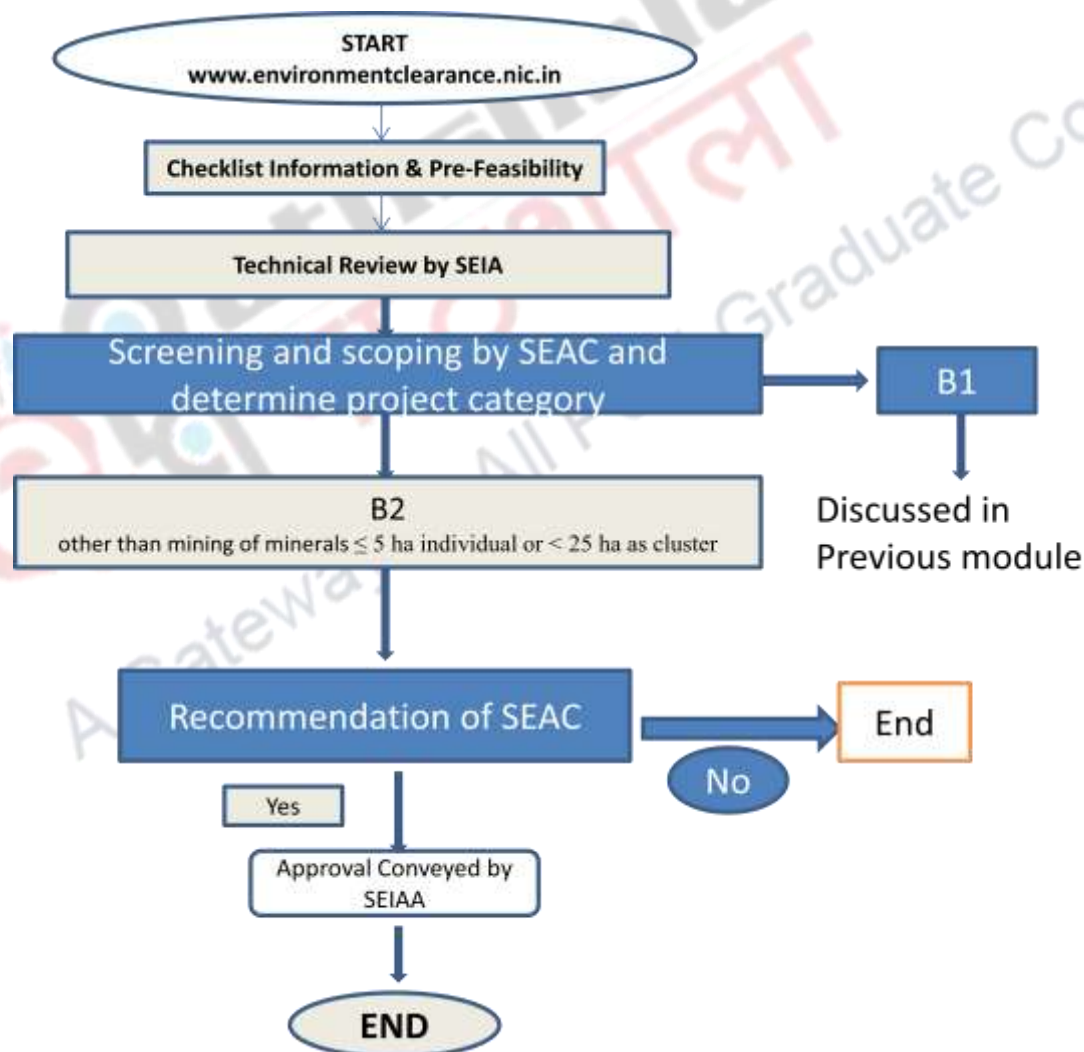
1. B2 projects do not require scoping i.e. issue of TOR
2. B2 projects may not require public consultation and EIA
3. B2 projects of minor minerals (as per APPENDIX VIII) are dealt at district level.

Hence, the B2 projects can further be categorized as:

- Projects under the scope of SEIA and SEAC at state level
- Projects under the scope of DEIA and DEAC at district level (Qualifications and terms for the Experts in DEIAA and DEAC are as per **APPENDIX VII**)

2. Procedure for environmental clearance for B2 category projects

Here it worth to mention that it is the only mining of minor minerals which are either dealt at state level or district level depending on the individual area of cluster area of mining. Hence, to make it easy to understand, the present module will discuss the environment clearance process for all other B2 category projects and B2 category mining of minor mineral projects. The general process for these projects is as follow.



The steps are common as in the B1 category projects except that there is no requirement of TOR and public hearing.

3. Procedure for environmental clearance for mining of minor minerals including cluster

The size of lease for minor minerals including river sand mining is determined by the States as per their circumstances. The district survey reports are prepared as per procedure given in APPENDIX – X of EIA notification 2006 amendments. The monitoring of sand mining or river bed mining is done as per procedure prescribed in APPENDIX – XII of EIA notification 2006 amendments. The mining of minor minerals is mostly in clusters, hence EIA and EMP are prepared for the entire cluster. A cluster is formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area. These reports include carrying capacity of the cluster, transportation and related issues, replenishment and recharge issues, geo-hydrological study of the cluster area. The EIA or EMP is prepared by the State or State nominated Agency or group of project proponents in the Cluster or the project proponent in the cluster. Public consultation is done for entire cluster before final EIA or EMP report is prepared. The sites so cleared are sold to the proponents and the environmental clearance obtained is transferred on the name of the project proponent. The following step by step process is used for B2 mining projects:

Step-1: The State or State nominated Agency applies for the clearance to the SEAC or DEAC with the following documents depending on jurisdiction of Authority to appraise as given in the Schematic representation 1:

- Form 1
- Form 1A
- Form 1M (Appendix **Appendix VIII** for category ‘B2’ for less than and equal to five hectare)
- Pre-Feasibility Report
- Mine plan prepared by Accredited Consultants

Step-2: Technical review: The processing authority reviews the submitted documents for technical compliance. If the documents are in order, the processing authority places the case for the respective committee SEAC or DEAC.

Step-3: The project is presented before the SEAC or DEAC along with all the documents including the district survey report. The SEAC/DEAC scrutinizes the projects for its environmental impacts and the proposed environment management plan. The risk if any involved, the Risk Management plan is discussed. Additional suggestions/recommendations may be given by the SEAC/DEAC.

Schematic Presentation-1: Requirements on Environmental Clearance of Minor Minerals including cluster situation

Area of Lease (Hectare)	Category of Project	Requirement of EIA / EMP	Requirement of Public Hearing	Requirement of EC	Who can prepare EIA/ EMP	Who will apply for EC	Authority to appraise/ grant EC
EC Proposal of Sand Mining and other Minor Mineral Mining on the basis of individual mine lease							
0 – 5ha	‘B2’	Form – I, PFR and Approved Mine Plan	No	Yes	Project Proponent	Project Proponent	DEAC/ DEIAA
> 5 ha and < 25 ha	‘B2’	Form –I, PFR and Approved Mine Plan and EMP	No	Yes	Project Proponent	Project Proponent	SEAC / SEIAA
≥ 25ha and < 50ha	‘B1’	Yes	Yes	Yes	Project Proponent	Project Proponent	SEAC/ SEIAA
≥ 50 ha	‘A’	Yes	Yes	Yes	Project Proponent	Project Proponent	EAC/ MoEFCC
EC Proposal of Sand Mining and other Minor Mineral Mining in cluster situation							

Cluster area of mine leases up to 5 ha	'B2'	Form – 1M, PFR and Approved Mine Plan	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/
Cluster area of Mine leases > 5 ha and < 25 ha with no individual lease > 5 ha	'B2'	Form –I, PFR and Approved Mine Plan and one EMP for all leases in the Cluster	No	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	DEAC/ DEIAA/
Cluster of mine leases of area ≥ 25 hectares with individual lease size < 50ha	'B1'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	SEAC/ SEIAA
Cluster of any size with any of the individual lease ≥ 50 ha	'A'	Yes	Yes	Yes	State, State Agency, Group of Project Proponents, Project Proponent	Project Proponent	EAC/ MoEFCC

Step-4: If the project is recommended by the SEAC/DEAC as the case may be, the project is processed to the SEIA/DEIA. These if satisfied with the recommendations of the SEAC/DEAC, recommend finally for the clearance/appraisal of the project.

The processing authority finally issues the Environmental Clearance. The environment clearance for the mining of minor minerals is valid for 7 years.



Qualifications and terms for the Experts in DEIAA and DEAC

- 1. Qualification:** The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA or M Sc Degree or (ii) in case of Engineering/ Technology/ Architectural discipline, 4 years formal training course together with prescribed practical training in the field leading to a B. Tech/ B.E./ B. Arch. Degree, or (iii) Other professional degree (e.g. MBA etc.) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/ article ship and pass examinations conducted by the concerned professional associations (e.g. Chartered Accountancy) or (v) a University degree, followed by two years of formal training in a University or Service Academy (e.g. MBA/MPA etc.). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.
- 2. Expert:** A professional fulfilling the above eligibility criteria with at least 10 years of relevant experience in the field or with an advanced degree (e.g. Ph. D) in a concerned field with at least 5 years of relevant experience.
- 3. Age:** Below 70 years. However, in the event of non-availability of paucity of experts in a given field, the maximum age of a member may be allowed up to 75 years.
- 4. Fields:** Experts in Mining, Geology, Hydrology, Remote Sensing, Environment Quality, Environment Impact Assessment Process, Risk Assessment, Life Sciences, Marine Sciences, Forestry and Wildlife, Environmental Economics, Bio-diversity, and River Ecology.
- 5. Tenure:** The maximum tenure of expert members shall be for two terms of three years each.
- 6.** The Expert Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

FORM 1 M

**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY ‘B2’
FOR LESS THAN AND EQUAL TO FIVE HECTARE**

(II) Basic Information

- (viii) Name of the Mining Lease site:
- (ix) Location / site (GPS Co-ordinates):
- (x) Size of the Mining Lease (Hectare):
- (xi) Capacity of Mining Lease (TPA):
- (xii) Period of Mining Lease:
- (xiii) Expected cost of the Project:
- (xiv) Contact Information:

Environmental Sensitivity

Sl.No.	Areas	Distance in kilometer/Details
1.	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	
3.	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	
4.	Areas which are important or sensitive for ecological reasons - Wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests	
5.	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	

6.	Inland, coastal, marine or underground waters	
7.	State, National boundaries	
8.	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9.	Defense installations	
10.	Densely populated or built-up area, distance from nearest human habitation	
11.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	
12.	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	
13.	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	
14.	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	
15.	Is proposed mining site located over or near fissure / fracture for ground water recharge	
16.	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	
17.	Forest land involved (hectares)	
18.	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	

**(Signature of Project Proponent
along with name and address)**

EXEMPTION OF CERTAIN CASES FROM REQUIREMENT OF ENVIRONMENTAL CLEARANCE

The following cases shall not require prior environmental clearance, namely:-

1. Extraction of ordinary clay or sand, manually, by the Kumhars (Potter) to prepare earthen pots, lamp, toys, etc. as per their customs.
2. Extraction of ordinary clay or sand, manually, by earthen tile makers who prepare earthen tiles.
3. Removal of sand deposits on agricultural field after flood by farmers.
4. Customary extraction of sand and ordinary earth from sources situated in Gram Panchayat for personal use or community work in village.
5. Community works like de-silting of village ponds or tanks, construction of village roads, ponds, bunds undertaken in Mahatama Gandhi National Rural Employment and Guarantee Schemes, other Government sponsored schemes, and community efforts.
6. Dredging and de-silting of dams, reservoirs, weirs, barrages, river, and canals for the purpose of their maintenance, upkeep and disaster management.
7. Traditional occupational work of sand by Vanjara and Oads in Gujarat *vide* notification number GU/90(16)/ MCR-2189(68)/5-CHH, dated the 14th February, 1990 of the Government of Gujarat.
8. Digging of well for irrigation or drinking water.
9. Digging of foundation for buildings not requiring prior environmental clearance.
10. Excavation of ordinary earth or clay for plugging of any breach caused in canal, nala, drain, water body, etc., to deal with any disaster or flood like situation upon orders of District Collector or District Magistrate.
11. Activities declared by State Government under legislations or rules as non-mining activity with concurrence of the Ministry of Environment, Forest and Climate Change, Government of India.

PROCEDURE FOR PREPARATION OF DISTRICT SURVEY REPORT

The main objective of the preparation of District Survey Report (as per the Sustainable Sand Mining Guideline) is to ensure the following:

Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area.

The report shall have the following structure:

1. Introduction
2. Overview of Mining Activity in the District
- 3 The List of Mining Leases in the District with location, area and period of validity
4. Details of Royalty or Revenue received in last three years
5. Detail of Production of Sand or Bajari or minor mineral in last three years
6. Process of Deposition of Sediments in the rivers of the District
7. General Profile of the District
8. Land Utilization Pattern in the district: Forest, Agriculture, Horticulture, Mining etc.
9. Physiography of the District
10. Rainfall: month-wise
11. Geology and Mineral Wealth

In addition to the above, the report shall contain the following:

- (a) District wise detail of river or stream and other sand source.
- (b) District wise availability of sand or gravel or aggregate resources.
- (c) District wise detail of existing mining leases of sand and aggregates.

A survey shall be carried out by the DEIAA with the assistance of Geology Department or Irrigation Department or Forest Department or Public Works Department or Ground Water Boards or Remote Sensing Department or Mining Department etc. in the district.

Drainage system with description of main rivers

S.No.	Name of the River	Area drained (Sq. Km)	% Area drained in the District

Salient Features of Important Rivers and Streams:

S. No.	Name of the River or	Total Length in the District (in Km)	Place of	Altitude at Origin

Portion of the River or Stream Recommended for Mineral Concession	Length of area recommended for mineral concession (in kilometer)	Average width of area recommended for mineral concession (in	Area recommended for mineral concession	Mineable mineral potential (in metric tonne) (60% of total mineral potential)

Mineral Potential

Boulder (MT)	Bajari (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)

Annual Deposition

S. No.	River or Stream	Portion of the river or stream recommended for mineral concession	Length of area recommended for mineral concession (in kilometer)	Average width of area recommended for mineral concession (in meters)	Area recommended for mineral concession (in square meter)	Mineable mineral potential (in metric tonne) (60% of total mineral potential)

Total for the District						

A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof.

Methodology adopted for calculation of Mineral Potential:

The mineral potential is calculated based on field investigation and geology of the catchment area of the river or streams. As per the site conditions and location, depth of minable mineral is defined. The area for removal of the mineral in a river or stream can be decided depending on geo-morphology and other factors, it can be 50 % to 60 % of the area of a particular river or stream. For example, in some hill States mineral constituents like boulders, river born Bajri, sand up to a depth of one meter are considered as resource mineral. Other constituents like clay and silt are excluded as waste while calculating the mineral potential of particular river or stream.

The District Survey Report shall be prepared for each minor mineral in the district separately and its draft shall be placed in the public domain by keeping its copy in Collectorate and posting it on district's website for twenty one days. The comments received shall be considered and if found fit, shall be incorporated in the final Report to be finalized within six months by the DEIAA.

The District Survey Report shall form the basis for application for environmental clearance, preparation of reports and appraisal of projects. The Report shall be updated once every five years.

PROCEDURE FOR MONITORING OF SAND MINING OR RIVER BED MINING

1. The security feature of Transport Permit shall be as under:

- (a) Printed on Indian Banks' Association (IBA) approved Magnetic Ink Character Recognition (MICR) Code paper.
- (b) Unique Barcode.
- (c) Unique Quick Response (QR) code.
- (d) Fugitive Ink Background.
- (e) Invisible Ink Mark.
- (f) Void Pantograph.
- (g) Watermark.

2. Requirement at Mine Lease Site:

- (a) Small Size Plot (Up to 5 hectare): Android Based Smart Phone.
- (b) Large Size Plots (More than 5 hectare): CCTV camera, Personal Computer (PC), Internet Connection, Power Back up.
- (c) Access control of mine lease site.
- (d) Arrangement for weight or approximation of weight of mined out mineral on basis of volume of the trailer of vehicle used.

3. Scanning of Transport Permit or Receipt and Uploading on Server:

- (a) Website: Scanning of receipt on mining site can be done through barcode scanner and computer using the software;
- (b) Android Application: Scanning on mining site can be done using Android Application using smart phone. It will require internet availability on SIM card;
- (c) SMS: Transport Permit or Receipt shall be uploaded on server even by sending SMS through mobile. Once Transport Permit or Receipt get uploaded, an unique invoice code gets generated with its validity period.

4. Proposed working of the system:

The State Mining Department should print the Transport Permit or Receipt with security features enumerated at Paragraph 1 above and issue them to the mine lease holder through the District Collector. Once these Transport Permits or Receipts are

issued, they would be uploaded on the server against that mine lease area. Each receipt should be preferably with pre-fixed quantity, so the total quantity gets determined for the receipts issued. When the Transport Permit or Receipt barcode gets scanned and invoice is generated, that particular barcode gets used and its validity time is recorded on the server. So, all the details of transporting of mined out material can be captured on the server and the Transport Permit or Receipt cannot be reused.

5. Checking on Route:

The staff deployed for the purpose of checking of vehicles carrying mined mineral should be in a position to check the validity of Transport Permit or Receipt by scanning them using website, Android Application and SMS.

6. Breakdown of Vehicle:

In case the Vehicle breakdown, the validity of Transport Permit or Receipt shall be extended by sending SMS by driver in specific format to report breakdown of vehicle. The server will register this information and register the breakdown. The State can also establish a call centre, which can register breakdowns of such vehicles and extend the validity period. The subsequent restart of the vehicle also should be similarly reported to the server or call centre.

7. Tracking of Vehicles:

The route of vehicle from source to destination can be tracked through the system using check points, RFID Tags, and GPS tracking.

8. Alerts or Report Generation and Action Review:

The system will enable the authorities to develop periodic report on different parameters like daily lifting report, vehicle log or history, lifting against allocation, and total lifting. The system can be used to generate auto mails or SMS. This will enable the District Collector or District Magistrate to get all the relevant details and shall enable the authority to block the scanning facility of any site found to be indulged in irregularity. Whenever any authority intercepts any vehicle transporting illegal sand, it shall get registered on the server and shall be mandatory for the officer to fill in the report on action taken. Every intercepted vehicle shall be tracked.

The monitoring of mined out mineral, environmental clearance conditions and enforcement of Environment Management Plan will be ensured by the DEIAA,

SEIAA and the State Pollution Control Board or Committee. The monitoring arrangements envisaged above shall be put in place not later than three months. The monitoring of enforcement of environmental clearance conditions shall be done by the Central Pollution Control Board, Ministry of Environment, Forest and Climate Change and the agency nominated by the Ministry for the purpose.”.

[No. Z-11013/98/2014-IA-II (M)]

