

Introduction

Environment Impact Assessment (EIA) is a mandatory procedure formulated sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986. This procedure seeks to impose certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts. For this purpose, the Ministry of Environment Forest and Climate Change (MoEF& CC) notified the Environment Impact Assessment (EIA) Notification 2006.¹ Under the Notification, all industrial activities as listed in the Schedule to the Notification will have to get prior Environmental Clearance for a) all new projects and activities and b) expansion/modernisation of existing projects and c) for changes in the product mix of an existing plant.

Further, the EIA Notification 2006 put in a place a set of documents namely

- i) Application submission or Form 1 by Project Proponent/Applicant to MoEF/SEIAA
- ii) Issuance of Terms of Reference (ToR) by MoEF/ SEIAA
- iii) Submission of EIA Report by Project Proponent/Applicant & Conduct of Public Consultation by State Pollution Control Board (SPCB)
- iv) Issuance of Environment Clearance (EC) / Rejection of Application by MoEF/SEIAA

Core among the documents is the EIA Report which forms the basis for the project proponent and MoEF& CC to take a decision on giving Environment Clearance to start the industrial activity.

The EIA Report format is found under Appendix III of the EIA Notification 2006 under the heading “GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESSMENT DOCUMENT”.

It is important as the stakeholders need to have an understanding of various sections of the document to effectively understand the implications of the project at all stages. The EIA Report addresses all relevant environmental concerns of the project or activity for which prior environmental clearance is sought. It contains various sections for this the project proponent has to give answers to justify the need to set up the project in a location and its impact on the environment. The EIA Report is useful not only for the public hearing but also serves as an important opportunity for stakeholders to express their concern and question the authorities and project proponents about the potential and actual damages that may affect their livelihood and environment of their locality due to the activities of the industrial project.

Taking into consideration the above, CAG is please to bring out this small booklet which seeks to educate communities and civil societies about the structure and format of the EIA report. It is intended that the booklet will enable them to gain an understanding to as to equip them to engage in the EIA process on par with the government and project proponent. Further, various sections of the EIA report have been demystified to help communities gain an understanding of the EIA report.

¹ Environmental Impact Assessment (EIA) Notification 2006 <http://envfor.nic.in/legis/eia/so1533.pdf>

S. no	Structure	Contents
1.	Introduction	<p>❖ Purpose of the report Importance of the project, the consequence and why the project is being commissioned are stated.</p> <p>❖ Identification of project & project proponent The category of the project and who owns the project, capacity, the output</p> <p>❖ Brief description of nature, size, location of the project and its importance to the country, region Basic description of the location of the project; the village, taluk, district and state of the project with co-ordinates and the landmark should be given.</p> <p>❖ Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)</p> <ul style="list-style-type: none"> • A collection of Relevant Information on the Project • Study of existing environmental baseline status • Assessment of the impacts on the environmental attributes due to the proposed power project • Environment protection and mitigation measures • Identification of critical environmental attributes required to be monitored after the implementation of proposed project
2.	Project Description	<p>Condensed description of those aspects of the project(based on project feasibility study), likely to cause environmental effects. Details should be provided to give a clear picture of the following:</p> <p>❖ Type of project Description of the inputs (raw materials) and output/s (product/s), the different type of technologies used in different process</p> <p>❖ Need for the project Reason to locate the project in that particular locality, demand for the project, economic importance</p> <p>❖ Location Maps showing general location, specific location, project boundary and project site layout</p> <p>❖ Size or magnitude of operation(incl. Associated activities required by or for the project) Capacity of the output the plant can deliver, the technologies used in the industry and its function, land requirement, project site features, water requirement, land requirement, fuel requirement.</p> <p>❖ Proposed schedule for approval and implementation Tentative Time period for the project to go into commercial operation</p> <p>❖ Technology and process description Explanation of different types of technologies adopted and the process involved to deliver the product or output</p> <p>❖ Project description. Including drawings showing project layout, components of the project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose</p>

		<p>❖ Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope) Methods and means by which the project proponent will take efforts to reduce loss of life and property by lessening the impact of disasters in line with Government set environmental standards, and operational conditions. The various points addressed in the Terms of Reference will also find mention.</p> <p>❖ Assessment of New & untested technology for the risk of technological failure For example a) Air cooled cooling tower b) Any Flue Gas Desulphurisation (FGD) process c) Use of washed coal from coal washery as fuel etc. will be reviewed</p>
3.	Description of the Environment	<p>❖ Study area, period, components & methodology Predominant wind direction, expected during the period of baseline monitoring in the study area</p> <ul style="list-style-type: none"> • Topography and location of surface water bodies like ponds, canals and rivers; • Location of villages/towns/sensitive areas; • Identified pollution pockets, if any, within the study area; • Accessibility, power availability and security of monitoring equipment; • Areas which represent baseline conditions; and • Collection, collation and analysis of baseline data for various environmental attributes. <p>❖ Establishment of baseline for valued environmental components, as identified in the scope Baseline for geology, hydrogeology, soil characteristics, meteorology, ambient air quality, water quality, noise level survey, ecology and biodiversity, demographic and socioeconomics, traffic density study are dealt with.</p> <p>❖ Base maps of all environmental component Maps comprising of Geographical Information System (GIS), Toposheet etc. of geology, hydrogeology, soil characteristics, meteorology, ambient air quality, water quality, noise level survey, ecology and biodiversity, demographic and socio-economics, traffic density study</p>
4.	Anticipated Environmental Impacts & Mitigation Measure	<p>❖ Details of Investigated Environmental impacts</p> <ul style="list-style-type: none"> • Environmental impacts with respect to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project • Impact on air quality, water quality, noise levels, ecology, Socio-Economic Aspects during the Construction Phase

		<ul style="list-style-type: none"> ❖ Measures for minimizing and/or offsetting adverse impacts identified Anticipated adverse environmental impacts and mitigation measures for noise, water, air, solid waste generation must be stated to ensure offsetting adverse impacts. ❖ Irreversible and Irretrievable commitments of environmental components Impacts on flora, fauna and other areas of biodiversity such as marine ecology where effects of the industrial activity have irreversible effects must be studied along with mitigation measure in place. ❖ Assessment of significance of impacts (Criteria for determining significance, assigning significance) Each process or activity will have a significant impact on the environment e.g. water, air, land e.g. environmental loss and deterioration. These should be assessed against environmental standards and thresholds, protected and sensitive areas, valued ecological functions and components and resource and land use capabilities to determine effect of such activities on the environment at hand. If there is a significant impact, it is obvious that the activity at hand cannot be carried out. For this, the level of acceptability of the impact has to be determined. ❖ Mitigation measures Environment management system should be mentioned. It is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency. For example, setting up of sewage treatment plant (STP), effluent treatment plants (ETP) are mentioned.
5.	Analysis of Alternatives (Technology & Site)	<ul style="list-style-type: none"> ❖ In case, the scoping exercise results in need for alternatives: ❖ Description of each alternative Alternative technology refers to whether the project proponent has undertaken study of various other alternative technologies must be studied. For example in the case of thermal power plants, comparison of Subcritical & Supercritical may be made. ❖ Summary of adverse impacts of each alternative Each alternative technology should be assessed against compliance with site selection to ensure optimum use of natural and man-made resources in sustainable manner with minimal depletion, degradation and or destruction of environment. ❖ Mitigation measures proposed for each alternative and For each alternative technology, mitigations measures must be proposed against the alternate site locations available. ❖ Selection of alternative Reference is made as to why a particular technology and site is made over the rest of the available technologies and site.
6.	Environmental Monitoring Program	<ul style="list-style-type: none"> ❖ Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules)

		Includes objectives of monitoring, schedules of monitoring at different phases (construction and operational phases), methods of monitoring and data analysis
7.	Additional Studies	<ul style="list-style-type: none"> ❖ Public consultation The opinion and concerns of the people living in the area of the project, their opinions are taken either in written or oral and their concerns are addressed properly. This will be reflected in final EIA ❖ Risk assessment Hazard analysis, classification of hazards, identification of major hazard installations, hazard assessment and evaluation, risk assessment summary, risk reduction opportunities, disaster management plan ❖ Social Impact Assessment. R&R Action Plans An assessment of how the society will lose its livelihood and a detailed report for relocation of their habitat and recreation of lost livelihood opportunities, compensations
8.	Project Benefits	<ul style="list-style-type: none"> ❖ Improvements in the physical infrastructure Potential ancillary industries, employment opportunities, business opportunities and infrastructure development such as parks, roads, drinking water with costs and investments must be detailed with costs and investments. ❖ Improvements in the social infrastructure Improvements in education and capacity building, health and family welfare for the community and local area must be detailed with costs and area of infrastructure. It may refer to improvements of drinking water, storm water drainage, sewerage system etc. ❖ Employment potential –skilled; semi-skilled and unskilled Providing number of direct employment opportunities to the locals within the project including skilled and unskilled workers must be detailed. Survey of the areas including the exact number of people who will be employed and for which area of work must be specified. ❖ Other tangible benefits Other tangible benefits refer study made by the project proponent for example, education facilities, banking facilities, post offices and communication facilities, medical facilities. These must be detailed out along with appropriate background studies.
9.	Environmental Cost-Benefit Analysis	<p>If Scoping study permits –</p> <p>Cost-benefit analysis is part of the justification for the project. Cost-benefit analysis attempts to put a monetary value on both costs and benefits so that they are expressed in the same units. In the Indian context, cost benefit analysis is usually listed for example, increased employment, improvement in transport and education etc</p>
10.	Environment Management Plan (EMP)	<ul style="list-style-type: none"> ❖ Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA The purpose of the Environmental Management Plan is to reduce the pollution at the source, making use of the available

		<p>technology considering the anticipated impacts. This should be taken into account at each stage of project in waste management, impacts of the projects in different domains of environment. For thermal power plants, it is divided into construction and operational phases.</p> <p>Construction phase: air, noise, water discharge, soil discharge, drainage and effluent management, waste management, accidents and health are taken into consideration</p> <p>Operational phase: there may be continuous emissions and discharges from the industrial activity. For example,</p> <ul style="list-style-type: none"> • Source emissions and ambient air quality; • Groundwater Levels and ground water quality; • Water and wastewater quality (water quality, effluent & sewage quality etc); • Solid waste characterisation (Ash, ETP & STP sludge); Soil quality; • Noise levels (equipment and machinery noise levels, occupational exposures and ambient noise levels); and • Ecological preservation and afforestation
11.	<i>Summary & Conclusion (This will constitute the summary of the EIA Report</i>	<ul style="list-style-type: none"> ❖ Overall justification for implementation of the project ❖ Explanation of how adverse effects have been mitigated <ul style="list-style-type: none"> • Salient features of the project such as the capacity of the plant, raw materials(coal, water, Fuel) used and quality of the raw material used, type of technology used (boilers, stack, etc), the total cost of the project and cost for the environmental protection measures can be included. • The justification for implementation of the project - the reason for implementation of the project; benefits from the project at the micro and macro levels; mitigation of environmental impacts. • Overall description of the environment in which the plant is situated <ul style="list-style-type: none"> - Study of the surrounding around 10 Kms from the plant - Plant location, Plant coordinates, ash pond coordinates, Chimney coordinates, Climatic conditions of the area (minimum and maximum temperature, humidity, wind direction, wind speed, Plant site elevation above MSL, Nearest highway, Nearest Airport, Nearest Railway station, Nearest major water bodies, nearest forest area and reserved forest, Nearest hill, Nearest town/city, nearest village, Water source for the project, Archaeologically important Places, Protected areas as per Wildlife Protection Act, 1972 (Tiger Reserve, Elephant reserve, Biospheres, National Parks, Wildlife sanctuaries, community reserves and conservation reserves), seismicity, any other things which are related to the area that needs to be specified.)

		<ul style="list-style-type: none"> ➤ Baseline studies about the meteorology, air quality, water quality, noise level, soil quality, Ecological survey, and general demography about the area. ➤ Summary of Anticipated Environmental Impacts and Mitigation Measures in the areas of air environment, water environment, solid waste management, noise environment, Biological environment, socioeconomics. ➤ Risk Assessment and Disaster Management Plan: The mitigation measures carried out during any unexpected natural and man-made disasters. And stating about the preliminary risk assessment carried out for the project. ➤ Post Project Monitoring: Proper monitoring in compliance with the CPCB, MOEF&CC and SPCB standards. ➤ Budget Requirement for Environment Protection: Total cost and recurring cost being spent on Environment mitigation measures. The break- ups for the total and recurring cost to be included. <p>❖ Conclusion: Stating the environment damage caused by the plant and mitigation measures to avoid them.</p>
12.	<i>Disclosure of consultants</i>	<p>❖ The names of the Consultants engaged with their brief resume and nature of Consultancy rendered</p> <ul style="list-style-type: none"> • The list of consultants involved in different studies for that particular plant • Profile of the consultant employed: Services provided by the consultant, specifically more about the consultant as EIA consultant • The Vision, Mission and quality policy of the consultant • Accreditations of the consultant; attaching the certification given by agencies, to say, an accreditation given by NABL • Facilities- how well they equipped in conducting the EIA studies • Milestones and achievements of the consultant • Staff profile of the consultant particularly who were involved in the study of the project.

