

Engineering Procedure

SAEP-13

29 June 2005

Project Environmental Impact Assessments

Environmental Standards Committee Members

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Saudi Aramco DeskTop Standards

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1 Scope

SAEP-13 outlines the procedure necessary to prepare the required Environmental Impact Statements (EISs), included in the Design Basis Scoping Papers (DBSPs) for major capital projects, and in the expenditure requests for BI-19 Miscellaneous Capital Items. This SAEP also outlines the procedure necessary to prepare the required Environmental Impact Assessments (EIAs) for major projects and for BI-19 projects with a significant environmental impact.

The primary objective of both the EIS and the EIA is to document the scope of environmental issues very early in the project in order to consider project alternatives, energy efficiency measures and resource conservation potentials. The EIA should recommend appropriate, cost-effective measures, which will mitigate significant environmental impacts.

A brief EIS shall be required as part of every DBSP and BI-19 Brief. The EIS shall describe the potential impacts (positive & negative) that the project might have on the environment during construction and operation. It shall classify the project into one of the three categories defined in Section 3 based on the potential environmental impacts. It shall describe project alternatives that would better protect the environment and evaluate the energy efficiency and resource conservation potential of the project.

2 Applicable Documents

All projects shall refer to and comply with the applicable documents listed in this section and summarized in Appendix A.

2.1 Saudi Aramco Policy Statements

Saudi Aramco Policy Statement No. INT-5, Environmental Conservation

2.2 Saudi Aramco Engineering Procedures

[SAEP-12](#) *Project Execution Plan*

[SAEP-14](#) *Project Proposals*

[SAEP-327](#) *Disposal of Wastewater from Cleaning, Flushing,
and Dewatering Pipelines and Vessels*

2.3 Saudi Aramco Engineering Standards

[SAES-A-007](#) *Hydrostatic Testing Fluids and Lay-up
Procedures*

[SAES-A-102](#) *Air Pollutant Emission Source Control*

[SAES-A-103](#) *Discharges to the Marine Environment*

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|-----|--|---|
| | <u>SAES-A-104</u> | <i>Wastewater Treatment, Reuse and Disposal</i> |
| | <u>SAES-A-105</u> | <i>Noise Control</i> |
| | <u>SAES-A-111</u> | <i>Borrow Pit Requirements</i> |
| | <u>SAES-S-007</u> | <i>Solid Waste Landfill Standard</i> |
| 2.4 | Saudi Aramco General Instructions | |
| | <i>GI-0002.714</i> | <i>Environmental Protection Policy Implementation</i> |
| | <i>GI-0150.000</i> | <i>Implementing Occupational Health Aspects of Loss Prevention Policy</i> |
| | <i>GI-0150.001</i> | <i>Asbestos Hazard Protection</i> |
| | <i>GI-0151.006</i> | <i>Implementing the Saudi Aramco Sanitary Code</i> |
| | <i>GI-0430.001</i> | <i>Waste Management</i> |
| 2.5 | Saudi Aramco Materials Instructions | |
| | <i>CU 22.03</i> | <i>Processing& Handling of Hazardous Materials</i> |
| | <i>CU 22.06</i> | <i>Disposal of Polychlorinated Biphenyls (PCB)</i> |
| 2.6 | Saudi Aramco Form and Data Sheet | |
| | <i>Form 7305-ENG</i> | <i>Equipment Noise Data Sheet</i> |
| 2.7 | Saudi Arabian Government Environmental Regulations and Standards | |
| | <i>Royal Decree M6</i> | <i>"Regulation for Sanitary Wastewater Treatment, Disposal and Reuse", Ministry of Municipality and Rural Affairs</i> |
| | <i>Royal Decree M34</i> | <i>"General Environment Regulation ", Presidency of Meteorology and Environment</i> |
| | <i>Document No. 1409-1</i> | <i>Environmental Protection Standards in the Kingdom of Saudi Arabia, Presidency of Meteorology and Environment</i> |

3 Instructions

3.1 Major Project

This section details the procedure required for the preparation of the EIS included in the DBSP for major capital projects. It also details the procedure for preparation of the EIA. For Category 1 projects with no significant environmental impact, a simplified EIA shall be included with the DBSP. For all other projects, the EIA shall be produced for review with the 30% project

proposal. For projects that do not produce a project proposal, the EIA is required and shall be produced at the equivalent project stage. All budget items (BIs) are considered to be major projects. The EIA shall be treated as a primary project objective.

The EIS shall briefly describe the potential impacts that the project might have on the environment and consider project alternatives that would better protect the environment. It shall classify the project into one of three categories defined in Section 3 based on the potential environmental impacts. It shall also address the energy efficiency and resource conservation potential of the project and identify areas of concern that must be addressed in detail in the EIA.

The EIA report shall describe the existing environmental conditions followed by a description of the expected environmental impacts that will occur during construction and operation of the project. It shall evaluate project alternatives that might reduce environmental impact and recommend measures to mitigate adverse environmental impacts. The content of the EIA for each project category is described in Section 3.1.2.

Recommendations included in the EIA shall be considered to be included in the project scope. As a planning tool, the EIA can have a positive influence on the project and can be used to justify additional funds as necessary to address project environmental impacts.

An interim project EIA shall be submitted to the Manager, Environmental Protection Department or to the General Supervisor, Environmental Engineering Division for review and approval at the 30% Project Proposal stage. For projects that do not produce a Project Proposal, an EIA must be submitted at the equivalent project stage.

Once EPD comments and concerns have been addressed, a final EIA will be submitted to EPD. EPD will forward the final document to the Ministry of Petroleum and Mineral Resources for approval. Approval by the Ministry is required for all capital projects prior to expenditure request. The final EIA submitted to the Ministry must be a stand-alone document.

The discovery of new information or significant project scope changes that impact a previously completed and EPD-approved EIA will require revision and resubmittal of an amended EIA to EPD for approval.

3.1.1 Design Basis Scoping Paper (DBSP)

The DBSP for all major projects shall include an EIS.

Purpose: The purpose of the EIS is to:

- Provide environmental direction early in the project;
- Describe briefly the potential environmental impacts and considerations to be addressed in detail in the EIA;
- Classify the project based on potential environmental impact
- Consider cost-effective project alternatives that would better serve the environment;
- Consider energy efficiency and resource conservation measures;
- Provide the necessary background to adequately scope the Environmental Impact Assessment requirements for the project;
- Justify funds (if needed) to support a comprehensive study for the preparation of the Environmental Impact Assessment.

Content: The EIS shall briefly describe the potential impacts (positive & negative) that the project might have on the environment during construction and operation.

The EIS shall classify the project into one of the following three categories:

Category 1: A proposed project is classified as first category if it is likely to have insignificant or no adverse environmental impact on human populations or environmentally sensitive areas, and is not expected to produce emissions or discharges regulated by government or international agencies. An example of a Category 1 project is replacement of a process control system.

Category 2: A proposed project is classified as a second category project if it is likely to have adverse environmental impacts, which can be substantially mitigated, and will not significantly impact areas beyond the site boundary. Examples of Category 2 projects include installation of a new building or an overland pipeline in an existing pipeline corridor.

Category 3: A proposed project is classified as a third category project if it is likely to have significant adverse environmental impacts, which cannot be fully mitigated, will produce emissions or discharges that are regulated by the Saudi government, or will impact areas beyond the site boundary. Examples of Category 3 projects include installation of a fired heater or flare system, installation of a pipeline in a new corridor, or any project involving marine filling or dredging.

The Statement shall also address:

- All potential pollution sources during routine construction and operation of the project (See Appendix B for examples of potential environmental pollutants and pollution sources);
- Potential environmental impacts to air, marine, land, surface water and groundwater as applicable to the project;
- Project alternatives that would better protect the environment;
- Potential catastrophic pollution releases (e.g., pipeline ruptures, plant fires, etc.);
- Energy, material and natural resource conservation potential;
- Potentially significant environmental impacts that should be addressed in detail in the EIA;
- Potential opportunities for waste minimization that should be evaluated as part of the EIA.

3.1.2 Project EIA

The EIA shall be completed for review at the 30% Project Proposal stage. Projects that do not produce a project proposal are required to submit an EIA at the equivalent project stage. The EIA shall be treated as a primary project objective. This document shall be used as a planning resource for the completion of the final Project Proposal and design. The EIA must be reviewed and approved by the Ministry of Petroleum and Natural Resources. The final EIA to be submitted to the Ministry must be a stand-alone document.

For Category 1 projects, simplified EIAs will be included with the DBSP.

Preliminary Work: To facilitate the preparation of the EIA, the Project Management Team (PMT) shall:

- Designate an environmental coordinator;
 - Prepare a scope of work and schedule for preparing the EIA;
 - Gather baseline environmental data to be used in the development of the EIA and the project design;
 - Contract with Saudi Government-permitted or internationally-recognized environmental contractor or consultant to aid in the development of the EIA, if necessary.
 - Where it is practical, PMT shall combine multiple EIAs in order to send one comprehensive EIA to the Ministry of Petroleum and
-

Mineral Resources for approval.

Purpose: The purpose of the EIA is to ensure that the project:

- Meets the national and corporate environmental objectives;
- Considers project alternatives that would better protect the environment;
- Complies with environmental standards in the preliminary project design;
- Acquires information necessary to obtain any Saudi Arabian Government and Saudi Aramco environmental permits;
- Adopts the most cost-effective energy efficiency and resource conservation measures;
- Identifies and implements appropriate environmental mitigation measures.

Content: The minimum content required for a Category 1 Project Environmental Impact Assessment is defined in Appendix C1.

The minimum content required for a Category 2 Project Environmental Impact Assessment is defined in Appendix C2.

A comprehensive Environmental Impact Assessment is required for a Category 3 project. The minimum content required for a Category 3 Project Environmental Impact Assessment is defined in Appendix C3.

3.2 BI-19 Project

This section outlines the necessary procedure to prepare an EIS which is to be included in all BI-19 Project Briefs. A full EIA may be required prior to Expenditure Request Approval (ERA) for projects with potential significant environmental impacts.

3.2.1 Project Brief

The Project Brief shall include an EIS that describes the potential positive and negative environmental impacts during construction and operation.

Purpose: The purpose of the EIS is to:

- Consider project alternatives that would better protect the environment;

- Alert the proponent and design team of any potential environmental concerns;
- Document the scope of environmental considerations;
- Consider energy efficiency and resource conservation measures;
- Justify funds to support a comprehensive environmental study (if needed).
- If it is determined that there is no environmental impact, a statement to that effect shall be noted on the BI-19 brief.

Content: The Statement shall list:

- All potential pollution sources during routine construction and operation (See Appendix B for examples of potential environmental pollutants and pollution sources);
- Potential environmental impacts to air, marine, land, surface water and groundwater;
- Potential catastrophic pollution releases (e.g., pipeline ruptures, plant fires, etc.);
- Project alternatives that would better protect the environment;
- Energy efficient project alternatives;
- Description of contractor plans for handling and disposing of sanitary wastewater and solid wastes from their contractor camps.

4 Responsibilities

4.1 Facilities Planning Department (FPD)

FPD is responsible for the following:

1. Consulting with EED/EPD during development of the DBSP to help evaluate the potential environmental impacts of proposed projects;
2. Determining the project category for major projects, which will be included in the DBSP;
3. Preparing the simplified EIA for Category 1 projects, which will be included in the DBSP;
4. Referring the BI-19 Project Briefs and the DBSP EIS to EED/EPD for review prior to approval.

4.2 Project Management Team (for Major Projects)/Proponent

The Project Management Team (PMT) is responsible for the following:

1. Ensuring that appropriate funds are allocated to perform the required environmental baseline and impact assessment work during Project Proposal development;
2. Conducting or managing all environmental work for Category 2 and 3 EIAs;
3. Preparing a scope of work and schedule for the preparation of the EIA;
4. Contacting EED/EPD to:
 - a) Obtain existing environmental information;
 - b) Review the scope of work;
 - c) Determine which areas require further study and field work, and
 - d) Determine how to satisfy government environmental requirements;
5. Ensuring the hiring of a Saudi Government-permitted or internationally recognized contractor or consultant to perform the EIA, if necessary;
6. Issuing the EIA for review at the 30% Project Proposal stage. For projects that do not produce project proposals, the EIA is required and must be submitted at the equivalent project stage. Where it is practical, PMT shall combine multiple EIAs in order to send one comprehensive EIA to the Ministry of Petroleum and Mineral Resources for approval.
7. Ensuring that implementation of the mitigation measures recommended in the EIA, related to design and construction, are completed as outlined in the project schedule;
8. Ensuring that the EIA findings and approved recommendations are included in the final Project Proposal and implemented in the final Project Design.

4.3 BI-19 Proponents/PMT (as Construction Agency)

BI-19 Proponents are responsible for the following:

1. Preparing an Environmental Impact Statement as part of the BI-19 Project Brief;
2. Preparing a more comprehensive study if required;
3. Ensuring that the EIS findings and recommendations are implemented in the final project execution.

4.4 Programs, Forecasts and Analysis Department

The Programs, Forecasts and Analysis Department (PF&AD) is responsible for the following:

1. Referring all BI-19 project briefs to FPD for review;
2. Ensuring that BI-19 project briefs include an EIS.

4.5 Environmental Engineering Division/Environmental Protection Department (EED/EPD)

EED/EPD is responsible for the following:

1. Preparing and interpreting the Saudi Aramco environmental standards;
2. Providing environmental policy guidance in situations where environmental standards do not presently exist;
3. Advising on potential environmental problems including recommending effective solutions to mitigate these problems;
4. Providing existing information on ambient environmental conditions;
5. Assisting FPD in preparation of the EIS and Category 1 EIA to be included in the DBSP;
6. Advising FPD on determination of the project category;
7. Advising on the preparation of EIS for BI-19 Project Briefs, as well as EIA for Project Proposals and designs;
8. Reviewing the PMT scope of work for the preparation of the EIA;
9. Reviewing the EIS for DBSPs and BI-19 Project Briefs, as well as EIA for Project Proposals and designs;
10. Providing approval for DBSPs and Project Proposals by the Manager, EPD and BI-19 Project Briefs by the General Supervisor, EED/EPD;
11. Submitting the final EIA to the Ministry and expediting the review and approval process;
11. Advising on environmental control and monitoring programs.

5 Approvals

The following section defines the approval process for the EIS in the DBSP and BI-19 Project Brief as well as the Project Proposals and designs EIA.

5.1 Major Project

The General Supervisor of EED/EPD shall review and approve the EIA at the 30% Project Proposal review stage. For projects that do not produce project

proposals, the EIA is required and must be submitted at the equivalent project stage. Once EPD's comments have been addressed, the final EIA will be submitted to the Ministry of Petroleum and Natural Resources for review and approval. Manager EPD shall approve the final DBSP and Final Project Proposal Package.

5.2 BI-19 Projects

The General Supervisor of EED/EPD shall review and approve the EIS contained in the BI-19 Project Brief.

Revision Summary

29 June 2005	Revised the "Next Planned Update". Reaffirmed the contents of the document, and reissued with minor changes.
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Appendix A – Brief Description of Standards and Specifications

Saudi Aramco Engineering Policies

1. **INT-5, Environmental Conservation:** This Policy Statement assures that the Company will conduct its operations without creating undue risks to the environment or public health. It also assures that the Company conducts its operations by complying with all applicable requirements and standards with full concern for the protection of the land, air, and water from harmful pollution.
2. **SAEP-327, Disposal of Wastewater from Cleaning, Flushing and Hydrostatic Tests:** This procedure establishes the environmental limitations and responsibilities for the disposal of wastewater from cleaning, flushing and hydrostatic tests from pipelines, tanks, and vessels. This procedure applies to all onshore and offshore activities. The wastewater disposal plan shall be addressed in the water quality section of the Environmental Impact Assessment and shall include information on the characterization and quantity of the wastewater, as well as the proposed disposal location and potential adverse impacts".

Saudi Aramco Engineering Procedures

1. **SAEP-12, Project Execution Plan (PEP):** This SAEP describes the Project Execution Plan (PEP) which is a strategic planning document that defines the objectives, plans, requirements and related information necessary for optimum project execution. It is an agreement between the Saudi Aramco Project Management Team (SAPMT) and the Proponent defining the execution of the project, including schedule, method(s) of executing the work, and the responsibilities of all parties involved. The PEP is intended to provide strategic guidance, not detailed procedures, for project execution.
2. **SAEP-14, Project Proposal:** This SAEP describes the procedure necessary to create the project proposal document. This document establishes the detailed design scope, cost estimate basis and schedule for a proposed facility from the conceptual requirements included in the Design Basis Scoping Paper. The procedure also outlines the items normally included in Project Proposals and the steps that are required for final approval.

Saudi Aramco Engineering Standards

1. **SAES-A-102, Ambient Air Quality and Source Emission Standard:** This SAES establishes emission limitations for different processes and ambient air quality standards (maximum allowable Ground Level Concentrations) for various air pollutants. Comparison of the project's air emissions inventory with the emission limitations is straightforward. Compliance with the ambient air

quality standards depends upon existing conditions at the time of project completion. The Environmental Impact Assessment must, therefore, determine the likely pollutant baseline at the time of project completion and estimate the incremental effect the project will have upon existing air quality under the various control options. It will be necessary to perform atmospheric dispersion simulation for any of the regulated air pollutants, which may be emitted from the project in significant quantities.

2. **SAES-A-103, Discharges to the Marine Environment:** This SAES establishes Point-of-Discharge limits for facilities discharging wastewater directly into the marine environment. Comparison of the project's wastewater pollutant inventory with the discharge limitations is straightforward. Exceptions are thermal and brine discharges, which are reviewed on a case-by-case basis.
3. **SAES-A-104, Wastewater Treatment, Reuse and Disposal:** This SAES governs land-based treatment, reuse and disposal of wastewater and oily waste sludges in Saudi Aramco controlled land (Saudi Aramco housing areas, contractor camps, industrial operations, etc.). Included are designs of on-shore wastewater treatment plants which discharge to the marine environment and waste injection wells. The Standard specifies required engineering reports, design requirements, reused wastewater quality requirements and effluent discharge limitations. This Standard requires the proposed wastewater treatment design to be approved by the General Supervisor, Environmental Engineering Division.
4. **SAES-A-105, Noise Control:** This SAES outlines the requirements and provides guidelines for the control of noise in all Company facilities. Any area in a Company facility with ambient noise levels exceeding 90 dBA shall be classified as a Noise Hazard Area. Employee exposure levels to continuous noise and impulse noise, design noise criteria and community noise limits are also discussed. This standard requires a waiver for new equipment that generates noise in excess of 90 dBA after engineering controls have been implemented. It also requires that Form 7305-ENG, Equipment Noise Data Sheet, shall be completed and sent to Preventive Medicine Services Division for new equipment that will generate noise in excess of 85 dBA.
5. **SAES-A-007, Hydrostatic Testing Fluids and Lay-up Procedures:** This SAES requires that the disposal procedures for hydrotest water be reviewed on a case-by-case basis with the EED/EPD. This can be addressed in the water quality section of the Environmental Impact Assessment and shall include information on disposal methods, quantities of hydrotest water, use and description of biocides, corrosion inhibitors, oxygen scavengers, disposal locations and potential adverse impacts.

6. **SAES-S-007, Solid Waste Landfill Standard:** This SAES covers the minimum requirements for the selection and design of sanitary landfill sites located in Saudi Aramco operating areas. The assessment in this case will involve specifying the types of solid waste that will be generated, their quantity, the method and location of disposal, as well as measures to monitor and protect groundwater, if required. This includes wastes generated during the construction phase, as well as the solid wastes that will be generated following commissioning of the project.
7. **SAES-A-111, Borrow Pit Requirements:** This SAES defines the minimum mandatory requirements for the design and construction of borrow pits, as well as the minimum safe distances between borrow pits and various facilities. If borrow pits will be used during the construction phase of a project, it is the responsibility of the project to restore them to their former state, to the extent reasonably practicable, once the site is no longer in operation.

Saudi Aramco General Instructions

1. **GI-0002.714, Environmental Protection Policy Implementation:** This GI- provides the minimum requirements for the implementation of Saudi Aramco's Environmental Conservation Policy (INT-5) Statement. It outlines the responsibilities of each organization within the Company to assure that its facilities are designed and operated in compliance with the established corporate Environmental Conservation Policy.
2. **GI-0150.000, Implementing Occupational Health Aspects of Loss Prevention Policy:** This General Instruction provides guidance for compliance with the occupational health requirements of the Corporate Loss Prevention Policy Statement: "to provide and maintain a safe and healthful work environment for its employees." It assigns EPD the responsibility to develop programs, which comply with other Saudi Aramco standards and instructions, and applicable Government standards including Industrial Safety and Health regulations of Saudi Arabian Standards Organization (SASO).
3. **GI-0150.001, Asbestos Hazard Protection:** This GI- assigns responsibilities and establishes measures for the regulation, identification and usage of asbestos and asbestos-containing materials. The document includes the general policy governing such materials, regulation and identification of the materials, employee training, work practices, housekeeping, disposal, personal protective equipment and clothing, caution signs and labels, and medical examinations.
4. **GI-0151.006, Implementing the Saudi Aramco Sanitary Code:** This GI- formalizes the Saudi Aramco Sanitary Code. Adherence to standards contained in the Code assures protection of public health.

Saudi Aramco Material Instructions

1. **CU 22.03, Processing and Handling of Hazardous Materials:** Saudi Aramco Materials System includes a wide range of potentially hazardous materials which are declared hazardous based upon their flammability, reactivity, corrosivity or toxicity or any combination of these properties. This material instruction outlines procedures for identifying, ordering and requisitioning such materials, introducing new hazardous materials to Saudi Aramco Materials System, receiving, storing, issuing hazardous materials, dealing with surplus hazardous materials by either returning them to Storehouse Departments for re-use or routing them for disposal and reporting and tracking hazardous materials.
2. **CU 22.06, Disposal of Polychlorinated Biphenyls (PCB):** This material instruction outlines additional precautions required when handling and storing polychlorinated biphenyls (PCB) for disposal. The responsibilities of the user, the Materials Handling Engineering Unit and the Dhahran General Stores Division are defined. Given also are users and other Storehouse Units' responsibilities in the event of spillages.

Appendix B – Checklist of Potential Environmental Pollutants and Pollution Sources

The following is a partial list of pollution sources that could impact the groundwater, air quality, marine ecology and terrestrial ecology.

Liquid Wastes Redundant Liquid Chemicals Expired Liquid Chemicals Waste Liquid Chemicals Used Solvents and Lubricants Sanitary Wastewater Saline Wastewater Oil and Oily Water Process Wastewater Hydrotest Water Desalination Reject Water Chemically Treated Wastewater Formation / Produced Water Cooling Water Surface Water Runoff Subsurface Injection of Wastewater Tank Bottom Water Drainage Drilling Mud Spent Caustic Ballast Water Solid Wastes Sludge Refuse Tank Bottoms Industrial Debris Filter Material Containers Obsolete and Abandoned Facilities Spent Catalysts Construction Rubble Pyrophoric Scale Deposits Tires Hazardous Wastes Flammable Wastes Toxic Wastes Explosive Wastes Infectious Wastes	Hazardous Wastes (cont.) Corrosive Wastes Asbestos Radioactive Wastes PCB's Used Batteries Air Emission Pollutants Inhalable Particulates Sulfur Oxides Hydrogen Sulfide Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide Aromatic Hydrocarbons (i.e., BTEX) Air Toxics Ozone Odors CFCs Air Emission Sources Process Related Stacks Wastewater Lagoons Relief Valves/Other Fugitive Emission Sources Flares Boilers & Process Heaters Burn Pits/Other Open-Burning Areas Combustion Gas Turbines (CGT) Hydrocarbon Product Bulk Loading Facilities Cooling Towers Motor Vehicle Emissions Burning Refuse Incinerators (Medical & Non-Medical) Petroleum Storage Tanks Construction Sources Site Preparation Temporary and/or Permanent Facility Construction Installation Abandonment Dredging and Land-filling Pier Construction Outfall and Intake Structures
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**Appendix B – Checklist of Potential
Environmental Pollutants and Pollution Sources (Cont'd.)**

Noise Sources

Compressors
Engines
Pressure Relief Valves
Pressure Reduction Stations
Pumps and Drivers
Generators
A/C Units
Construction Equipment
Pipe Bends
Centrifugal Fans
Process Equipment
Traffic

Appendix C1 – Minimum Content of Environmental Impact Assessment for a Category 1 Project

Project data:

Name of the project: _____
Site: _____
Contact information: _____

General information:

Type of project: _____
New installation () Expansion of existing facility ()

Description of the activity:

Location: inside () outside () the limits of _____ City
Name of industrial city or park: _____
Estimated number of residents within 250 meters around the project: _____
Area of the project site: _____ hectares _____ square meters

(Please attach a location map showing the distance form residential clusters)

Construction activities:

Date of commencement and duration:
The area to be developed:
Description of the construction work:

This section is to be completed for industrial projects:

- Brief description of the products and their production rates:
- Brief description of the raw materials, their quantities, sources and state (liquid, powder, solid):
- Number of workers: production hours: shifts:
- Brief description of the preparation and production phases (attach additional papers, drawings, technical catalogs and reports, if any):

Permits and licenses:

(List and attach copies of all licenses and approvals obtained from the agencies concerned): _____

Appendix C2 – Minimum Content of Environmental Impact Assessment for a Category 2 Project

Project data:

Name of the project: _____
Site: _____
Contact information: _____

General information:

Type of project: _____
New installation () Expansion of existing facility ()

Description of the activity:

Location: inside () outside () the limits of _____ City
Name of industrial city or park: _____
Estimated number of residents within 250 meters around the project: _____
Area of the project site: _____ hectares _____ square meters

(Please attach a location map showing the distance form residential clusters)

Construction activities:

Date of commencement and duration:
The area to be developed and graded:
Description of the roads to be constructed inside and outside the facility:

Description of the construction works and methods of construction used:

Brief description of the project:

Key characteristics of the project:

Objectives of the project:

Justifications of the project:

Major components of the project:

Technologies used (Please attach copies of the descriptive technical reports and catalogs):

Volumes of inputs and consumables during construction and operation:

Inputs	Construction (cubic meter per day)	Operation (cubic meter per day)
Water for sanitary purposes		
Water for industrial purposes		
Water for other uses(_____)		
Energy (fuel)		
Raw materials (producing projects), types and quantities in detail		
other		

Volumes of outputs, emissions and wastes:

Outputs and emissions	In construction	In operations
Aerial SO2		
Aerial(suspended particles)		
Aerial NOx		
Aerial (other _____)		
Sanitary drainage water		
Industrial drainage water		
Domestic solid wastes		
Industrial solid wastes		
hazardous solid wastes		
Construction material wastes		

This section is to be completed for industrial and agricultural projects:

- Brief description of the products and their production rates:
- Brief description of the raw materials, their quantities, sources and state (liquid, powder, solid):
- Number of workers: production hours: shifts:
- Brief description of the preparation and production phases (attach additional papers, drawings, technical catalogs and reports, if any):

Specifications of the stacks:

Height:

Diameter:

Gas emission rate: cubic meter/hour, temperature: C velocity: meter/second
Water vapor content: %

Drainage outlet specifications:

Flow amount: cubic meter/day

Discharge conduit diameter:

Temperature in the blending area: C

Description of the ambient environment:

Most significant biological properties of the area, notably sensitive areas (including fauna, flora, sanctuaries, antiquities, agricultural areas- please provide details in other attachments as needed):

Initial analyses of the environmental impacts (please indicate the most significant impacts and provide details in subsequent attachments as needed):

Affected environment	Air pollution	Water pollution	Pollution by wastes	Soil pollution and other impacts
Site due to construction work				
Surrounding areas due to construction work				
Surrounding areas due to operations				
Across the site boundaries				
Sanitary and public services				
fauna resources				
Flora resources				
Fisheries and marine resources				
Tourism and recreation				
Historical antiquities				
Sanctuaries				
other				

Description of the control and mitigation procedures and technologies for the various impacts:

Impact	Control, mitigation procedures and technologies used
Air pollution	
Water pollution	
Pollution by wastes	
Soil pollution	
Emergency and safety cases	
Other cases	

Permits and licenses

(List and attach copies of all licenses and approvals obtained from the agencies concerned):

Appendix C3 – Minimum Content of Environmental Impact Assessment for a Category 3 Project

A full EIA report for a Category 3 project should comprehensively address the significant environmental issues. The report's level of detail and sophistication should be commensurate with the potential impacts. The target audience should be project designers and government agencies. The EIA report should include the following:

- **Executive Summary.** Discussion of significant findings and recommended actions.
- **Policy, Legal, and Administrative Framework.** Discussion of the policy, legal, and administrative framework within which the EIA is prepared. Applicable environmental regulations should be identified and explained.
- **Project description.** Description of the project's geographic, ecological, social, and temporal context, including any off-site investments that may be required by the project (e.g., dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities).
- **Baseline Data.** Assessment of the dimensions of the study area and description of relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences. Current and proposed development activities within the project area (but not directly connected to the project) should also be taken into account.
- **Environmental Impacts.** Identification and assessment of the positive and negative impacts likely to result from the proposed project. Mitigation measures, and any residual negative impacts that cannot be mitigated, should be identified. Opportunities for environmental enhancement should be explored. The extent and quality of available data, key datagaps, and uncertainties associated with predictions should be identified/estimated. Topics that do not require further attention should be specified.
- **Analysis of Alternatives.** Systematic comparison of the proposed design, site, technology, and operational alternatives in terms of their potential environmental impacts. For each of the alternatives, the environmental costs and benefits should be quantified to the extent possible, and economic values should be attached where feasible. The basis for the selection of the alternative proposed for the project design must be stated.
- **Mitigation Plan.** Identification of feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to

acceptable levels. The plan should provide details of proposed work programs and schedules.

- **Environmental Management and Training.** Assessment of training requirements to implement the EIA recommendations.
- **Environmental Monitoring Plan.** Specification of the type of monitoring, who would do it, how much it would cost, and what other inputs (e.g., training) are necessary.
- **Appendices**
 - **List of EA Preparers**--individuals and organizations.
 - **References** -- written materials used in study preparation.
 - **Records of Meetings with Government Agencies**