

TECHNICAL GUIDELINES

Number 02

EIA Requirements for Land Development, Infrastructure, and Utility Projects

March 2014

1.0 Introduction

This Technical Guideline shall be used along with the EPSS Technical Guideline No.01 on Environmental Impact Assessment, revision 01, issue of March 2014. The environmental impact assessment (EIA) procedures and requirements outlined in this Guideline are applicable to any project or activity under Category "A" as listed under Section 3.0 and to any project or activity as may be determined by the Environmental Planning & Studies Section (EPSS).

Issuance of this Guideline shall in effect supersede and replaces the earlier version of EPSS Technical Guidelines No. 2 on EIA Requirements for Major Projects (Category "A" Projects) issue of April 2011.

2.0 Reference Legislations

This Technical Guideline is issued under the same reference laws and regulation as for the above-mentioned EPSS TG No.01. In particular, this Guideline is issued as per the provisions of Articles 3, 4, 5 & 6 of Federal Law No. 24 of 1999 for the Protection and Development of the Environment, as amended by Federal Law No. 11 of 2006 and its implementing regulations on EIA.

3.0 List of Projects

Projects that are covered under this Guideline and the type of EIA document that is required, whether as full EIA Report or EIA Summary (EIAS), are listed below. The EPSS reserves the right to modify this list whenever necessary or as required.

3.1 Mix-use, gated community, complex buildings and urban development projects

Type of project	EIA document
Industrial estate	EIA Report
Gated communities, mix-use development	/a
Golf course	EIAS
Leisure parks and entertainment complex	EIAS
Building for sports and related sports complex ^{/b}	EIAS ^{/b}
Malls (shopping malls) and similar complex ^{/b}	EIAS ^{/b}
High-rise building ^{/b}	EIAS ^{/b}

Note: /a EIA Report or EIAS depending on land use, location, components, and area of influence
/b optional and as may be required under the Dubai Green Building Regulations

3.2 Infrastructure projects

Type of project	EIA document
Seaport, harbour, jetty, Dry docks and marinas	EIA Report
Airport and related structures	EIA Report
Dams, water reservoir	EIA Report
Tunnels, tunnelling and related works	EIA Report
Railway and mass transport network	EIA Report
Man-made canal, lagoons, waterways	/a
Highways, road network and bridges	/a
Sewer and irrigation network	EIAS

Note: /a EIA Report or EIAS depending on land use, location, components, and area of influence

3.3 Electricity, gas or water utilities projects

Type of project	EIA document
Oil and Gas exploration and development	EIA Report
Desalination Plant	EIA Report
Groundwater extraction and purification	EIA Report
Power generation plants (fossil fuel)	EIA Report
Nuclear, solar, wind or hydro power plants	EIA Report

3.4 Special types of project

Type of project	EIA document
Centralized sewage treatment plant (STP)	EIA Report
Hazardous waste treatment facility	EIA Report
Landfills and waste disposal site	EIA Report
Waste incineration plant	EIA Report
Waste to energy (WTE) plant	EIA Report
Hospital, specialized clinic, veterinary clinic, laboratory and similar premises	/a

Note: /a EIA Report or EIAS depending on land use, location, components, and area of influence

3.5 Mining, quarry, land reclamation and similar works

Type of project	EIA document
All types of mining works and extraction process involving natural resources other than specifically mentioned in Section 3.3 above	EIA Report
Land reclamation, dredging works	/a

Note: /a EIA Report or EIAS depending on land use, location, components, and area of influence

4.0 Sitting Considerations

4.1 Any projects or activities that is likely to create significant adverse impact must be sited on appropriate location according to the applicable land use zoning regulations and with adequate buffer or separation distance from sensitive receptors.

4.2 The sensitivity of the receptors, baseline conditions, including the adjacent project or activity, whether existing or planned, that may be another source of potentially adverse impacts should be taken into consideration when providing adequate buffer or separation distance. The types of sensitive receptors and descriptions are presented in Table 1 below.

Table 1 – Description and Features of Sensitive Receptors Area

Sensitivity and Type of Area	Description and Features of the Receptors area
High (Type 1 Area)	<ul style="list-style-type: none"> Protected areas for conservation of national or international importance Water supply reserves Hospitals, and school premises Contagious high density residential block, town center
Moderate (Type 2 Area)	<ul style="list-style-type: none"> Vital utilities such as electricity and energy sources, natural wealth reserves, and state-protected economic zones Light density residential blocks, public parks Natural bodies of water Place of cultural heritage
Light (Type 3 Area)	<ul style="list-style-type: none"> Commercial buildings, offices, and other public areas Food products manufacturing premises Agricultural crops farmland
Marginal (Type 4 Area)	<ul style="list-style-type: none"> Industrial Animal farmland but without food, milk or meat products processing

- 4.3 The provision of adequate buffer or separation distance is essential. It will not only minimize the impact on sensitive receptors, but most importantly, it preempt any conflict in future that may arise due to harmful effects of wastes, noise, malodor, and other harmful discharges to environment.
- 4.4 Sewage Treatment Plant (STP), wastewater treatment facilities and related waste processing premises shall be located away from sensitive receptors. The recommended minimum separation distance in between is given as Table 2 below.

Table 2 – Recommended Separation Distance from a Sewage Treatment Plant (STP)

STP capacity, m3/day	Minimum Separation Distance ^{/a} (meters)			
	Type 1 area	Type 2 area	Type 3 area	Type 4 area
less than 500	100	100	100	50
501 - 25,000	175	150	150	75
over 25,000	more than 200 ^{/b}	more than 150 ^{/b}	more than 150 ^{/b}	100

/a Distance is measured, in meters, from the nearest STP process equipment to the nearest Receptor boundary.

/b The acceptable separation distance for STP of more than 25,000 m3/day capacity shall be determined on a case-by-case basis and based on the concept as stated hereunder.

- 4.5 The appropriate minimum separation distance can be suitably confirmed through the EIA process and, most importantly, depending on the following concepts:
- Protection of environment and health of public takes prime importance,
 - Prevailing DM Landuse Zoning Regulations,
 - The type of treatment process, and noise or odor control measures in place,
 - Proper odor assessment; odor modeling may be required in some cases, and
 - Enhancement plan on the buffer zone.
- 4.6 The buffer zone or space within the separation distance can be further enhanced depending on the type of treatment process, the impact potentials as discussed in the EIA process, site topography or landscape, planned or existing structures in place, and the type of vegetation/trees in place - planned or proposed.
- 4.7 Location of any project or activity near or inside a specially protected area or heritage area will be determined based on the submission of a prerequisite EIA document.

- 4.8 Location of any sewage treatment plant (STP) or waste treatment facility serving a project described in Sections 3.1, 3.2, and 3.3 of this Guideline shall be evaluated inclusive of the project it belongs to.
- 4.9 Location of any waste treatment facility or STP, which is part of industrial or manufacturing premises as listed under the revised EPSS Technical Guidelines No: 3 shall be evaluated inclusive of such industrial or manufacturing premises it belongs to.

5.0 Procedure for the Preparation of EIA document

- 5.1 The type of appropriate EIA document shall be based on what is specified for each type as described in Sections 3.1 through 3.5 above. Therefore it is either an EIA Report or EIAS, which shall be prepared following the outlines presented as Annex I and Annex II for EIA Report and EIAS respectively of this Guideline.
- 5.2 Any project that is not specifically described thereto, and the Owner is undecided on what type of EIA document to prepare, the Owner of such project must submit a "Project Description" based on the outline provided under Annex 1 of EPSS Technical Guideline No. 1.
- 5.3 At the discretion of the Project Owner, a scoping exercise may be undertaken, to achieve the following purpose:
- identify the various environmental aspects expected from a proposed project;
 - conduct preliminary assessment of effects of each environmental aspect, determine their significance on a qualitative manner;
 - identify any gaps in information gathered from referred literature or related published reports pertaining to the proposed project and/or baseline of the proposed project site;
 - determine the important issues and alternatives that should be examined further; and
 - to ensure that the ensuing EIA exercise is focused on the vital environmental issues, thereby saving time and resources in the process.
- 5.4 Based on the Scoping Report, a "scope of work" for the ensuing EIA is drawn-up where a more detailed assessment, this time in a quantitative manner, thence shall be carried out. The scoping report then will serve as basis for the ensuing "EIA Terms of Reference" or "EIA Scope of Work".
- 5.5 Approval from EPSS for the EIA Scope of Work or EIA Terms of Reference is required before the actual EIA exercise is carried out.

6.0 Documentary Requirements and Submissions

- 6.1 The appropriate EIA document, including the supporting papers and Annexes, shall be submitted to EPSS in one (1) hardcopy, and two (2) sets of electronic copies in properly labelled CDs, either in PDF MSWord format.
- 6.2 On submission of the EIA document, the Project Owner must include a covering letter expressing concurrence with the data presented in the EIA document, and approval of the recommended mitigation and/or enhancement design measures.
- 6.3 The EPSS may call the Project Owner and their Environmental Consultant to technical meetings to discuss pertinent issues and/or require additional data. Alternatively, the Project Owner and Environmental Consultant may be directed in writing to submit the required additional data within a specified period of time not exceeding one month.
- 6.4 Owner of certain projects or activities such as gated community, mix-use development, golf course, hospitals, sewage treatment plants, any waste treatment facilities, and any project that are located in coastal area and within or adjacent to a protected area must submit affection plan and/or concept Master plan that is/are approved by the DM Planning Department.

For further information, please visit Dubai Municipality website www.dm.gov.ae
or contact the Environmental Planning & Studies Section on
Tel. No: 046066757, or Fax: 047033565

Annex I

CONTENTS/OUTLINE OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT

The **EIA Report**, in addition to the main body, shall include: (i) *Cover/Title Page*; (ii) *Table of Contents*; (iii) *List of Abbreviations*; (iv) *List of Figures*; (v) *List of Maps*; (vi) *Bibliography & References*; and (vii) *List of Annexes*. The EIA Report shall also include an **Executive Summary**.

The **Executive Summary** should have all the vital data presented in a condensed form. Without disregard of vital data, the executive summary must include brief description of the proposed project, concise details of the baseline characterization, summary of environmental aspects highlighting the most critical and which are the sources of significant impacts, description of significant impacts, and a sufficiently detailed description of how significant environmental issues will be resolved. There shall also brief discussion of alternatives and, most importantly, on how the environment will benefit from the recommended enhancement measures. Concise presentation of data should include maps, tables, and figures.

An Arabic translation of the Executive Summary must be included in the Final EIA Report.

The **Body of EIA Report** shall be structured to contain of the following as minimum.

I - Introduction

This Chapter should contain the following:

1. The *Basic Project Information* which include the Project Title, the Name of Project Owner, address, telephone and fax number, email, and the name of designation Contact Person responsible for the project.
2. The *Project Rationale* stating the need for the project based on the national and local economic development and in terms of contribution to sustainable development agenda or to the development of the Emirates of Dubai.
3. The *Project Alternatives* presenting an analysis of the methodology and criteria used in determining alternative concepts considered for siting; development design; process/technology selection; or resource utilization. At least two alternatives must be considered (with and without the project), but it may include multiple alternatives. An overview of the preferred concept must be presented.
4. The reasons on *The Need for an EIA* for the project including the EIA Report structure should be provided.

II - Description of the Project's EIA process

This Chapter should include the following:

1. The EIA Scope of Work

Also sometimes called as the EIA “terms of reference” which is normally based on the Scoping Report. The EIA Scope of Work should provide explicit details and direction on preparing the EIA Report. It should be specific about the information requirements and the level of details to be included in the report.

2. The EIA Team

Name list of the EIA team members and the EIA Team Leader with their respective field of expertise, and the corresponding module or area of study assigned to each (“key deliverable”) in the preparation of report.

3. EIA Methodology

Description of the EIA approach and methods used to identify, predict and assess impacts and the list of data sources.

III - Reference Laws, Regulations, and Standards

This Chapter contains the list of relevant Federal Laws, Local Orders and their Implementing Rules and Regulations, Environmental Standards, and applicable International Treaties and Conventions. The key provisions of each referred laws and regulations shall also be cited with elaboration as to their relevance to the project.

IV - Description of the Project

This Chapter should include the following:

1. Description of the Project including the scale, coverage, components, and any associated activities required by the project, etc.
2. Location (use maps and photographs) showing location, project limits and adjacent land uses of at least within 5 km radius from project boundaries.
3. Discussion of the works/activities, and where applicable to include production processes, process flowchart, P&I diagram, plant layout, types and quantities of raw materials, production capacity, energy and water requirement, utilities, material balance, water balance, and details pertaining to waste streams (air, water, hazardous waste, solid waste, soil) etc.
4. Manpower requirements
5. Project status, duration and schedule of phases (pre-construction, construction, operation, and abandonment or decommissioning).
6. Total project cost

V - Description of the Environment

This Chapter should include the following:

1. A clear delineation of the *EIA Study Area* within which impacts are considered. The study area should include all valued environmental resources that might be significantly affected by the project.
2. Baseline conditions covering the environmental components that will be significantly affected by the project. It may include all or any of the following:
 - *Water* (Water Quality, Hydrology, Hydrogeology, Estuarine and Marine Biology, Sediments, Oceanography)
 - *Air* (Meteorology, Air Quality, Noise, Vibration, EMF)
 - *Land* (Landuse Classification, Soils, Geomorphology, landforms, topography)
 - *Natural resources such mineral deposits, gas or oil, etc.*
 - *Biodiversity* (and identification of affected flora and fauna).
 - *Quality of Life Values* (Socio-cultural and economic values, public health & safety, aesthetic values, archaeological, historical, etc.)
3. The methodology of the study, description of the sampling stations, key findings on the baseline profiling, and analysis of the primary and secondary data.
4. Maps (easy to read and accurately scaled) showing the vital resources within and adjacent to the project area/study area, topographical and land features of the project /study area, location of the sampling stations, among others)

VI - Assessment of Environmental Impacts

This Chapter should include the following:

1. Discussion of all identified environmental aspects expected from the project. A tabulation of environmental aspects shall be presented as a summary.
2. Assessment and criteria for determining the significance of environmental impacts/issues.
3. Discussion on the significance of each impact with highlights on the most critically affected environmental components or sensitive receptor areas.
4. Tabulation of significant environmental aspects, impacts, and considered enhancements or mitigating measures.
5. Discussion of residual, unavoidable and cumulative impacts after incorporating enhancements or mitigating measures.
6. Results and conclusions of any modeling undertaken to forecast the nature and extent of the identified environmental impacts.
7. Discussion of options/alternatives with highlights of the considered and recommended option(s).

VII - Mitigating Measures and Enhancement Plan

This Chapter should include of the following:

1. Presentation of enhancements, interventions or actions for each identified significant environmental impacts/issues across each project phases
2. Assessment of the likely effectiveness of the enhancements and mitigation measures in terms of reducing or preventing impacts.

VIII- Environmental Management and Monitoring Program (EMMP)

This Chapter should include the following:

1. Detailed description of environmental management measures for each identified significant environmental impacts/issues including the timetable of implementation, the cost of enhancements or mitigation measures.
2. A detailed description of the monitoring program which include, among others; the monitoring objectives to determine the actual effects and effectiveness of environmental management measures/plan, sampling design, methodology for measurement, data management & analysis, reporting schedules, budgets, equipment & supplies
3. Organizational structure of the Environmental Management Team or office, administrative arrangements and staffing requirements who will be responsible for the implementation of the EMMP.
4. As a separate document and submission, the Project Owner, is also required to submit a worksite specific Construction Environmental Management Plan (CEMP), which is prepared based on the findings and recommendation of the EIA report. The CEMP should contain, but without limit, of the following:
 - *Introduction*
 - *Objectives of the CEMP*
 - *Structure of the CEMP*
 - *Overview of the project development*
 - *Details of the construction activities with statement of work methods*
 - *Tabulated list of identified environmental aspects and impacts.*
 - *Corrective actions/measures to control and manage the identified construction-related impacts.*
 - *Monitoring methodology, list of environmental quality parameters, and the frequency of sampling or scope of monitoring*
 - *Incident/Emergency Preparedness and Response*
 - *Data management and reporting*
 - *Statement of responsibilities, whether jointly or separately, of Contractors, Consultants, and/or Project Owner.*

IX - Conclusions

Presentation of the conclusions of the EIA study including without limit of the following:

- highlights of residual impacts, or unavoidable cumulative impacts;
- the discussion of alternatives; factors considered in determining which alternative or alternatives is/are most environmentally sound option;
- explanation of how the adverse impacts should and could be mitigated;
- how the environment can benefit from enhancements; and
- The overall benefit derived from implementation of the proposed project.

X - Annexes

The list of Annexes shall include all or any of the following information (where applicable and required).

1. Written authorization from the Project Owner which specifies the name of Environmental Consultants and scope of responsibility to represent the Project Owner with regards to compliance with the regulatory requirements.
2. EIA Scope of Work or "Terms of Reference" with the "key deliverables" from each member of the EIA Team
3. Results of the laboratory analysis duly attested by a DM accredited testing laboratory
4. Documentation including the Scoping process, Stakeholders' engagement, minutes of meetings, list of contacts, and related communications
5. Records of inter-agency communications
6. Numerical modeling studies (where applicable)
7. Additional related studies (e.g. Traffic Impact Assessment, Environmental Risk Assessment, Quantitative Risk Assessment, etc. where applicable and as required)

Annex II
CONTENTS/OUTLINE OF AN
ENVIRONMENTAL IMPACT ASSESSMENT SUMMARY (EIAS)

I. Basic Project Information

The Basic Project Information includes the project title, company name, mailing address, PO Box Number, telephone and fax number, email, DED License and Activity Code Number where applicable, the name of the owner/project proponent, name and designation of the contact person responsible for the project.

II. Description of the Project

1. Type of the Project: A description on the type of project whether as manufacturing, urban development, services, or projects involving electricity, gas or water.
2. Location and site plan showing all buildings, drains, discharge points to air, water, or land and storage areas for dangerous goods. The map must clearly show the adjacent land uses within 2 km. radius.
3. Description of the phase implementation of project (e.g., pre-construction, construction, operation, & abandonment phases)
4. (Where applicable) for projects involving production or processing of materials, the description of processes, process flowchart, plant layout, machinery lay-out, types and quantities of raw materials, production capacity, energy requirement, water requirement, material balance diagram, and list of production equipment/machinery.
5. Description of Waste streams (where applicable) pertaining to:
 - 5.1 Emissions to air, noise and EMF
 - a. The type of fuel and rate of use in all fuel-burning installations
 - b. Description of air pollution source equipment
 - c. Rate & type of air pollutant emissions (e.g. PM10, TSP, SO2, NOx)
 - d. The height and diameter of chimneys
 - e. Discharge velocity of flue gases from chimney
 - f. Details of the operation and maintenance of proposed air pollution control devices
 - g. Noise levels
 - h. EMF levels
 - 5.2 Water Discharges
 - a. Estimated volume and type of wastewater generated (sewage or process)
 - b. Description of wastewater treatment and disposal
 - c. Operation and maintenance of wastewater treatment facility
 - 5.3 Solid Wastes
 - a. Types and estimated quantities of solid wastes generated
 - b. Location of disposal site
 - 5.4 Hazardous Wastes
 - a. Types and quantities of hazardous wastes
 - b. Description of containment, treatment and disposal of hazardous wastes

5.5 Dangerous Goods

- a. List of dangerous goods with their respective CAS/PICCS Number; and rate of use
- b. Description of storage, bulk storage tanks, bund walls, etc.

6. Manpower requirements

Description of manpower requirements during construction and operation phases

7. Project Status

State the status of the project whether it is on the pre-construction, construction or operational phase.

8. Project Capital Cost

III. Description of the Environment

A description focused on the aspects of the environment likely to be significantly affected by the project, hence not necessarily gathering all the information on the following components: population, air, water, flora and fauna, soil, land use, aesthetic values, archaeological and cultural values.

IV. Impact Assessment and Mitigating Measures

A description of the identification and assessment of the significant environmental impacts across each project phases and the proposed measures to mitigate the identified impacts.

V. Environmental Management Plan

Description of environmental management measures for each identified significant environmental impacts/issues across each project phases, timetable of implementation, the cost of mitigation/enhancement measures, financial guarantee, and the responsible party/ies who will implement the plan.

VI. Annexes

The list of Annexes shall include all or any of the following information (where applicable and required).

1. Written authorization from the Project Owner which certifies the name of Environmental Consultant/s who is/are authorized to represent the Project Owner or to enter commitments on their behalf with regards to their application for an Environmental Clearance (mandatory requirement).
2. Results of the laboratory analysis duly attested by a DM accredited testing laboratory.
3. Documentation stakeholders' engagement/meetings, list of contacts, and communications.
4. Records of inter-agency communications.

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