



Photo: B Walmsley

ZAMBIA

CHAPTER 26: ZAMBIA

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26 ZAMBIA

26.1 Constitutional requirements for environmental protection in Zambia

The preamble to the Zambian Constitution (as amended by Act No. 2 of 2016) recognises the right of the people of Zambia to “*manage our affairs and resources sustainably*”.¹

Article 43(1) commits every Zambian citizen to:

- “*protect and conserve the environment and utilise natural resources in a sustainable manner; and*
- *maintain a clean and healthy environment.*”

Article 151(2)(f) commits the local government system to promote a clean, safe and healthy environment. Article 255 lays out 13 principles which govern the management of Zambia’s environment and natural resources. These principles, which include the precautionary approach to development and the polluter pays principle and sustainable utilisation, provide strong support for environmental protection.

26.2 Institutional and administrative structure for environmental impact assessment in Zambia

26.2.1 Ministry of Water Development, Sanitation and Environmental Protection

The Ministry of Tourism, Environment and Natural Resources was created in January 2002 by merging the former Ministry of Tourism with the Ministry of Environment and Natural Resources. During the most recent realignment of state ministries, the functions of water development, supply and sanitation were added to the ministry responsible for the environment, and the tourism and some of the natural resources functions were removed.² The name has therefore been changed to the Ministry of Water Development, Sanitation and Environmental Protection (hereafter referred to as the Ministry).

¹ Republic of Zambia, 1996. *Constitution of the Republic of Zambia*. Lusaka: Government of Zambia.

² http://www.mwdsep.gov.zm/?page_id=5108

The main responsibilities of the Ministry at present are:³

- Developing and implementing environmental and water policies;
- Environmental protection and pollution control;
- Environmental research and training;
- Delivery of water supply and sanitation;
- Water resources management and development;
- Administration of the Environmental Protection Fund.

The statutory bodies set up under the Ministry include the following:

- Department of Water Resources Development;
- Department of Planning and Information;
- Department of Environmental Management;
- Department of Water Supply and Sanitation.

26.2.2 Zambia Environmental Management Agency

The Zambia Environmental Management Agency (ZEMA) is an independent environmental regulator and coordinating agency, established under the Environmental Management Act (EMA) No. 12 of 2011. It is mandated to do all such things as are necessary to protect the environment and control pollution, so as to provide for the health and welfare of persons, animals, plants and the environment. ZEMA is governed by a Board which provides strategic direction, develops policies, approves its work plans and budget as well as monitoring its functions as it relates to administration of the EMA. The Board of ZEMA comprises members drawn from a wide range of ministries, including the Ministry of Health and other academic, business and non-governmental organisations.

By administering the EMA, ZEMA is the major environmental institution in Zambia and the main lead agency on matters pertaining to environmental impact assessment (EIA). It is empowered by the EMA to identify projects, plans and policies for which EIA is necessary. The former Environmental Council of Zambia was made responsible for facilitating the EIA process and for quality control of environmental assessment statements through Statutory Instrument (SI) No. 28 of 1997 – the Regulations made in terms of the now-repealed Environmental Pollution Prevention and Control Act (EPPCA). It is assumed that any new Regulations made under the EMA will give ZEMA similar responsibilities (see Figure 26.1).

ZEMA's functions include:

- Advising the Minister on policy;
- Co-ordinating the implementation of environmental management activities in other ministries;

³ http://www.mwdsep.gov.zm/?page_id=5108

- Developing and enforcing measures to prevent and control pollution;
- Developing guidelines and standards relating to environmental quality;
- Promoting research and studies, including the impact of climate change on humans and the environment;
- Integrating environmental concerns into national planning;
- Reviewing EIAs and strategic environmental assessments;
- Collaborating with other government agencies, authorities and institutions to control pollution and protect the environment;
- Advising stakeholders on projects, programmes, plans and policies for which environmental assessments are necessary;
- Publicising information on any aspect of environmental management and pollution control;
- Conducting studies and making recommendations on standards related to the improvement and maintenance of sound ecological systems;
- Monitoring trends in the use of natural resources and their impact on the environment; and
- Requesting information on the quality, quantity and management methods of natural resources and environmental conditions in Zambia.

The services provided by the ZEMA Environmental Assessments Unit (see Figure 26.1) in relation to impact assessment studies include:

- Assisting the developer in determining the scope of EIA or strategic environmental assessment (SEA) studies;
- Reviewing Project Briefs, Terms of Reference, Environmental Impact Statements (EIS), SEA reports and decision-making;
- Disclosing the EIS and SEA report to the public through the media;
- Holding public meetings to discuss the EIS or SEA report;
- Conducting verification surveys of the affected environment;
- Monitoring the project, plan, policy or programme during, and once implemented;
- Conducting compliance audits of the project between 12 and 36 months after implementation; and
- Generally administering the EIA Regulations.

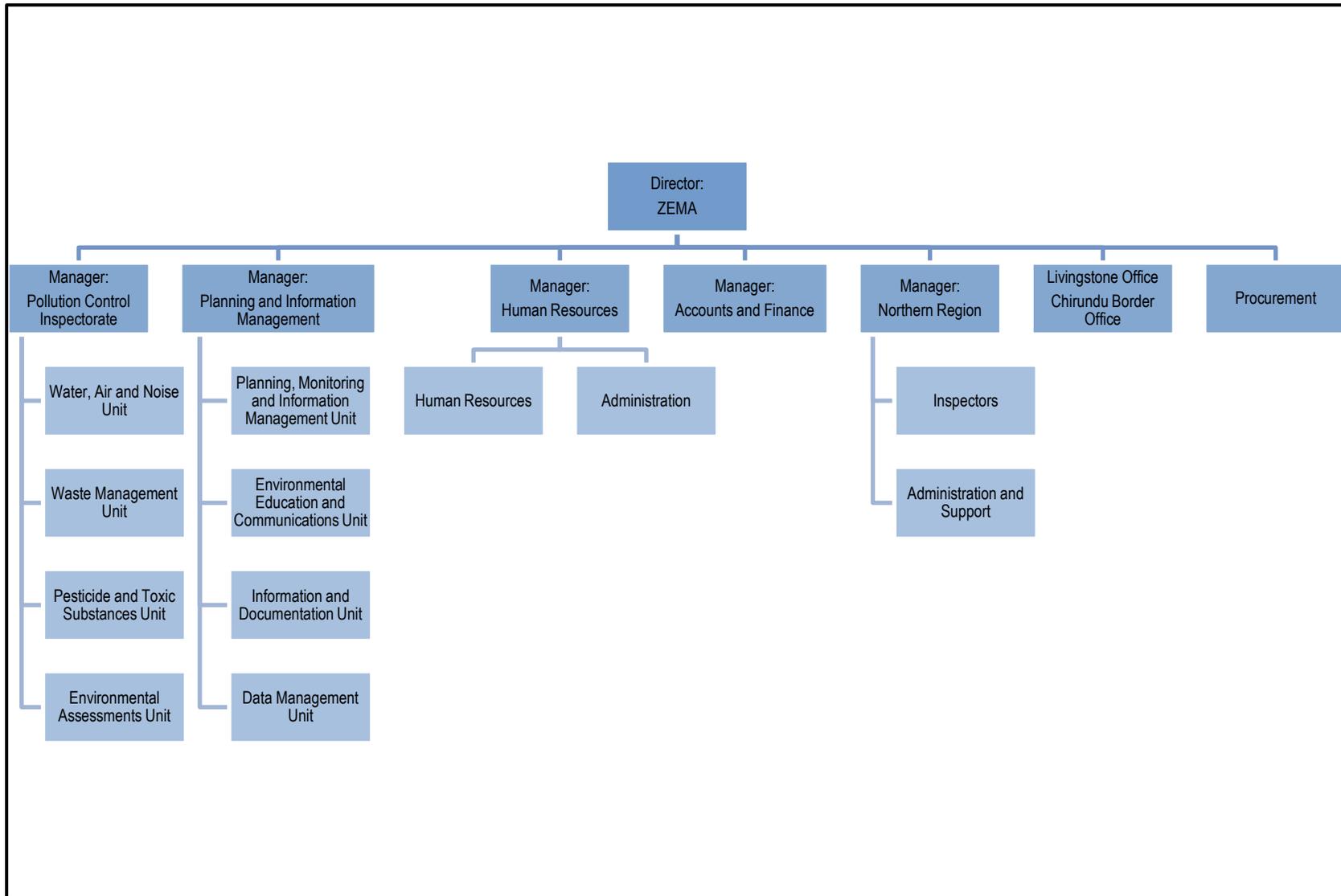


Figure 26.1: Organisational structure of the Zambia Environmental Management Agency

26.2.3 Other line ministries

Environmental issues cut across a variety of sectors and a number of government institutions and agencies outside of ZEMA are involved in environmental management. Some of the sectoral agencies and planning authorities that may have to be contacted during an EIA or SEA include the following:⁴

- Ministry of Lands and Natural Resources;
- Department of Forestry in the Ministry of Lands and Natural Resources;
- ZESCO Limited;
- Energy Regulatory Board;
- Road Development Agency;
- Ministry of Mines and Mineral Development;
- National Heritage Conservation Commission (heritage sites);
- Department of National Parks and Wildlife;
- Fisheries Department, Ministry of Agriculture;
- Zambezi River Authority;
- Ministry of Health;
- Ministry of Energy
- Radiation Protection Authority; and
- Ministry of Local Government.

Some of these agencies have their own environmental units, such as the Environmental and Social Management Unit in the Road Development Agency, the Director of Mine Safety in the Ministry of Mines and Mineral Development, and the Environmental and Social Affairs Unit in ZESCO. These are known as authorising agencies. Typically, Project Briefs and environmental impact statements (EISs) have to be submitted to these authorising agencies first. They then submit the EIA documents to ZEMA with their comments attached (see Figure 26.2).

A requirement in the EMA is for all ministries to prepare an Environmental Management Strategy, which has to be submitted to ZEMA for approval. Once approved, the Strategy must be published in the Gazette and implemented. The Act further provides for ZEMA to review the effectiveness of each ministry's Environmental Management Strategy every ten years.

⁴ Chapman, K & Walmsley, B, 2003. Country Chapter: Zambia. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA, pp. 267–95.

26.3 Policy and legal framework for EIA

26.3.1 Environmental policy

In June 2009, the President of Zambia launched the National Policy on the Environment, replacing the outdated National Environmental Action Plan of 1994. The Policy's main aim is to promote sustainable environmental protection. It provides a framework for the management of the environment and natural resources in order to protect future generations. The Policy hopes to address some of the main challenges facing Zambia, such as: climate change, deforestation, land degradation, loss of biological diversity, wildlife depletion and environmental pollution. According to the EMA (section 21), this Policy needs to be updated every ten years.

The Policy addresses many cross-cutting issues, including gender, climate change, resettlement, community health and safety; cultural heritage; biodiversity conservation; sustainable living; natural resources management; resource efficiency, pollution prevention and management.

26.3.2 National Policy on Climate Change

The Ministry of National Development Planning launched the National Policy on Climate Change in 2017. The Policy presents a structured and coordinated national strategy to address the adverse effects of climate change. The Policy also specifically addresses vulnerable groups such as children and poor rural women.

The overall objective of the Policy is “to provide a framework for coordinating climate change programmes in order to ensure climate resilient and low carbon development pathways for sustainable development.”⁵ The Policy has nine specific objectives:

1. To promote and strengthen the implementation of adaptation and disaster risk reduction measures to reduce vulnerability to climate variability and change;
2. To promote and implement sustainable land-use management practices in order to contribute to reducing greenhouse gas emissions from land use and land use change and forestry;
3. To promote mainstreaming of climate change into policies, plans and strategies at all levels in order to account for climate change risks and opportunities in decision-making and implementation;
4. To strengthen the institutional and human resource capacity in order to effectively and efficiently address all aspects of climate change at international, national, provincial, district and local levels;
5. To promote communication and dissemination of climate change information to enhance awareness and understanding of its impacts;

⁵ Republic of Zambia, 2017. *National Policy on Climate Change*. Lusaka: Ministry of National Development Planning.

6. To promote investments in climate resilient and low carbon development pathways in order to generate co-benefits and provide incentives for addressing climate change more effectively;
7. To foster research and development in order to improve understanding and decision-making in responding to climate change;
8. To engender climate change programmes and activities in order to enhance gender equality and equity in the implementation of climate change programmes; and
9. To develop and promote appropriate technologies and build national capacity to benefit from climate change technological transfer.

26.3.3 Environmental Protection and Pollution Control Act

The original environmental legislation was the Environmental Protection and Pollution Control Act EPCCA (Cap. 204) which was enacted in 1990 (Act No. 12 of 1990) and amended by the Environmental Protection and Pollution Control Amendment Act in 1999 (Act No. 12 of 1999). Although EPCCA was repealed and replaced by the Environmental Management Act (EMA) of 2011, it still forms the legal basis for the EIA Regulations (see s. 26.3.5 below).

26.3.4 Environmental Management Act

The Environmental Management Act, No. 12 of 2011, states the principles upon which it is founded as follows:

- The environment is the common heritage of both present and future generations.
- Adverse effects shall be prevented and minimised through long-term integrated planning and the coordination, integration and cooperation of efforts that consider the entire environment as a whole entity.
- The precautionary principle.
- The polluter pays principle.
- Equitable access to environmental resources shall be promoted and the functional integrity of ecosystems shall be taken into account to ensure the sustainability of the ecosystems and prevent adverse effects.
- People shall be involved in the development of policies, plans and programmes for environmental management.
- Citizens shall have access to environmental information to enable them to make informed personal choices that encourage improved performance by industry and the government.
- The generation of waste should be minimised, wherever practical, and waste should, in order of priority, be reused, recycled, recovered and disposed of safely in a manner that avoids adverse effects.
- The environment is vital to people's livelihoods and should be used sustainably in order to achieve poverty reduction and socio-economic development.
- Non-renewable natural resources shall be used prudently, taking into account the needs of the present and future generations.

- Renewable natural resources shall be used in a manner that is sustainable and does not prejudice their viability and integrity.
- Community participation and involvement in natural resource management and the sharing of benefits arising from the use of the resources shall be promoted and facilitated.

The term 'environment' is defined in the Act as "*natural or manmade surroundings at any place, comprising air, water, land, natural resources, animals, buildings and other constructions [sic]*". This definition is rather ambiguous as to whether the 'manmade surroundings' referred to are merely 'buildings and other constructions [sic]' or whether they include the social environment of people, economics, health and culture. Given the heavy bias in the EMA towards pollution prevention and control, with little reference to the social milieu, the tendency is to interpret the above definition quite narrowly.

26.3.5 Regulations

In terms of sections 6 and 96 of the 1990 EPPCA, the EIA process was formalised in the Environmental Protection and Pollution Control (Environmental Impact Assessment) Regulations, which were promulgated through Statutory Instrument No. 28 of 1997. Although the 2011 EMA repeals the 1990 EPPCA, the Regulations are still being enforced.⁶ However, section 30 of the EMA makes provision for the Minister, on the advice of ZEMA, to promulgate new Regulations relating to the administration and enforcement of both strategic environmental assessments and EIAs. At the time of writing (mid-2019), new EIA Regulations were in draft and readers are requested to contact ZEMA for updates.

Regulations on SEA are also currently in draft. The process is being supported by the Ministry of National Development and Planning and administered by a technical committee chaired by ZEMA. The process to date has been highly participatory. The Regulations will cover all administrative and procedural processes relevant to SEA, as well as specifying the contents of SEA reports. It is unclear when the Regulations will come into force, but it is likely to be before the end of 2020.

The following Regulations, which were promulgated in terms of the EPPCA, have been repealed by the Environmental Management (Licensing) Regulations SI. No. 112 of 2013:⁷

- The Water Pollution Control (Effluent and Waste Water) Regulations, 1993;
- The Air Pollution Control (Licensing and Emission Standards) Regulations, 1996;
- The Waste Management (Transporters of Waste/Operation of Waste Disposal Sites) Regulations, 1993;
- The Hazardous Waste Management Regulations, 2001;
- The Pesticides and Toxic Substances Regulations, 1994; and

⁶ Personal communication F Muyano.

⁷ See also the 17th Schedule of the Regulations.

- The Ozone-Depleting Substances Regulations, 2000.

The Environmental Management (Licensing) Regulations SI. No. 112 of 2013 regulate all activities relating to:

- Air and water pollution;
- Waste management;
- Hazardous waste;
- Pesticides and toxic substances; and
- Ozone depleting substances.

The seventeen Schedules attached to the Regulations, provide application forms, proforma licences, notifications, emission limits, water pollution standards, lists of wastes and guidance on handling, storage, use, treatment and disposal of all types of hazardous wastes, ozone depleting substances, pesticides and toxic substances, as well as the prescribed fees.

26.3.6 Permits and licences

Before a developer can commence with an activity listed in the schedules attached to the EIA Regulations, s/he must obtain an **Environmental Authorisation** from ZEMA. In addition, various permits are needed for specific aspects of development planning and EIA (see Table 26.1). Permits and licences are issued in accordance with the Environmental Management (Licensing) Regulations listed above, as well as other instruments and institutions.

Table 26.1: Permits in the context of development planning and EIA

Regulation, Act or Bylaw	Permit or licence	Requirements	Implementing authority
Environmental Management (Licensing) Regulations SI. No. 112 of 2013	Emission licence (relating to air)	Emissions should comply with the emission limits prescribed in the Second Schedule Submission of emission returns to the Agency twice a year	ZEMA
Environmental Management (Licensing) Regulations SI. No. 112 of 2013	Emission licence (relating to water)	Emissions should comply with the effluent and wastewater standards prescribed in the Third Schedule Submission of emission returns to the Agency twice a year	ZEMA
Water Supply and Sanitation Act, No. 28 of 1997 Water Act (Chapter 312), 1949.	Water Abstraction Licences	The licence must be renewed annually.	Water Rights Investigators from the Water Board, Ministry of Water Development, Sanitation and Environmental Protection.

Regulation, Act or Bylaw	Permit or licence	Requirements	Implementing authority
Environmental Management (Licensing) Regulations SI. No. 112 of 2013	Pesticides and Toxic Substances Licences	An application for a licence must be submitted before importing any pesticide or toxic substance as per the requirements set out in the Tenth to Thirteenth Schedules	ZEMA
Environmental Management (Licensing) Regulations SI. No. 112 of 2013	Hazardous Waste Licence Handling, storage and transportation Treatment and disposal	As per Form V of the First Schedule Eighth Schedule. Ninth Schedule Should monitor the stored hazardous waste to prevent contamination of the environment and submit the results of the monitoring to the Agency as specified in the hazardous waste licence.	ZEMA
Environmental Management (Licensing) Regulations SI. No. 112 of 2013	Waste Management Licences	Applications as per Form III of the First Schedule Keep a record of the licenced activity and submit the record to the Agency twice a year from the commencement of the licenced activities.	ZEMA
Local authority bylaws	Building Permits	Currently, ZEMA has no authority in urban areas. Thus, although EIAs should precede any such authorisations, Building Permits are being issued without referring developments to ZEMA.	Ministry of Local Government

26.3.7 Offences and penalties

Part XI of the Environmental Management Act specifies the penalties for non-compliance with the provisions of the Act, as shown in Table 26.2 below:

Table 26.2: Offences and penalties

Offence	Penalty
<ul style="list-style-type: none"> ▪ Failure to prepare and submit a Project Brief; ▪ Failure to prepare and submit an EIS; ▪ Making false statements in any environmental documentation 	A fine of 700,000 Penalty Units, or 7 years' imprisonment or both
<ul style="list-style-type: none"> ▪ Failure to keep any records required in terms of the EMA; ▪ Failure to submit a return required in terms of the EMA; ▪ Submission of false or misleading information; ▪ Alteration of any legal record required in terms of the EMA 	A fine of 300,000 Penalty Units, or 3 years' imprisonment or both

Offence	Penalty
<ul style="list-style-type: none"> ▪ Contravention of any environmental standards or guidelines established or prescribed under the EMA; ▪ Contravention of any measure prescribed under the EMA; ▪ Use of the environment or natural resources in a wasteful or destructive manner contrary to the prescribed standards, measures or guidelines. 	A fine of 700,000 Penalty Units, or 7 years' imprisonment or both
<ul style="list-style-type: none"> ▪ Illegal trade in any component of biological resources contrary to the provisions of the EMA; ▪ Unlawful possession of any biological resources; ▪ Unlawful disturbance of habitat of a biological resource in contravention of the EMA. 	A fine of 500,000 Penalty Units, or 5 years' imprisonment or both
<ul style="list-style-type: none"> ▪ Failure to manage any hazardous waste and materials in accordance with the EMA; ▪ Importation or export of hazardous waste contrary to the EMA; ▪ Knowingly mis-labels any waste, pesticide, toxic substance or radio-active waste; ▪ Failure to manage any chemical or radio-active substance in accordance with the EMA; ▪ Aiding or abetting illegal trafficking in hazardous waste, chemicals, toxic substances or pesticides; ▪ Disposal of any chemical contrary to the Act or hazardous waste within the Republic of Zambia; ▪ Withholding information or providing false information about the management of hazardous wastes, chemicals or radio-active substances. 	A fine of 1,000,000 Penalty Units, or 10 years' imprisonment or both
<ul style="list-style-type: none"> ▪ Offences relating to pesticides and toxic substances in terms of s. 122 of the EMA 	A fine of 500,000 Penalty Units, or 5 years' imprisonment or both
<ul style="list-style-type: none"> ▪ Offences relating to protected areas in terms of s. 123 of the EMA 	A fine of 300,000 Penalty Units, or 3 years' imprisonment or both

The remedial costs associated with the repair of any environmental damage caused through the violation of any of the provisions of the EIA Regulations or through non-compliance with the Authorisation Permit must be borne by the person responsible for such violation (Regulation 35).

26.3.8 Fees

Regulation 36 states that the developer will be charged a fee to cover the costs of reviewing all relevant EIA documentation and reports. The fees are set out in the Fifth Schedule to the Regulations and are revised from time to time. The fees as of the last review in February 2001 are summarised in Table 26.3.

Table 26.3: EIA Fees

Item	Fee Units ⁸
Review of Project Briefs	43,333
Review of EIS is based on project value: ⁹	
<US\$100 000	43,333
US\$100 000 – 500 000	216,665
US\$500 000 – 1 000 000	541,662
US\$1 000 000 – 10 000 000	1,083,324
US\$10 000 000 – 50 000 000	2,166,650
>US\$50 000 000	3,249,975

26.3.9 Guidelines

ZEMA is developing sector guidelines for reviewing EIA applications. Five sets of guidelines exist in draft format for the following sectors: energy, fisheries, forestry, social impact assessment and tourism. Guidelines on mining, although complete, still require improvement. A guideline for the construction sector was published by ZEMA in 2016.¹⁰

Once the various sector guidelines have been finalised, ZEMA will use them for reviewing EIAs; they can also be used by developers and consultants who may be undertaking an EIA in one of the sectors concerned. Some of the authorising agencies have been proactive in developing their own guidelines. For example, the Department of National Parks and Wildlife has its own EIA guidelines to review developments in protected areas, while the National Heritage Conservation Commission has guidelines for development near heritage sites. The Road Development Agency has a 'Procedures Manual for Environmental and Social Management in the Roads Sector',¹¹ which includes guidance on EIAs for road development.

26.3.10 Environmental standards

Emission standards have been established for water quality, ambient air quality and air emissions. The latter, however, are considered too stringent. The authorities are also developing noise standards, and Regulations are in draft.¹²

Table 26.4 presents information on air emission requirements in Zambia as set out in the Second Schedule to the Environmental Management (Licensing) Regulations SI. No. 112 of 2013 (for emission limits for air pollution by type of industry/process please refer to the remainder of the Second Schedule) and

⁸ 1 Zambian kwacha = 180 fee units

⁹ Project value means the total capital cost of the project.

¹⁰ <http://www.zema.org.zm/index.php/other-publications/#>

¹¹ Ministry of Works and Supply, 2007. *Procedures manual for environmental and social management in the roads sector in Zambia*. Road Development Agency. In preparation.

¹² Personal communication F Muyano and E Zulu.

Table 26.5 provides information on effluent standards for water. There are no Zambian standards yet for noise and vibration so the World Health Organisation, IFC/World Bank or donor country standards apply.

Table 26.4: Emission limits for ambient air pollutants¹³

Parameter	Reference Time (average)		Guideline Limit (as mg/m ³)
Sulphur dioxide	10 minutes		500 mg/m ³
	1 hour		350 mg/m ³
Sulphur dioxide (SO ₂) in combination with Total Suspended Particulates (TSP) ¹ and PM ₁₀	SO ₂	24 hours	125 mg/m ³
		6 months	50 mg/m ³
	TSP	24 hours	120 mg/m ³
		6 months	50 mg/m ³
PM ₁₀	24 hours	70 mg/m ³	
Respirable particulate matter PM ₁₀	PM ₁₀	24 hours	70 mg/m ³
Respirable particulate matter PM _{2.5}	PM _{2.5}	12 months	15 mg/m ³
Oxides of nitrogen (NO _x) as nitrogen dioxide (NO ₂)	1 hour		400 mg/m ³
	24 hours		150 mg/m ³
Carbon monoxide (CO)	15 minutes		100 mg/m ³
	30 minutes		60 mg/m ³
	1 hour		30 mg/m ³
	8 hours		10 mg/m ³
Ambient lead (Pb)	3 months		1.5 mg/m ³
	12 months		1.0 mg/m ³
Dust fall	30 days	Residential & light commercial areas	250 mg/m ² /day
		Non-residential and light commercial areas	500 mg/m ² /day
Ozone (O ₃)	8 hours		120 mg/m ³

*1) Total suspended particles (TSP) are particles with diameter less than 45 micrometers (µm).

Table 26.5: Effluent discharge requirements

Parameter	Effluent and wastewater discharge limits into aquatic environment	Comment
A. Physical		
1. Temperature (thermometer)	≤40° C	At the point of entry
2. Colour (Hazen units)	≤20	
3. Odour and taste		Must not cause any deterioration odour as compared with natural state
4. Turbidity (NTU scale)	≤15	
5. Total suspended solids	≤100 mg/l	Must not cause formation of sludge or scum in receiving water
6. Settleable matter sedimentation in 2 hours	≤0.5 mg/l	In two hours must not cause formation of sludge in receiving water
7. Total dissolved solids	≤3,000 mg/l	The TDS of waste water must not adversely affect surface water
8. Conductivity	≤4,300 µS/cm	

¹³ <http://www.zema.org.zm/index.php/download/the-environmental-management-licencing-regulations-2013/>

Parameter	Effluent and wastewater discharge limits into aquatic environment	Comment
B. Bacteriological		
9. Total coliform/100 ml	≤25,000 cells	
10. Faecal coliform/100 ml	≤5,000 cells	
11. E. coli counts/100 ml	≤10 cells	
12. Algae/100 ml	≤1000 cells	
C. Chemical		
13. pH	6.0-9.0	
14. Dissolved oxygen	≤5 mg/l	After complete mixing extreme temperature may result in lower values
15. Chemical oxygen demand (COD)	≤90 mg O ₂ /l	Average for 24 hours a
16. Biological oxygen demand (BOD)	≤50 mg O ₂ /l	Mean value over a 24-hour period. According to circumstances in relation to self to the self-cleaning capacity of the waters
17. Nitrates as NO ₃	Water courses: ≤50 mg/l; Lakes ≤20 mg/l	The nitrates burden must be reduced as far as possible according to circumstances
18. Nitrite as NO ₂	≤2.0 mg/l	NO ₂
19. Organic nitrogen	≤5.0 mg/l	Mean* (* the % of nutrient elements for degradation of BOD should be 0.4 - 1 % for phosphorous (different for processes using algae)
20. Total ammonia and ammonium as NH ₄	≤10 mg/l	Depending upon temperature, pH and salinity
21. Cyanides as CN	≤0.2 mg/l	
22. Phosphorous (total) as PO ₄	≤1.0 mg/l	For treatment installations located in the catchment area of lakes.
	≤6.0 mg/l	If located outside the catchment area, reduce the load of P as low as possible
23. Sulphate as SO ₄	≤1,500 mg/l	
24. Sulphite as SO ₃	≤0.1 mg/l	Note that presence of oxygen changes SO ₃ to SO ₄
25. Sulphide as SO ₂	≤0.1 mg/l	Depending on temperature, pH and dissolved oxygen
26. Chloride as Cl	≤800 mg/l	
27. Active chloride as Cl ₂	≤0.5 mg/l	
28. Active bromine as Br ₂	≤0.1 mg/l	
29. Fluoride as F	≤2.0 mg/l	
D. Metals		
30. Aluminium as Al	2.5 mg/l	
31. Antimony as Sb	0.5 mg/l	
32. Arsenic as As	0.05 mg/l	
33. Barium as Ba	0.5 mg/l	

Parameter	Effluent and wastewater discharge limits into aquatic environment	Comment
34. Beryllium as Be	0.5 mg/l	
35. Boron as B	0.5 mg/l	
36. Cadmium as Cd	0.5 mg/l	
37. Chromium (hexavalent) as Cr ^{vi}	0.1 mg/l	
38. Cobalt as Co	1.0 mg/l	
39. Copper as Cu	1.5 mg/l	
40. Iron as Fe	2.0 mg/l	
41. Lead as Pb	0.5 mg/l	
42. Magnesium as Mg	500 mg/l	
43. Manganese as Mn	1.0 mg/l	
44. Mercury as Hg	0.002 mg/l	
45. Molybdenum as Mo	5.0 mg/l	
46. Nickel as Ni	0.5 mg/l	
47. Selenium as Se	0.02 mg/l	
48. Silver as Ag	0.1 mg/l	
49. Thallium as Tl	0.5 mg/l	
50. Tin as Sn	2.0 mg/l	
51. Vanadium as V	1.0 mg/l	
52. Zinc as Zn	10.0 mg/l	
53. Total metals	10 mg/l	
<u>E. Organics</u>		
54. Total hydrocarbons	10.0 mg/l	
55. Oils and grease (mineral and crude)	5.0 mg/l	
56. Absorbable organic halides	1.0 mg/l	
57. Phenols (steam distillable)	0.2 mg/l	
58. Phenols (non-steam distillable)	0.05 mg/l	
59. Fats and saponifiable oils	20.0 mg/l	
60. Detergents, surfactants, and other tenside products	2.0 mg/l	Detergents should contain biodegradable compounds
61. Pesticides and Polychlorinated Biphenyls (PCB) (total)	0.5 mg/l	
62. Trihaloforms	0.5 mg/l	
<u>F. Radioactive Materials</u>		
63. Uranium	0.03 mg/l	

Parameter	Effluent and wastewater discharge limits into aquatic environment	Comment
64. Any other radioactive materials	0	

26.3.11 Certification of environmental consultants

There is no formal registration or certification system for environmental assessment practitioners in Zambia yet, but provision has been made in the draft EIA Regulations for the registration and certification of EIA consultants in the country. Similarly, the draft SEA Regulations make provision for the registration and certification of SEA experts. Until such time as a formal Registration Authority is set up, the process of registration will be undertaken by ZEMA.

However, under the current situation, the names and qualifications of the proposed EIA team must be included with the Terms of Reference, which has to be submitted to the ZEMA for approval (Regulation 9(1)). In addition, the final EIA report has to be signed by everyone who has been involved in its preparation (Regulation 12).

26.4 EIA procedural framework in Zambia

The EIA process to be followed is clearly set out in the EIA Regulations of 1997. This process is shown schematically in Figure 26.2 and is described in the following subsections.

26.4.1 Screening

The first step in the EIA process is to determine whether the project is listed in the First or Second Schedules attached to the EIA Regulations of 1997. This will determine whether the developer has to undertake a Project Brief or a full EIA.

In terms of Regulation 3(2), a Project Brief is required for the following:

- Any project set out in the First Schedule (see Appendix 26-1 of this Chapter), irrespective of whether or not the development is part of a previously approved project;
- Any alterations or extensions of any existing project set out in the First Schedule; or
- Any project not specified in the First Schedule, but for which ZEMA determines a Project Brief should be prepared.

If ZEMA determines that the project is likely to have a significant impact on the environment, it will require an EIS to be prepared in accordance with the EIA Regulations (Regulation 7(1)). Regulation 7(2) sets out the circumstances under which an EIS is required:

- Any project specified in the Second Schedule (see Appendix 26-2), regardless of whether it is part of a previously approved larger project;

- Any alterations or extensions of any existing project specified in the Second Schedule; or
- Any project not specified in the Second Schedule, but for which ZEMA determines an EIS should be prepared.

If the proposed project is not listed on either Schedule, then the developer is not required to complete a Project Brief or EIS.

26.4.2 Project Brief

A Project Brief is a report by the developer that includes preliminary predictions of the possible impacts of a proposed project on the environment. It constitutes the first stage in the EIA process.

Once a developer has determined that s/he needs to prepare a Project Brief, s/he must conduct such studies that will enable the EIA consultant to compile a document that states the following in a concise manner (Regulation 4 of the EIA Regulations, 1997):

- (a) The description of the environment at the project site;
- (b) The objectives and nature of the project and reasonable alternatives;
- (c) The main activities that will be undertaken during site preparation, construction and after the development is operational;
- (d) The raw and other materials that the project will use;
- (e) The products and by-products, including solid, liquid and gaseous waste generation;
- (f) The noise level, heat and radioactive emissions from normal and emergency operations;
- (g) The expected socio-economic impacts of the project and the number of people that the project will resettle or employ, directly, during construction and operation;
- (h) The expected environmental impact of the project, considering the provisions of paragraphs (c) to (g);
- (i) The expected effects on biodiversity, natural lands and geographical resources, and the area of land and water that may be affected through time and space; and
- (j) A description of mitigation measures for adverse impacts and any monitoring programmes to be implemented.

Regulation 5 of the EIA Regulations relates to the submission of the Project Brief to ZEMA:

- A developer shall submit **six copies** of the Project Brief to ZEMA.
- If ZEMA considers the Project Brief to be complete, it will transmit the Project Brief to the authorising agency for comments within **seven days** of receiving it (see Table 26.6).
- The authorising agency must make comments and transmit them to ZEMA within **30 days** of receiving the Project Brief.
- Where the agency fails to make comments or transmit the Project Brief to ZEMA within the period specified, ZEMA shall proceed to consider the Project Brief regardless.

Regulation 6 of the EIA Regulations requires ZEMA to consider the Project Brief and the comments received and if satisfied that the project will have no significant impact on the environment, or that the Project Brief discloses sufficient mitigation measures to ensure the acceptability of the anticipated impacts, it will, within **40 days** of receiving the Project Brief from the developer, issue a decision letter, with conditions as appropriate, to the authorising agency (see Figure 26.2).

However, if ZEMA determines that a project is likely to have a significant impact on the environment, it will inform the developer within **40 days** of receiving the Project Brief that an EIS must be prepared in accordance with the EIA Regulations of 1997 (see Figure 26.2).

Table 26.6: Review times for a Project Brief

Step	Action	No. of days ¹⁴	Comment
1	Developer submits Project Brief to ZEMA		
2	ZEMA sends to authorising agency for comment	7	
3	Authorising agency sends comments to ZEMA	30	
4	ZEMA informs developer of decision	40	From date of original submission (step 1)
	Total review time for project brief	40	

26.4.3 Terms of Reference for an Environmental Impact Statement

If the project is listed on the Second Schedule (see Appendix 26-2), an EIA is required. The first step of the EIA process is to develop the Terms of Reference (ToR) for the study. The steps to take in developing a ToR are set out in Regulation 8 of the EIA Regulations, as follows:

- To ensure that public views are taken into account during the preparation of the ToR, the developer shall organise a public consultation process, involving government agencies, local authorities, non-governmental and community-based organisations, and interested and affected parties, to help determine the scope of the work to be done in the conduct of the EIA and in preparation of the EIS;
- The developer shall prepare draft ToR, taking into account issues contained in the Third Schedule (see Appendix 26-3) and the results of the consultations undertaken (as described above), and submit these to ZEMA for approval;
- On receipt of the draft ToR, ZEMA shall determine, within a period of **five days**, whether these are acceptable. If the ToR are unacceptable, the developer shall, with the assistance of ZEMA, prepare the final ToR;
- The developer shall not begin preparing the EIS until ZEMA has approved the ToR; and

¹⁴ A day means an official **working** day.

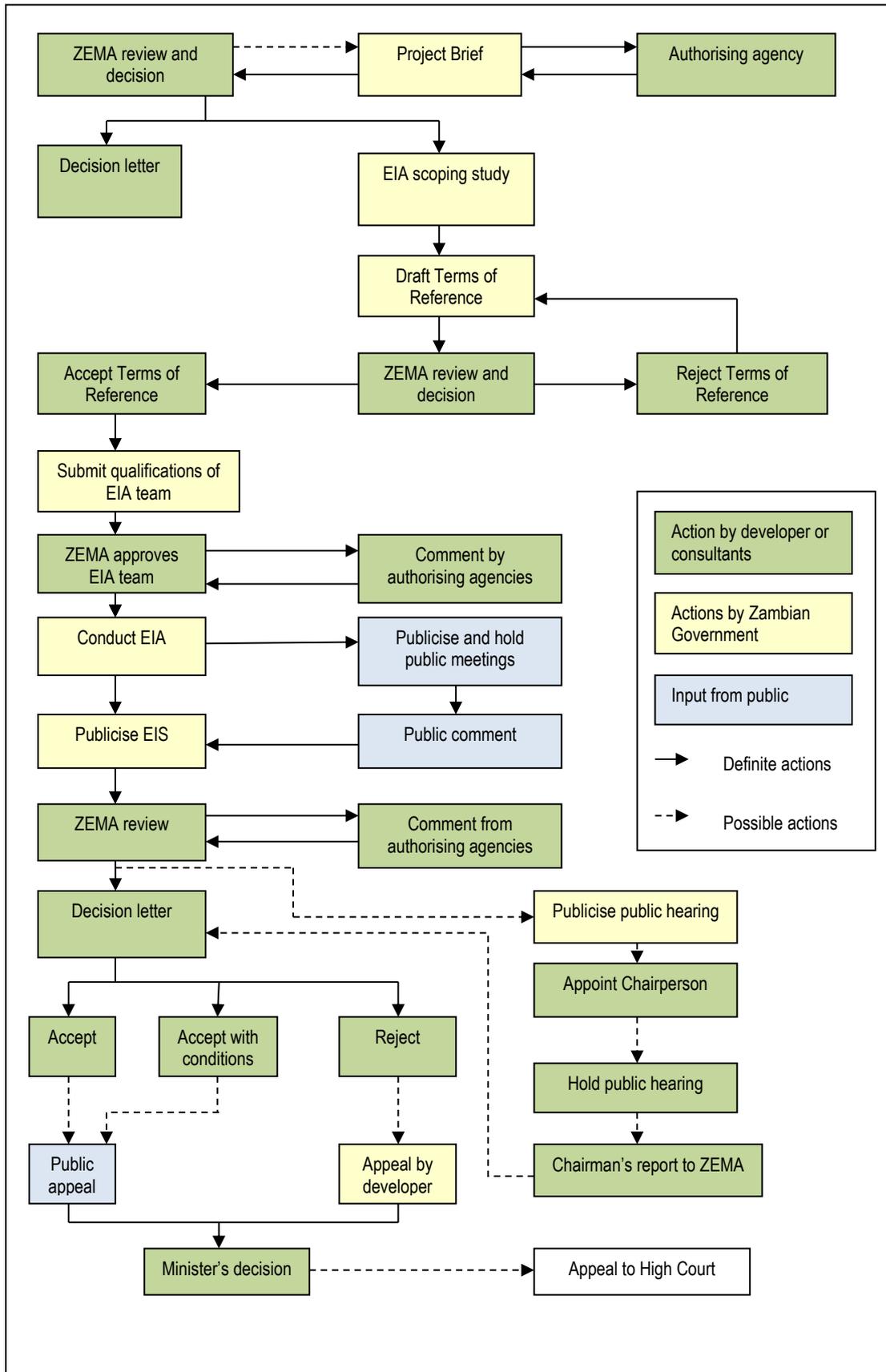


Figure 26.2: EIA process in Zambia

- The ToR shall include a direction that those responsible for preparing the EIS must provide all the information in the report as specified in Regulation 11 (see section 26.4.5), together with such other matters as are deemed necessary by ZEMA.

26.4.4 Public consultation process

The EIA Regulations require public input to the ToR (see section 26.4.3 above) and during the preparation of the EIS, as set out in Regulation 10, as follows:

- The developer shall, before submitting the EIS to ZEMA, take all measures necessary to seek the views of the people in the communities that will be affected by the project.
- In seeking the views of the community, the developer shall:
 - Publicise the intended project, its effects and benefits in the mass media, in a language understood by the community, for a period not less than **15 days** and subsequently at regular intervals throughout the process.
 - After the 15 days, hold meetings with the affected communities to present information on the project and to obtain the views of those consulted.

The EIS must include minutes of all meetings held, a list of registered interested and affected parties, and all the main issues raised. Of primary importance is to demonstrate where each issue has been addressed in the EIS.

26.4.5 Environmental Impact Statement

An EIS shall be prepared and paid for by the developer in accordance with the ToR prepared in consultation with ZEMA. Several well-defined steps need to be followed in preparing an EIS. These are set out in the Fourth Schedule of the Regulations¹⁵ and are summarised below.

Step 1: Appoint an environmental team and specialists

Once ZEMA has approved the Terms of Reference for the EIS, the developer should submit the names and qualifications of the members of the environmental team, including all the specialists, to ZEMA for approval. If ZEMA rejects any names, it must provide a reason and request the developer to submit another name within a specified timeframe (Regulation 9(3)). Preference should be given to experts with specific knowledge of the type of project being proposed and local or similar conditions. It is an unstated rule that suitable Zambian nationals are to be included in EIA consultant teams. Many donor organisations enforce this by specifying that, should an expatriate consultant be awarded a local project, a Zambian national is to accompany that consultant throughout the job. The environmental team should also be independent of the developer; team members should not have any financial or other interest in the project, the developer's company or associated companies.

¹⁵ Guidelines for developers in conducting EIAs.

On large-scale projects, those that may be contentious, and/or those that may be planned in sensitive areas, it is advisable to appoint an external, independent reviewer at the outset of the process.

Step 2: Scoping

The aims of scoping are to:

- Review all applicable laws, policies and planning documents that may relate to the type of project and/or the area in which it is to be located. A list of potentially applicable Acts, Regulations and policies is presented in Table 26.8;
- Review all international obligations that may be affected by the proposed development, such as the Ramsar Convention or the Convention on Biological Diversity. Zambia's international obligations are summarised in Chapter 1 of this Handbook;
- Identify the relevant national and internationally-applied environmental standards to be applied in the design of the project (refer to Tables 26.4 and 26.5);
- Identify all possible alternatives. These may relate to route, site, layout, design and technology, for example;
- Conduct an alternatives assessment to determine the preferred environmental options;
- Identify the main impacts associated with the preferred option(s) and determine, in consultation with ZEMA and the developer, which specialist studies need to be undertaken.

Step 3: Baseline studies and impact assessment

Once the main issues have been identified during scoping, the environmental consulting team will undertake all the required baseline studies, including specialist studies where necessary, according to the approved ToR. At the same time, the consultants must collate all relevant project information, so that the impacts of each activity can be assessed and ranked in terms of the following:

- Where changes to the environment as a result of the activity can be quantified, these must be described.
- In cases where the predicted changes cannot be expressed quantitatively, the qualitative changes to the environment must be described. Included in this category is the notion of the social acceptability of a project.

For each impact, the consultants must express the following:

- The magnitude of the impact, that is, the size and geographical extent;
- The duration of the impact, whether one-off, short-term or long-term, for example;
- The probability of occurrence;
- The extent to which the impact can be mitigated or not;
- Whether the impact is reversible;

- The confidence in the prediction; and
- The environmental and social significance of the impact, taking into account all of the above.

Where more than one alternative has been considered in the EIA, each alternative should be assessed according to the criteria listed above. The alternatives can then be compared on the basis of economic, socio-cultural and environmental gains and losses. The alternatives should then be ranked, and the EIS report should make recommendations based on sound social, economic and environmental analysis.

Step 4: Identification of mitigation measures

One of the main aims of the EIA is to eliminate as many negative impacts as possible through an interactive process between the developer and ZEMA. However, there will always be some residual impacts that need to be managed. This can be done through the inclusion of, for example, pollution control equipment; noise control measures; solid waste minimisation through reclamation, recycling and reuse; erosion control works; and rehabilitation and revegetation programmes.

The costs of the recommended mitigation measures must be calculated and included in the project's overall financial model.

Step 5: Environmental Impact Statement

Regulation 11 sets out the minimum contents of an EIS; however, the consultants should ensure that they include all the requirements of the approved Terms of Reference in the EIS report. The basic contents of the EIS should include the following:

- A description of the project and all reasonable alternatives, including all associated activities required to support the proposed project;
- A description of the proposed site and/or route, together with reasons for rejecting alternative sites and/or routes;
- A brief description of the site and/or route and the surrounding environment, including any information necessary to identify and assess the environmental effects of the project;
- A description of the raw material inputs into the project and their potential environmental effects;
- A description of the technology and processes that will be used;
- A description of the products and by-products of the project;
- The environmental effects of the project and reasonable alternatives, including the direct, indirect, cumulative, short-term and long-term effects;
- The socio-economic impacts of the project, such as the resettlement of affected people.
- An impact management plan, containing a description of measures proposed for preventing, minimising or compensating for any adverse impact and enhancing beneficial

effects, and measures to monitor effluent streams or important environmental features that may be affected by the project; and

- An indication of whether the environment of any neighbouring state is likely to be affected.

The EIS must also contain an executive summary, stating the main findings and recommendations. Every individual involved in its preparation must sign the EIS. The EIS should also contain the specialist studies as appendices, as well as all the relevant documentation relating to the public consultation programme. The developer must submit **12 copies** of the EIS to ZEMA (Regulation 14(1)).

26.4.6 Review and decision-making process

Once the developer has submitted the EIS to ZEMA, the Director will enter the EIS onto an EIS Register, and the following process will be followed, as prescribed in Regulations 15–25 and shown schematically in Figure 26.2. The review process times are shown in Table 26.7.

16(1) ZEMA shall:

- (a) distribute copies of the EIS to relevant ministries, local government units, parastatals, non-governmental and community-based organisations, and interested and affected parties;
- (b) place copies of the EIS in public buildings in the vicinity of the site of the proposed project;
- (c) place a notification in at least two national newspapers three times per week for two consecutive weeks and broadcast a notification on national radio, detailing the place and times where copies of the EIS are available for inspection and the procedure for submitting comments.

16(2) ZEMA may organise, or cause to be organised, public meetings in the locality of the proposed project.

16(3) Any person wishing to make a comment on the EIS must send comments to ZEMA, within **twenty** days from the date of the last notification issued in accordance with paragraph (c) of sub-regulation (1).¹⁶

16(4) ZEMA may extend the period for receipt of written comments up to a maximum of **fifteen** days if it considers that:

- (a) many contentious issues have arisen, indicating the sensitive nature of the project; or
- (b) the remoteness of the project location causes logistical problems for the consultation process.

¹⁶ The 20-day period is incorrect, and ZEMA is addressing this anomaly as part of the legal review process.

17(1) ZEMA shall consider the EIS and all the comments it has received from the authorising agency and interested and affected parties, before issuing a decision (reject EIS or grant Environmental Authorisation with or without conditions) or to hold a public hearing.

17(2) ZEMA shall hold a public hearing on the EIS if:

- (a) as a result of the comments made by the interested and affected parties, it is of the opinion that a public hearing will enable it to make a fair and just decision; or
- (b) it considers it necessary for the protection of the environment.

18(1) Whenever a public hearing is to be conducted under these Regulations:

- (a) notice thereof shall be published three times a week for two consecutive weeks in the national papers **at least fifteen days prior** to the public hearing; and all expenses of the notices shall be incurred by the project proponent;
- (b) all documents shall, from the end of the period of the public review until the end of the public hearing, remain available for public inspection accompanied by all written comments at the location specified under Regulation 16;
- (c) such hearing shall begin **not later than twenty-five days** after the last public notification, provided that if ZEMA determines that the number and complexity of the issues to be considered at a hearing require additional preparation time on the part of those wishing to make a presentation to the hearing, it can extend this period up to a maximum of **ten** days;
- (d) ZEMA shall, where it feels necessary and appropriate, request any relevant persons to be present at the public hearing to make comments or solicit in writing comments from other government agencies that have expertise or regulatory power over the proposed project, as well as the authorising agency.

18(2) ZEMA shall appoint a person who, in its opinion, is suitably qualified to preside over the public hearing and who shall serve on such terms and conditions as may be agreed between ZEMA and the person so appointed.

18(3) The public hearing shall be conducted at a venue that shall be convenient and accessible to those persons who are likely to be specifically affected by the project.

18(4) On the conclusion of the public hearing, the person presiding at the hearing shall, within **fifteen** days from the termination of the public hearing, make a report of his/her findings to ZEMA.

19(1) Any person may attend a public hearing, either in person or through a representative, and make presentations, provided that the person presiding at the public hearing shall have the right to disallow frivolous and vexatious presentations, which lead to the abuse of the process.

Table 26.7: Review times for the EIA process

Step	Action	No. of days ¹⁷	Comment
1	Developer to submit Terms of Reference to ZEMA		
2	ZEMA to accept or reject Terms of Reference	5	
3	Developer to submit names of environmental project team to ZEMA for approval	–	
4	Developer to submit EIS to ZEMA		
5	ZEMA to send to authorising agency for comment	7	
6	Authorising agency to send comments to ZEMA	30	
7	ZEMA to publicise EIS	15	
8	Public comment period	20	From end of step 7
9	<i>Additional comment period</i>	15	<i>Optional</i>
If no public hearing is required, go to step 15.			
10	ZEMA to publicise public hearing	15	
11	Notice period for public hearing	15 – 25	From last day of public notices (step 10)
12	<i>Extension of notice period</i>	10	<i>Optional</i>
13	Submission of public hearing report to ZEMA	15	From date of public hearing
14	Decision by ZEMA	30	
15	Decision by ZEMA if no public hearing	20	After original submission of EIS to ZEMA (step 4). As noted in the footnote, this 20-day period is incorrect and is under review.
16	Communication of decision to interested and affected parties	15	After step 15
Appeals			
17	Written appeals to be submitted to the Minister	10	After step 16
18	Minister's decision on the appeals	14	

Note that all the documentation relating to the Project Brief, the EIS, public comments, the Terms of Reference and specialist studies, for example, will be regarded as public documents (Regulation 26). If the developer requires any part of the information to remain confidential, s/he must apply in writing to ZEMA in the manner prescribed in Regulation 27 and his/her request will be considered. If accepted, all designated proprietary information will be kept confidential. If the application is rejected, the developer will be given an option whether to continue with the EIA process or to withdraw the application.

¹⁷ A day means an official **working** day.

The environmental authorisation issued by ZEMA will be valid for a period of **three years**. The Authorisation will not be valid unless it has an Annex signed by the Director stipulating the conditions to be implemented. If no work has started on the project within that period, the developer must reregister with the authorising agency. The authorising agency will then have to decide whether another EIS is required or whether a supplement to the original EIS can be submitted (Regulations 30–33).

26.4.7 Appeal process

Provision is made in Regulation 24 for an appeal process. Any party aggrieved by a decision or action of ZEMA may submit an appeal in writing to the Minister of the ministry responsible for the environment. The complaint should be sent to the Minister within 10 days of receiving a decision letter from ZEMA.

The Minister should render a decision within 14 days of receipt of the appeal. If the aggrieved party is not content with a decision of the Minister, s/he may appeal to the High Court

26.4.8 Post-assessment environmental audits

According to Regulation 28, a developer is required to carry out an environmental audit a year after the commencement of a given project's operations, however ZEMA may direct a developer to carry out an audit at any time. The audit should be carried out by two appropriately qualified people who prepared the EIS for the project. Where this is not possible two ZEMA-approved people may be used instead. The audit should focus on the implementation conditions attached to the Environmental Authorisation and provide information on performance against the implementation conditions. The findings of the audit should be compiled in a report and submitted to ZEMA. ZEMA may require a developer to take remedial actions based on the findings of the audit report and request additional environmental audits.

An inspector may undertake investigations relating to the implementation of any condition or measure to be taken following an environmental audit at any time.

26.4.9 Strategic environmental assessment

Section 23 of the Act states that a strategic environmental assessment (SEA) must be conducted for any draft policy, programme or plan that could have an adverse effect on environmental management or the sustainable management and utilisation of natural resources. Section 23(3) specifies the contents of such an assessment. Where a SEA recommends amendments to a policy, plan or programme, ZEMA will ensure that the amendments have been brought about before approving such a document. Regulations on SEA are currently in draft (see s. 26.3.5 below).

26.4.10 Transboundary impacts

Zambia is a land-locked country in southern Africa. It is surrounded by seven countries: Angola, Democratic Republic of Congo, Tanzania, Malawi, Mozambique, Zimbabwe and Namibia. Zambia also meets an eighth country, Botswana, at a point in the Zambezi River near Kasane and Kazungula.

Regulation 11 of the EIA Regulations requires that those preparing an EIA report to indicate whether the environment of any neighbouring state is likely to be adversely affected by a proposed project. In addition, Section 44 of the Act provides a framework for the control and restriction of any contaminants that may have a regional or global effect. Section 85 of the Act relates to trans-boundary environmental programmes and trans-boundary impacts. Section 85(1) specifies that the Minister, in consultation with other sectors, must enter into dialogue with the relevant authorities of neighbouring countries where transboundary impacts may occur. The Kazungula Bridge project across the Zambezi River is a good example of trans-boundary cooperation between Zambia and Botswana regarding the management of trans-boundary impacts.

26.5 Other relevant environmental legislation in Zambia

Environmental issues cut across a range of sectors, and numerous pieces of legislation in Zambia have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 26.8.

Table 26.8: Other potentially applicable sectoral requirements

Sector	Primary agency	Title and date of document	Purpose
Water resources	Department of Water Resources Development,	Water Resources Management Act, 2011, repeals the Water Act, Cap. 312, 1948	The Act provides for the ownership, control and use of water. It delegates management of water resources through Catchment Councils established under the Act, consisting of the water users of the catchment. It further provides for the equitable, reasonable and sustainable use of water resources in Zambia.
	Ministry of Water Development, Sanitation and Environmental Protection	National Water Policy, 1994 Water Pollution Control (Effluent and Wastewater) Regulations, 1993	The Policy and Regulations promote sustainable water resources development to facilitate an equitable provision of adequate and quality water for all users and to ensure security of supply under varying conditions.
		Water Supply and Sanitation Act, No. 28 of 1997	This Act regulates water supply and sewerage utilities to protect consumers from unjustified tariffs.
Air	ZEMA	Environmental Management (Licensing) Regulations SI. No. 112 of 2013	The Regulations require point source polluters to be licensed.

Sector	Primary agency	Title and date of document	Purpose
Waste	ZEMA	Environmental Management (Licensing) Regulations SI. No. 112 of 2013	The Regulations aim to ensure adequate waste management for all project sites and operating areas. They require the transportation and disposal of waste and the operation of waste sites to be licensed.
	Local government	Solid Waste Regulation and Management Act, No. 20 of 2018	Regulates the collection and disposal of municipal solid waste
Hazardous waste	ZEMA	Environmental Management (Licensing) Regulations SI. No. 112 of 2013	The Regulations provide for the storage, transportation, handling, treatment and the control of illegal trafficking of such waste and the licensing of such activities.
Toxic substances and other environmentally hazardous substances	ZEMA	Environmental Management (Licensing) Regulations SI. No. 112 of 2013	The Regulations stipulate the registration, labelling and packaging, general handling, use and safety, and storage and disposal of pesticides and toxic substances. The Regulations also set out the control measures and permit requirements for ozone depleting substances.
	Radiation Protection Authority, Ministry of Health and ZEMA	Ionising Radiation Protection Act, No. 16 of 2015	This Act establishes the Radiation Protection Authority as a body corporate and constitutes the Radiation Protection Authority Board. It also provides rules relative to practices and sources capable of producing ionising radiation or release of radioactive substances or material.
Energy	Ministry of Energy	Energy Regulation Act, Cap. 436, 1995 National Energy Policy	The Act establishes the Energy Regulation Board and provides for the licensing of undertakings for the production of energy or the production or handling of certain fuels.
Electricity	Ministry of Energy Energy Regulation Board	Electricity Act	This is the governing Act for the operations of the power stations.
Health	Ministry of Health	Public Health Act, No. 22 of 1995	The Act provides for the prevention and suppression of diseases and the general regulation of all matters connected to public health.
Planning and zoning	Ministry of Local Government	Urban and Regional Planning Act, No. 3, of 2015	The Act provides for development, planning and administration principles, standards and requirements for urban and regional planning processes and systems. It provides for a framework for administering and managing urban and regional planning for Zambia. It provides for a planning framework, guidelines, systems and processes for urban and regional planning for Zambia.
Forestry	Forestry Department – Ministry of Lands and Natural Resources	Forests Act, No. 4 of 2015 National Forestry Policy Local Forests Control and Management Regulations	These legal instruments control, manage, conserve and administer national and local forests, and control the participation of local communities, traditional institutions and non-governmental organisations. They relate to the conservation and sustainable use of

Sector	Primary agency	Title and date of document	Purpose
			forests and trees, and the implementation of international instruments.
Mining and mineral resources	Ministry of Mines and Mineral Development	Mines and Minerals Act, No. 31 of 1995	The Act regulates the law relating to mines and minerals.
Petroleum resources	Ministry of Mines and Mineral Development	Petroleum (Exploration and Production) Act, No. 13 of 1985	The Act aims to regulate the exploration, development and production of petroleum products. Even though it contains some environmental obligations, it is silent on natural gas exploration. Moreover, it does not require EIAs before applying for the licensing of petroleum exploration and production activities.
Conservation	Ministry of Lands and Natural Resources	Natural Resources Conservation Act, Cap. 315, 1970, read with Part X of EPPCA, 1990	The Act relates to the monitoring of natural resource conservation and utilisation outside forest reserves and national parks.
		National Policy on Wetlands Conservation, September 2001	This Policy was formulated in response to the fragmented sectoral policies and Acts. It aims to provide a holistic programme of action to promote the conservation and wise use of wetland ecosystems. It acknowledges the importance of wetland ecosystems in Zambia in providing major fisheries and as important habitats for various wildlife species.
Wildlife and natural resources	Department of Parks and Wildlife	Zambia Wildlife Act, No. 12 of 1998	The Act controls and manages national parks, game management areas and bird sanctuaries for purposes of conserving and enhancing wildlife ecosystems.
Agriculture and land	Ministry of Agriculture Ministry of Lands and Natural Resources	Agriculture (Fertilizer and Feeds) Act, No. 226 of 1990	The Act regulates and controls the manufacture, processing, importation and sale of agricultural fertilisers and feed, and establishes minimum standards of purity.
Fisheries	Fisheries Department – Ministry of Fisheries and Livestock	Fisheries Act, Cap. 200, 1974	The Act provides for the development of commercial fishing, the registration of fishermen and their boats, and the protection of endangered species.
Transmission	Ministry of Energy	Electricity Act, 1995	
Tourism	Ministry of Tourism and Arts	Tourism Act, No. 29 of 1985	The Act provides for the control of tourism enterprises. Although it makes no explicit reference to environmental protection, conservation or natural resource management, the Act does provide for appeals against authorising tourist projects deemed to affect Zambian tourism negatively – which is generally based on natural resources.
Archaeological, historical and cultural	National Heritage Conservation Commission – Ministry of Tourism and Arts	National Heritage and Conservation Act, 1989	The Act provides for the conservation of ancient, cultural and natural heritage, relics and other objects of aesthetic, historical, pre-historical, archaeological or scientific interest.
Zambezi River	Zambezi River Authority	Zambezi River Authority Act, No. 17 of 1987	The Act provides for the interstate agreement between Zambia and

Sector	Primary agency	Title and date of document	Purpose
			Zimbabwe relating to the utilisation of the Zambezi River (Kariba Dam).
Development	Zambia Development Agency	Zambia Development Agency Act, 2006	The Act provides a framework for efficient, effective and coordinated development through private sector-led economic development strategies.
Labour employment and occupational health and safety	Ministry of Labour and Social Security	The Employment Code Act, No. 3 of 2019	An Act to regulate the employment of persons; prohibit discrimination at an undertaking; constitute the Skills and Labour Advisory Committees and provide for their functions; provide for the engagement of persons on contracts of employment and provide for the form and enforcement of the contracts of employment; provide for employment entitlements and other benefits; provide for the protection of wages of employees; provide for the registration of employment agencies; regulate the employment of children and young persons; provide for the welfare of employees at an undertaking; provide for employment policies, procedures and codes in an undertaking.
	Ministry of Health	Occupational Health and Safety Act, No. 36 of 2010	An Act to establish the Occupational Health and Safety Institute and provide for its functions; provide for the establishment of health and safety committees at workplaces and for the health, safety and welfare of persons at work; provide for the duties of manufacturers, importers and suppliers of articles, devices, items and substances for use at work; provide for the protection of persons, other than persons at work, against risks to health or safety arising from, or in connection with, the activities of persons at work; and provide for matters connected with, or incidental to, the foregoing.

Appendix 26-1: List of projects requiring a Project Brief

As prescribed in section 3(2) of the EIA Regulations, a developer must compile a **Project Brief** if the project is listed in the First Schedule.

First Schedule

Projects

- a. Urban area rehabilitation
- b. Water transport
- c. Flood control schemes
- d. Exploration for and production of hydrocarbons, including refining and transport
- e. Timber harvesting and processing in forestry (*sic*)
- f. Land consolidation schemes
- g. Mining and mineral processing, reduction of ores, minerals, cement and lime kilns
- h. Smelting and refining of ores and minerals
- i. Foundries
- j. Brick and earthen manufacture (*sic*)
- k. Glass works
- l. Brewing and malting plants
- m. Plants for manufacture of coal briquettes
- n. Pumped storage schemes
- o. Bulk grain processing plants
- p. Hydropower schemes and electrification
- q. Chemical processing and manufacture.

Others

- a. Resettlement schemes
- b. Storage of hydrocarbons
- c. Hospitals, clinics and health centres
- d. Cemetery designation
- e. Touring and recreational development in national parks or similar reserves
- f. Projects located in or near environmentally sensitive areas, such as:
 - i. Indigenous forests;
 - ii. Wetlands;
 - iii. Zones of high biological diversity;
 - iv. Areas supporting populations of rare and endangered species;
 - v. Zones prone to erosion or desertification;
 - vi. Areas of historical and archaeological interest;
 - vii. Areas of cultural or religious significance;
 - viii. Areas used extensively for recreation and aesthetic reasons;
 - ix. Areas prone to flooding and natural hazards;
 - x. Water catchments containing major sources for public, industrial or agricultural uses; and
 - xi. Areas of human settlements (particularly those with schools and hospitals).

Appendix 26-2: List of projects requiring an EIA

In terms of section 7(2) of the EIA Regulations, 1997, a developer is required to compile an EIS if the development is listed in the Second Schedule.

Second Schedule

- 1 Urban development**
 - a. Designing of new townships, which are 5 ha or more in size, or sites covering 700 dwellings and above;
 - b. Establishment of industrial estates;
 - c. Establishment or expansion of recreational areas, such as golf courses, which would attract 200 or more vehicles; and
 - d. Shopping centres and complexes with floor areas of 10 000 m² and above.

- 2 Transportation**
 - a. All major roads outside urban areas, the construction of new roads and major improvements over 10 km in length, or over 1 km in length if the road passes through a national park or game management area;
 - b. Railway lines 10 km away from built-up areas;
 - c. Airports and airfields whose runways are 1800 m or more in length;
 - d. Pipelines: for water, diameter 0.5 m and above, and with a length of 10 km outside built-up areas; for oil, 15 km or more in length, of which 5 km or more of their length will be situated in a protected area, a seriously polluted or a water abstraction area (*sic*); and
 - e. Establishment or expansion of harbours or pontoon areas.

- 3 Dams, rivers and water resources**
 - a. Dams and barrages covering a total of 25 ha or more;
 - b. Exploration for, and use of, groundwater resources, including the production of geothermal energy; water to be extracted to be more than 2 million m³/s; and
 - c. Water supply – reservoir surface area of 50 m² or more.

- 4 Mining: including quarrying and opencast extraction**
 - a. Copper mining, coal site (*sic*);
 - b. Limestone, sand, dolomite, phosphate and clay extractions of 2 ha or more;
 - c. Precious metals (silver, zinc, cobalt, nickel);
 - d. Industrial metals;
 - e. Gemstones; and
 - f. Radioactive materials.

- 5 Forestry-related activities**
 - a. Clearance of forestry in sensitive areas, such as watershed areas or for industrial use of 50 ha or more;
 - b. Reforestation and afforestation; and
 - c. Wood processing plants of 1000 tonnes or more.

- 6 Agriculture**
 - a. Land clearance for large-scale agriculture;
 - b. Introduction and use of agrochemicals new to Zambia;
 - c. Introduction of new crops and animals, especially exotic ones new to Zambia;
 - d. Irrigation schemes covering an area of 50 ha or more;
 - e. Fish farms, of which production is 100 tonnes or more per year; and
 - f. Aerial and ground spraying – industrial scale.

7 Processing and manufacturing industry

- a. Cement works and lime processing – 1000 tonnes or more a year;
- b. Fertiliser manufacturing or processing – 1000 tonnes or more per year;
- c. Tanning and dressing of hides and skins – 1000 skins per week
- d. Abattoirs and meat processing plants – 20 000 carcasses and above per month;
- e. Fish processing plants – more than 100 tonnes a year;
- f. Pulp and paper mills – daily output of 50 air-dried tonnes and above per day; and
- g. Food processing plants – 400 tonnes or more output a year.

8 Electrical infrastructure

- a. Electricity generation stations;
- b. Electrical transmission lines – 220 kV and more than 1 km in length; and
- c. Surface roads for electrical and transmission lines for more than 1 km long.

9 Waste disposal

- a. Sites for solid disposal: construction of permanent disposal sites with 1000 tonnes and above a day;
- b. Sites for hazardous disposal of 100 tonnes or more a year; and
- c. Sewage disposal works – with a capacity of 15 000 litres or more a day.

10 Nature conservation areas

- a. Creation of national parks, game management areas and buffer zones;
- b. Commercial exploitation of natural fauna and flora; and
- c. Introduction of alien species of flora and fauna to local ecosystems.

Appendix 26-3: Issues to be considered when preparing Terms of Reference

The following impacts and issues may, among others, be considered for inclusion, as appropriate, in the preparation of the Terms of Reference.

1. Ecological considerations, including

(a) Biological diversity

- (i) Effect on number, diversity, breeding sites, etc. of flora and fauna;
- (ii) Breeding populations of fish and game; and
- (iii) Effects on the gene pools of domesticated and wild sustainable yield.

(b) Sustainable use, including:

- (i) Effects on soil fertility;
- (ii) Nutrient cycles;
- (iii) Aquifer recharge, water runoff rates, etc.;
- (iv) Aerial extent of habitats; and
- (v) Bio-geographical processes.

2. Social, economic and cultural considerations, including:

- (i) Effects on generation or reduction of employment in the area;
- (ii) Social cohesion or disruption (resettlement);
- (iii) Immigration (including induced development when people are attracted to a development site because of possible enhanced economic opportunities);
- (iv) Communication – roads opened up, closed, rerouted; and
- (v) Local economic impacts.

3. Landscape

- (i) Views opened up or closed;
- (ii) Visual impacts (features, removal of vegetation, etc.);
- (iii) Compatibility with surrounding areas; and
- (iv) Amenities opened up or closed e.g. recreation facilities.

4. Land use

- (i) Effects on land uses and land potential in the project area and in the surrounding areas; and
- (ii) Possibility of multiple uses.

5. Water

- (i) Effects on surface water quality and quantity;
- (ii) Effects on underground water quality and quantity; and
- (iii) Effects on the flow regime of the watercourse.

6. Air quality

- (i) Effects on the quality of the ambient air of the area; and
- (ii) Type and amount of possible emissions (pollutants).

Acronyms

EIA	environmental impact assessment
EIS	environmental impact statement
EMA	Environmental Management Act
EMP	environmental management plan
EPPCA	Environmental Pollution Prevention and Control Act
NGO	non-governmental organisation
SEA	strategic environmental assessment
SI	statutory instrument
ToR	terms of reference
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambian Electricity Supply Company Ltd

Useful contacts

Department	Ministry	Telephone	Fax	Website
Zambia Environmental Management Agency	Ministry of Water Development, Sanitation and Environmental Protection	+260 21 1254023	+260-21-1254164	www.zema.org.zm