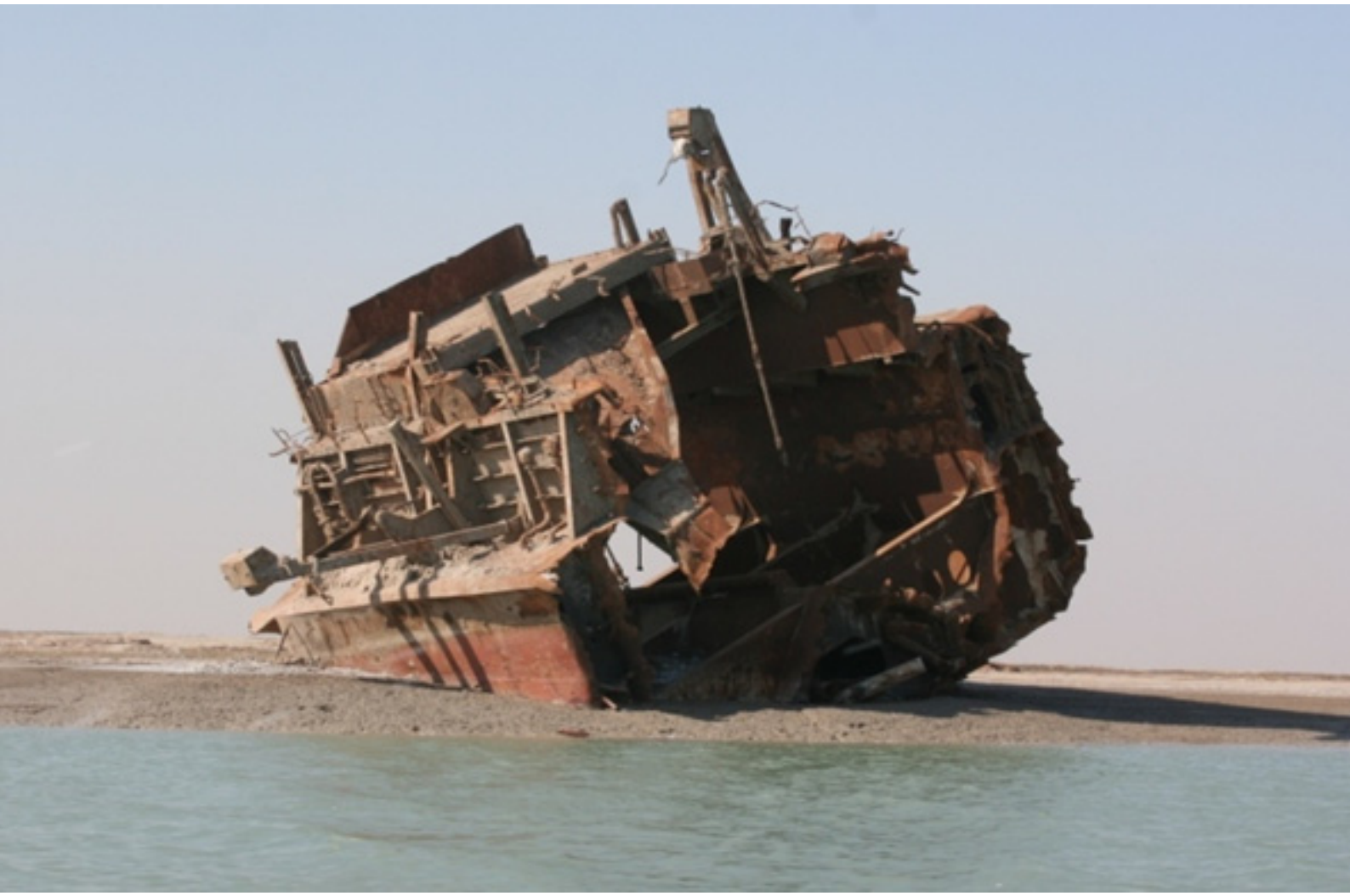
Chapter 4 – Policy, Legal and Administrative Framework



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4 Policy, Legal and Administrative Systems

4.1 Introduction

Given the economic and security challenges that the Iraq has faced, and still continues to face, environmental management has been neglected, however, there has been noticeable focus on the development and introduction of environmental legislation in more recent years, and the control and management of polluting industries and activities are becoming increasingly regulated. However, there is limited enforcement at present and there is a need for further development of such legislation and the associated enforcement regimes.

The main issues in Iraq with respect to constraints on the implementation of effective environmental protection measures are:

- there is limited effective institutional or administrative infrastructure for management of environmental protection regimes or promotion of sustainable development;
- there is limited participation in regional and global environmental agreements and processes; and
- there is limited adequate legislation or enforcement of this legislation.

The establishment of the Ministry of Environment (MoE) in September 2003, which gradually replaced the environment department within the Ministry of Health (MoH), has allowed for a more focused approach to the environment, and the development of new environmental legislation.

For example, Law No. (27) of 2009 for Protection and Improvement of the Environment has established penalties for companies and individuals that breach environmental standards. This is considered, at the current time, the primary environmental legislative instrument in Iraq. It also upholds existing regulations which have established environmental standards. Additionally, in terms of redevelopment projects, an Environmental Compliance Certificate is required for certain projects. In order to obtain such a certificate, an Environmental Impact Assessment (EIA) must be produced for the development proposals, which must be submitted to the MoE. This legislation should ensure that there is pre-project environmental evaluation of major projects before they commence and provides opportunities for environmental management and protection systems to be incorporated into new developments at the design stage.

The process developers must adhere to in order to obtain an Environmental Compliance Certificate is outlined in *Figure 4.1*. A full overview of Law No. (27) of 2009 is provided below.

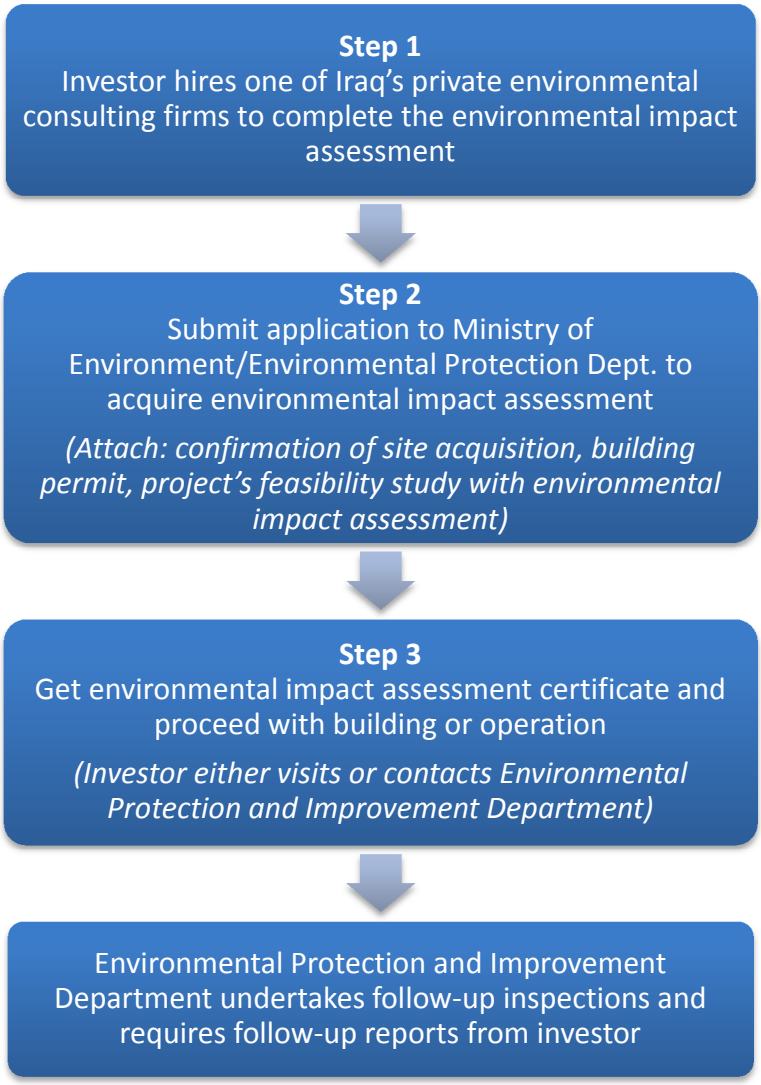

Figure 4.1: *Obtaining an Environmental Compliance Certificate (Modified from USAID Investor Guide to Iraq September 2009[1])*

The Environmental Compliance Certificate (ECC) and associated EIA are not explicitly connected to port related developments in Law 27 (which makes no reference to Ports). Furthermore, the principal objective of the ECC seems to be the appropriate zoning and location of developments with respect to sensitive environmental receptors. The regulation

[1] http://pdf.usaid.gov/pdf_docs/pnadx187.pdf

focus on the distance from residential habitation that a certain type of industry must be located rather than specific environmental protection measures or emission limit values (which are prescribed more generically elsewhere in the legislation). Notwithstanding the lack of specific application to port related projects, the developer has elected to comply with the requirements of Law 27 and to undertake an ESIA to internationally recognised standards, the findings of which are presented in this report.

4.2 National Legislation

In addition to the aforementioned principal environmental law (*i.e.* Law No. (27) of 2009), there are various laws and instructions which will assist in the undertaking of an EIA and IEE, which establish assessment criteria against which environmental baseline conditions should be compared. *Table 4.1* summarises the principal environmental and other relevant regulations and instructions currently in operation within Iraq as well as providing details of which are applicable to the project.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Cities land use	Law 64	1965	-	Current	No
Rangelands and their Protection	Law 106	1965	Measures to organise grazing and to improve Ranges outside the areas irrigated by rivers, prohibit tree or shrub cutting or hay making for commercial or agricultural purposes without a licence.	Current	No. Site is not used for agricultural purposes.
Noise Prevention	Law 21	1966	Prevention of excessive noise in public places.	Current	No. Lack of public places in vicinity of site
Preservation of Rivers and Public Water from Contamination	Regulation 25	1967	Protection of rivers and public water bodies from contamination Wastewater discharges.	Current Updated in 2001	Yes. The Terminal will be operated to industry standard pollution prevention procedures to help reduce the risk of contamination. The Terminal will either utilise a bespoke sewage treatment plant or wastewater will be removed off-site.
Wastewater Discharge Quality Requirements	Instruction 1	-	Wastewater discharge concentration limits.	Current	Yes. The Terminal will either utilise a bespoke sewage treatment plant or wastewater will be removed off-site.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
The New Determinants for the Prevention of Pollution of Rivers	Instruction 25	1967	Physical, chemical and biological guidelines for water quality and wastewater discharges.	Current	Yes. The Terminal will be operated to industry standard pollution prevention procedures to help reduce the risk of contamination. The Terminal will either utilise a bespoke sewage treatment plant or wastewater will be removed off-site.
Regulating the Exploitation and Protection of Aquatic Life	Law 48	1976	Regulates fishing and aquaculture.	Current	No.
Protection of Wild Animals and Birds	Law 21	1979	Breeding of wild animals in protected areas and the creation of natural habitats for wild animals and birds.	Current	Unlikely due to the low ecological sensitivity of the site, however, the Khor Al-Zubair is an Important Bird Area (IBA).
National Clean Air Act		1979	Local air quality standard	Current	Yes. Due to the site's operational activities.
Protection Against Ionizing Radiation	Law 99	1980	Ionizing radiation sources.	Current	No. No sources of radiation to be present on-site.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Internal Regulation of the State Organization for Land Reclamation	-	1980	Prescribes the tasks and structure of a public agency entitled 'The State Organization For Land Reclamation'.	Current	No. No land reclamation to be undertaken.
Public Health Act	Law 89	1981	Wide-ranging Act includes the burial of waste, protection for workers from the effects of vibration.	Current	Yes. The site will generate wastes during construction and operation. Appropriate PPE will be provided to personnel.
Environmental Protection and Improvement	Law 76	1986	Repealed by Law No. 3 (1997) on Protection and Improving the Environment.	Repealed	N/A
Safe Storage and Handling of Chemicals	Instruction 4	1989	Safe storage and handling of chemicals.	Current	Yes, however, the Terminal will utilise industry-standard procedures to minimise the risk.
Environmental Criteria for Industrial, Agricultural, and Public Service Projects	-	1990	Environmental requirements of industrial, agricultural and public service developments.	Current	Yes. It is likely that the Terminal will come under (64) Fuel Depot.
Chief of the Environmental Protection Board Concerning the Cutting of Trees	Decision No. 1	1991	-	Current	No. No trees are located on-site.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Noise emitted from sound equipment	Instruction 2	1993	Applicable to tourist facilities, concert venues etc.	Current	No
Establishing the Ministry of Irrigation	Law 8	1993	Resolution No. 68 of 1993 Promulgating Law No. 8 of 1993.	Current	Unlikely. Although, the Ministry's remit include planning of water resources and control of water flow, this is likely to be regarding irrigation rather than infrastructure developments.
Planning	Law 24	1994	-	Current	No
Maintenance of networks of irrigation and drainage	Law 12	1995	Provides for the management and maintenance of irrigation and drainage networks.	Current	Unlikely, however, it does provide for the management and maintenance of natural rivers.
Law Concerning Ports	Law 27	1995	Ports and the prevention of water pollution.	Current	Yes, however, the Terminal will be run using industry-standard procedures to help minimise the risk of pollution.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Protection and Improving the Environment	Law 3	1997	Revoked by Protection and Improvement of the Environment (Law No. 27, 2009). Regulations and instructions issued in accordance with the 1997 law shall remain in full force in a way not to contradict with the 2009 Law until replaced or cancelled. 1st amendment No.73 of 2001.	Revoked	N/A
Maintenance of Rivers and Public Water from Contamination	Regulation 25	1997		Current	Yes, however, the Terminal will be run using industry-standard procedures to help minimise the risk of pollution.
Preservation of Water Resources	Regulation 2	2001	-	Current	Yes. The Terminal will utilise water preservation techniques wherever possible.
Drinking Water Standards	Specification 417	2001	Drinking water standards.	Current	Yes.
The Law of Antiquities and Heritage	Law 55	2002	-	Current	No sites of cultural heritage located on or in the vicinity of the Terminal.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Arabian memorandum of understanding in cooperation in marine transportation	Law 6	2007	-	Current	No
RAMSAR Convention for the wetlands	Law 7	2007	-	Current	No. The nearest Ramsar site is located in the Mesopotamian Marshlands.
Vienna convention and Montreal protocol to protect the Ozone layer	Law 42	2007	-	Current	Yes. Equipment used on-site will not consume ozone depleting substances.
Climate Change Convention and Kyoto protocol	Law 7	2008	-	Current	No
UNESCO Convention to protect the cultural intangible heritage	Law 12	2008	-	Current	No
Convention for Biological Diversity	Law 31	2008	-	Current	No

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
The Ministry of Environment	Law 37	2008	The MoE structure, goals and the means of implementing them. MoE was previously the Council of Protection and Improvement of Environment. Formerly CPA Order 44 (2003).	Current	Yes. ESIA to be submitted to the MoE.
Iraq signing up to Basel Convention	Law 3	2009	-	Current	No. Site is unlikely to produce hazardous wastes.
Protection and Improvement of the Environment	Law 27	2009	General environmental protection including EIA for major developments. Section 2 - Protection of water resources Section 3 – Air pollution and noise reduction Section 4 – Protection of land Section 5 – Protection of biodiversity Section 6 - Management of hazardous materials and wastes Section 7 - Protection of the environment from pollution resulting from the exploration and the extraction of oil and natural gas	Current	Yes. Including details of the EIA requirements. Other sections directly relate to the Terminal's operations.
Regulate the regions for the collecting debris to landfills	Law 29	2009	Updates Regulation No. 67 (1986).	Current	Yes. Wastes will be produced on-site.

Table 4.1: Iraq – Register of Environmental Regulations and Instructions

Name	Reference	Date	Additional Notes	Status	Project Relevance
Law of Forests and nurseries	Law 30	2009	Formerly Law 75 (1955). Notification No. 5 of 1967 prohibits the cutting of trees and charcoal making.	Current	No. No trees are present on-site.
Law on the protection of wild animals and birds	Law 17	2010	Formerly Law No. 21 (1979).	Current	Possibly due to the presence of the IBA.
Law of categorisation and siting of Industrial facilities.	Instruction 3	2012	This lists a wide range of potentially polluting industries and activities into three classes (A, B & C) and sets out how far certain industrial activities in each class can be located from municipal and urban areas (creating buffer zones in effect). It does not relate to Ports.	Current	No

4.2.1 General Environmental Legislation

Protection and Improvement of the Environment (Law No. 27, 2009)

This law, which replaces and repeals Environment Protection and Improvement Law No. (3), 1997 (note that regulations and instructions issued pursuant to the 1997 law shall remain in full force in a way not to contradict with the provisions of the 2009 law, until replaced or cancelled), aims to protect and improve the environment and natural resources, preserve public health, biodiversity and cultural and natural heritage, to ensure sustainable development and international and regional cooperation in this area. Specifically this law details the requirements for an EIA for major developments.

The law defines, amongst other things:

- Environmental contaminants as being any solid material, liquid or gas, noise, vibration, radiation, heat or flare, or the like, or ecological factors that lead directly or indirectly to the pollution of the environment.
- Environmental determinants (*i.e.* the permissible limits of concentration of each pollutant that are allowed to be put to into the environment under national standards).
- Hazardous waste (waste that causes or is likely to cause as a result of the contents of the material, serious harm to humans or the environment).
- Waste (unusable or non-recyclable solid, liquid or gaseous wastes from various types of activities).
- Dangerous materials (materials that are harmful to human health when abused or adversely affect the environment, such as pathogens, toxic substances, explosive or flammable substances, ionizing radiation, or magnetic materials).
- Land degradation (the loss of some chemical, morphological, physical, fertility or microbiology properties).

Article 3 establishes under this Law the Environment Protection and Improvement Council, associated with the MoE, to protect and improve the environment. In accordance with Article 4 this Council is to include representatives from each of the following:

- Ministry of Municipalities and Public Works.
- Ministry of Planning and Development Cooperation.
- Ministry of Higher Education and Scientific Research.

- Ministry of Interior.
- Ministry of Agriculture.
- MoH.
- Ministry of Industry and Minerals.
- Ministry of Science and Technology.
- Ministry of Electricity.
- Ministry of Water Resources.
- The Ministry of Oil.
- Ministry of Transport.
- Ministry of State for Tourism and Antiquities.
- Ministry of Foreign Affairs.
- Ministry of Education.
- Ministry of Commerce.
- Ministry of Labour and Social Affairs.
- Ministry of Culture.
- The Ministry of Construction and Housing.
- Municipality of Baghdad.
- The Iraqi commission for the control of sources of radioactivity.
- Ministry of Defence.

The objectives of the Council, as defined in Article 6, are to:

- Provide advice on environmental matters.
- Review and comment on the environmental aspects of plans, projects and national programs prepared by the ministries and stakeholders before approval, and monitor implementation.

- Co-ordinate with relevant ministries and authorities in the preparation of local programs for the protection of the environment and to follow-up the implementation of these programmes.
- Express an opinion in Arab and international relations with respect to environmental affairs.
- Comment on national and ministry emergency and environmental disaster plans.
- Co-ordinate between the activities of ministries and agencies with respect to environmental protection, and evaluate their work.
- Comment on legislation related to the environment or projects.
- Implement projects to protect and improve the environment in the provinces.
- Co-operate with ministries and stakeholders in the preparation of a list of sites of natural and cultural heritage and those nominated for World Heritage designation.
- Prepare an annual report of the environmental situation in the Republic of Iraq for submission to the Council of Ministers.

Article 7 relates to the establishment of a council in each governorate, to be known as the Environment Protection and Improvement Council. The Article states that every Council be chaired by the governor, and that the chairman of the Council determines the associated functions and operation of the Council. The Council to protect and improve the environment in the governorate has the right to consult specialists or representatives from the public, private, mixed and cooperative sectors, with respect to environmental matters related to the authority, but these representatives have no voting rights.

Article 8 requires planning authorities to introduce considerations for protection of the environment and for pollution control, consumption of natural resources and for sustainable development in applications for development projects.

Article 9 relates to polluting activities, with respect to:

- The use of environmentally clean technology to address pollution, and for efficient operation.
- The monitoring and recording of pollutants.
- Building an information base on environmental protection, to include concentrations and levels of pollutants resulting from polluting activities.

- Work on the use of renewable energy technologies to reduce pollution.

Article 10 relates to the need for an environmental impact assessment (EIA) prior to the commencement of a project. According to Article 10, an EIA must include the following:

- Determine the positive and negative impacts of the project on the environment and the impact on the surrounding environment;
- Detail the proposed methods to avoid and treat the causes of pollution in order to achieve compliance with environmental regulations and instructions;
- Propose contingencies for pollution emergencies and potential precautions;
- Detail possible alternative technology that is less harmful to the environment and the rational use of resources;
- Detail provisions to reduce and recycle waste, where possible; and
- Provide an assessment of the environmental feasibility of the project and an estimate of the cost of pollution relative to production.

The EIA must assess the environmental feasibility of the project and estimate the cost of pollution relative to production.

Article 11 relates to preventing the operation of activities which can adversely affect the environment for which approval of the Ministry has to be obtained.

Article 12 relates to the extension/expansion of existing facilities or the renovation of such facilities with respect to the provisions detailed in Articles (9), (10) and (11) of this Law.

Article 13 addresses the need for the introduction of educational institutes specialising in environmental science to provide education and training in coordination with the Ministry of Environment, and for the promotion of environmental awareness programs (public and private programs), and for the authorities to prepare cultural programs, books, publications and bulletins, which aims to develop environmental education.

Section II Protection of water resources from pollution

Article 14 relates to the prevention of:

- The discharge of effluents (domestic, industrial, agricultural) to inland water resources, groundwater or surface waters, or Iraqi maritime waters, without treatment to ensure

compliance with the specifications set out in national environmental legislation and international conventions.

- With respect to residential dwellings and industry, connecting or discharging of sewage, effluents from industry and other activities, to rain water drainage systems.
- The disposal of solid waste, animal waste and corpses, or scrap material into water resources.
- The use of toxic substances and explosives to catch fish, birds and aquatic animals.
- The discharge from oil tankers of waste oil, wastewaters or fuel to surface water or territorial waters of the Iraqi navy.
- Any act that may lead to the pollution of surface water resources as a result of the exploitation of the river, unless approved by the concerned authorities.
- Any acts that lead to pollution of the marine area as a result of exploration or exploitation of the seabed of the territorial sea and its subsoil and the continental shelf, including pollution emergencies which result in damage to the marine environment, to ensure compliance with national legislation and the principles and provisions of international law.

Section III Air pollution and noise reduction

Article 15 prevents:

- Emissions of fumes or gases or vapours resulting from production processes or burning fuel, in breach of national environmental legislation.
- The use of engines or vehicles which produce exhaust emissions in excess of the permissible limits as stated in national environmental legislation.
- The burning of solid waste unless in designated areas and in an environmentally safe manner.
- Exploration, drilling, construction or demolition activities that use raw materials and produce wastes and dust, unless necessary precautions are taken to prevent pollution.
- Working with activities emitting non-ionizing electromagnetic radiation emitted from the major broadcasters, towers and antennas for mobile phones and other, in excess of the limits established by the Ministry for this purpose.

Article 16 relates to the prevention of high levels of noise above permissible limits in the operation of machinery, equipment, horns and loudspeakers.

Section IV Protection of land

Article 17 relates to the prevention of the following:

- Any activity that directly or indirectly results in soil degradation or soil pollution.
- Non-compliance with the design for urban areas, thus protecting land from urban sprawl.
- Any activity that would result in desertification, or would impact the natural environment unless approved by the relevant authorities.
- The demolition or damage to designated areas of natural and cultural heritage.
- Disposal of solid waste unless in places allocated for such disposal.

Section V Protection of biodiversity

Article 18 prevents the following:

- Damage to biota in their habitats.
- Fishing, hunting or trafficking of threatened and endangered species.
- The hunting, killing, keeping, or transfer of protected species (birds, wildlife and aquatic species) as identified by the authorities.
- Damage to plants and rare medicinal and aromatic plants used for scientific, medical, industrial, or trade purposes, or its seeds, in according with the requirements of the authorities.
- Cutting of perennial trees (*i.e.* trees over 30 years of age) in public areas within the city, unless permitted.
- Logging in the forest unless approved by the regulatory authorities.
- The introduction of plants and animals into the environment, unless permitted by the regulatory authorities.
- Genetic engineering research which may be detrimental to the environment.

Section VI Management of hazardous materials and wastes

Article 19 requires that the Ministry should, in cooperation with the relevant organisations, develop national registers for hazardous chemicals in use in the Republic of Iraq, and for hazardous wastes.

Article 20 relates to the following:

- Control in the use of pesticides or any other chemical compounds.
- The use of environmentally sound methods for the transportation, transfer, storage and disposal of hazardous waste, including radioactive materials, and obtaining regulatory approvals for such activities.
- Ensure that the production, transportation, import or storage of hazardous materials does not result in environmental damage and that the precautions stipulated in the laws and regulations are adhered to. The regulations require that the Ministry be notified of any environmental incident that occurs, and that necessary actions should be taken to minimise the risk of environmental damage as a result of the incident.
- Prohibits the introduction of hazardous and radioactive wastes from other countries to or through Iraqi land, sea or airspace unless regulatory approval has been obtained.
- Prohibits the treatment of hazardous waste without a license for such activities.

Section 7 Protection of the environment from pollution resulting from the exploration and the extraction of oil and natural gas

Article 21 stipulates the following:

- Measures should be in place to reduce the risk of environmental damage as a result of exploration and drilling activities for oil and gas and that necessary precautions and measures should be taken to protect the land, air, water and aquifers from pollution and destruction.
- Salt water associated with the extraction of crude oil should be disposed of in an environmentally safe manner.
- Prevention of oil spills to surface waters or into groundwater aquifers that are used for human and agricultural purposes.

- The Ministry should be informed of the causes of any fires and explosions, and leakage of crude oil and gas from wellheads and pipelines, and of the remedial actions taken during such events.

Chapter 5 Environmental Control, Article 22 relates to environmental monitoring for those activities which affect the environment.

Article 23 requires the operator of a facility which is subject to environmental control to maintain records of the releases to the environment in accordance with requirements issued by the Minister.

Article 24 relates to the implementation of this Law by the Ministry of the Environment.

Chapter 6 relates to The Environmental Protection Fund which is established by Article. 26.

Chapters 8 and 9 relate to penalties and penal provisions that have to be paid as a result of any damage caused. Article 33 states that polluters must pay "a fine of not less than 1 million dinars and not more than 10 million dinars repeated each month until the removal".

Article 34 states that if the pollution is not remedied this can result in imprisonment and further fines 'for a period of not less than three months or a fine of not less than 1 million dinars and not more than 20 million dinars, or both'. 'The penalty shall be doubled each time the violation is perpetrated'.

Article 25 states that the perpetrator 'shall be prone to imprisonment and bound to return the materials or the hazardous or radioactive wastes to its origin or dispose of them in a safe manner, together with compensation'.

Law, No. 8 of 2008 and Law No. 3 of 2010 are effectively a repeat of Law No. 27 of 2009 for Environmental Protection and Improvement but are specific to the Kurdish Region.

Environmental Criteria for Industrial, Agricultural, & Public Service Projects (1990)

These regulations, which were approved by the Council for Protection and Improvement of the Environment in its meeting numbered 14, 1990, establishes environmental criteria with respect to the location and environmental requirements of industrial, agricultural and public service developments.

The environmental instructions establish three project categories:

- **Environment Polluting Activities Category (A)** – This category is for intensive environmentally polluting activities, including major agricultural or industrial projects

that could result in significant impacts on environment quality over large areas. Such activities should be located away from villages, towns, cities, *etc.*, including areas of cities, districts, sub-districts and villages, *etc.* nominated for development under a rural settlement plan. Suitable pollution controls/ abatement equipment should be provided to protect the environment.

- **Environment Polluting Activities Category (B)** – This category relates to those activities which have less potential to result in pollution than those in Category (A). Such activities include industrial, agricultural, or other activities which can result in site contamination which can be controlled. Such activities can therefore be established within city boundaries and within the development plots allocated for them, provided that pollution control equipment/treatment units are installed in accordance with relevant national regulations and instructions.

- **Environment Polluting Activities Category (C)** – This category relates to activities which cause minor levels of pollution that can be treated *i.e.* industrial factories that do not result in significant contamination, and small-scale agriculture and residential complexes, hotels, and hospitals, which generate pollution with mainly organic content that can be treated easily using pollution control equipment/treatment units. Such activities can thus be established within and outside of city borders, without any limitation, in accordance with these instructions. This also allows farm owners to set up environmentally non-polluting industries within their farms.

In cases where it is not possible to control all pollution (for example odour), the activity should be located outside of the city boundaries, and in accordance with the determinants for that activity as detailed in these instructions.

The regulations then go on to list various activities, establishing the environmental classification category for that activity, and the various site location restrictions and environmental requirements. The most relevant to the project is fuel depot (see *Table 4.2*).

Table 4.2: Example Activity and Associated Environmental Controls

Name	Category	Scope
(64) Fuel Depot (*i.e.* places were all kinds of oil products are stored).	C	**Site Restrictions:** • They are to be established within public service areas in a way that ensures they are greater than 250m from the boundaries of residential areas, hospitals, kindergartens and schools; • They are to be within 250 m of a public road. **Environmental Requirements:**

Table 4.2: Example Activity and Associated Environmental Controls		
Name	**Category**	**Scope**
		• Establish a fence which is not less than 2m height; • Provide a collection system to ensure the collection of leaked/spilt fuel, which may occur during the loading process, into special tanks; • Provide safety requirements with respect to the control of fire and emergencies which could cause environmental pollution of neighbouring areas.

4.2.2 Drinking Water

Drinking Water & Standard Methods for Testing and Analysis (Specification No. 417)

Current drinking water standards are outlined within *Table 4.3*.

Table 4.3: Drinking Water Standards	
Analyte	**Limit (mg/l)**
Acrylamide	0.0005
Arsenic	0.01
Barium	0.7
Cadmium	0.003
Chromium	0.05
Copper	1.0
Cyanide	0.02
Fluoride	1.0
Lead	0.01
Mercury	0.001
Nickel	0.02
Zinc	3.0
Nitrate (as NO_3^-)	50
Nitrite (as NO_2^-)	3.0
Selenium	0.01

Table 4.3: Drinking Water Standards	
Analyte	**Limit (mg/l)**

4.2.3 Ionizing Radiation Sources

Protection against Ionizing Radiation (Law No. 99, 1980)

This Law, which repeals Law No. 80, 1971, prohibits the acquisition, use, manufacture, storage, loan, transportation, sale, purchase, import, export or possession of ionizing radiation sources, unless licensed.

The Law establishes a Radiation Control Agency under the Environmental Protection Board, the role of which includes:

- defining radiation control policies;
- developing and supervising the implementation of plans and programmes in this area;
- coordinating and supervising radiation control activities; and
- approving plans for radiation-emitting installations and for installations who store radioactive substances (Section 4).

Section 5 provides for the establishment of a Radiation Control Centre responsible for:

- monitoring all peaceful uses of ionizing radiations;
- ensuring protection against exposure to radiation and from pollution caused by radiation sources;
- identifying radiation sources which require licensing; and
- issuing of licences (Section 6).

The Agency is responsible for granting licences and for establishing licensing procedures (Section 7), and for establishing protective measures such as maximum permitted exposure levels, and maximum permitted concentration levels of radioactive substances in air and water, in accordance with the recommendations of the International Atomic Energy Agency and other competent international organizations (Section 8).

The transport of ionizing radiation sources is subject to the requirements of the Agency (Section 9). The Agency shall establish instructions with respect to the prevention of accidents and the elimination of their consequences (Section 10).

The duties of the owners of ionizing radiation sources are provided in Sections 12 and 13.

The Regulations provide for the establishment of a medical committee under the Radiation Protection Centre (Section 18), the aims of which include:

- determining the occurrence of radiation accidents and the level of exposure of radiation; and
- reporting on the diagnosis and on medical treatments in connection with such incidents.

4.2.4 Wildlife and Habitats

Protection of Wild Animals and Birds (Law No. 21, 1979)

This Law is composed of 5 parts and 24 articles. Implementation and monitoring will be entrusted to the "Special Administration" as detailed in Article 2, and the breeding of wild animals in protected areas and the creation of natural habitats for wild animals and birds in Article 3. The rules on protection are contained in Part II.

The Minister of Agriculture and Land Reclamation shall issue in the Official Gazette a list of protected species of animals and birds, prohibited zones, hunting seasons and hunting gears and methods (Article 5). The Law prohibits the collective hunting of wild animals and birds, hunting of wild animals with cars or aeroplanes and using automatic guns or machine guns (Article 6). The hunting of wild animals must be authorised by the Minister of Agriculture and Land Reclamation (Article 8).

Breaches of the Law may result in a fine of 500 dinars or three years imprisonment, or both (Article 19).

Decision No. 1 of 1991 of the Chief of the Environmental Protection Board Concerning the Cutting of Trees, 1991

This Decision prohibits the cutting of trees from "natural forests and pavements of town streets, areas with young trees and green belts". Breach of this Decision shall be punished in accordance with the provisions of Articles 16 and 17 of Law No. 76 of 1986 concerning the protection and improvement of the environment.

Ranges and their Protection (Law No. 106, 1965)

This Law, which is composed of 14 Articles, declares that the preservation and improvement of ranges is a public benefit. Land may be declared as a Range by the Minister. The Minister may take further measures to organise grazing and to improve Ranges outside the areas irrigated by rivers, prohibit tree or shrub cutting or hay making for commercial or agricultural purposes without a license; prohibit grazing in certain areas in certain periods for preservation and improvement; and prohibit grazing in some areas of Ranges selected through studies for Range improvement.

The Minister of Agriculture is responsible for the identification of land that is to be considered as natural pastures (Article 2). The provisions of this Law apply to all natural pastures (Article 3).

The cutting trees of is to be subject to authorisation (Article 6).

Breach of this Law will be punished by imprisonment for a period of no more than six months and payment of a fine of no more than 200 dinars, or both (Article 10).

Forest Law (Law No. 30, 2009)

Forests are divided into three categories: State Forests; Wakif Forest (Endowed Forest); and Private Forest. The provisions of this Law, except those on technical and administrative supervision, shall apply to State Forests. Article 4 contains general provisions which apply to all forests. Article 5 provides for concessions in Reserved Forests. Article 6 specifies activities prohibited in Closed Forests and Reserved Forests. "Reserved Forest" and "Closed Forest" are protected areas defined by Article 1, and are placed under the control and administration of the Directorate General of Forests and Plantations. The remaining provisions of the Law deal in the main with enforcement, offences and penalties.

This Notification No. 5 of 1967 prohibits the cutting of trees and charcoal making, and the transportation of forest products for commercial purposes in specified natural forests (Article 1). Article 2 specifies the exceptions to this rule. Village inhabitants may for specified purposes cut wood and transport products within the forest region (Articles 3 and 4).

4.2.5 Ports

Law Concerning Ports (Law No. 27, 1995)

This law applies to all civil ports, the internal waters, and marine areas where ships anchor for a specific purpose such as waiting, loading and unloading or to carry out works (Section 2). The land and sea boundaries of each port shall be demarcated by resolution of the Council of Ministers.

The Director General of the Establishment is vested with powers to regulate navigation and port safety, the prevention of water pollution, the operation of importation and exportation agents, and the registration of ships.

4.2.6 Fishing

Regulating the Exploitation & Protection of Aquatic Life (Law No. 48 of 1976)

This Law consists of 7 chapters and 36 Articles. It regulates fishing and aquaculture including the following:

- breeding and protection of aquatic life;
- general rules for fishing activities;
- fishing gear;
- marketing and industrialisation of aquatic products;
- fees and licenses; and
- penalties.

Article 1 prohibits the use of methods such as chemicals, explosives, or electricity for the killing aquatic organisms, the use of gear which may harm eggs or fry, the pollution of waters which would harm aquatic life, and the use of fixed gear which blocks the flow of water.

Fish conservation measures may be proclaimed by the State Fisheries Company (Article 2). This Company is also responsible for undertaking fish breeding in public waters (Article 4) and for the importing and distribution of breeding fish and other aquatic species (Article 7). The Company is responsible for supervising trading in aquatic life (Article 16).

Fishing in the territorial waters of the Arab Gulf shall be governed by a regulation which is to be established within one year from the date the present Law (Article 9). Article 11 requires fishing licences to be issued to vessels, and Article 12 requires personal fishing licences for professional fishermen.

The Port Authority (GCPI) and river police, tolerate fishermen working close to the ports but they typically tend to congregate around the wrecks or string nets out across the channel at various locations, working from small vessels. Large vessels work out of Fao Port and head out to the Khor Abdullah to fish in marine waters.

4.2.7 Land Reclamation

Internal Regulation of the State Organization for Land Reclamation (1980)

This Regulation (made under Article 4 of the Law relative to the State Organisation for Land Reclamation (No. 83 of 1973), as amended) prescribes the tasks and structure of a public agency entitled 'The State Organization for Land Reclamation', which was established by Law No. 83 of 1973. The organization consists of a President and an assistant, an administrative council, a department for planning and implementation and a department for administrative and financial matters. It also prescribes various committees and institutes including:

- The Sand Dunes Committee;
- The Spring Line Committee;
- 'State Establishments' for land reclamation in specific parts of the country; and
- 'State Establishments' for the execution of land reclamation contracts, for cultivation and development of reclaimed lands, and for research, training and surveys.

4.2.8 Rivers and Public Water

Establishing the Ministry of Irrigation (Law No. 8, 1993) - Resolution No. 68 of 1993

The objectives of the Ministry include the planning of water resources, the construction of waterworks, the exploitation of surface water and groundwater, the maintenance of irrigation projects, the prevention of floods, and the control of water flows. The Minister of Irrigation is the supreme head of the Ministry (Article 2). The departments connected with the Ministry include The General Body of Dams and Reservoirs, the General Body of Surveys, and the General Body operating irrigation projects.

Article 4 also lists various companies involved in construction, irrigation and exploitation of water resources connected with the Ministry. Each Governorate shall have a Directorate of Irrigation, except in the Autonomous Regions where the Directorate shall be connected with the competent administration of the Region (Article 5).

Relative to Maintenance of Networks of Irrigation and Drainage (Law No. 12, 1995)

This law:

- qualifies irrigation networks;

- provides for the management and maintenance of irrigation and drainage networks, including natural rivers and water basins;
- provides for the establishment of a public body called the General Body for the Operation of Irrigation Projects; and
- defines duties of farmers in relation with the management and exploitation of agricultural land and the use of water.

The Irrigation Network shall consist of: main streams, branches and connecting channels, and secondary streams carrying water from branch streams to farm streams and arm streams.

The General Body for Irrigation is responsible for maintaining natural rivers, the main drainage, and main and branch streams, of at least 400 litres a second. Farmers shall be responsible for the maintenance of minor systems and the systems on their land.

Section 5 provides for the appointment of water observers who are responsible for the supervision of the distribution of water. Section 6 lists the various restrictions on the use of water by farmers.

Preservation of Rivers & Public Water from Contamination (Regulation No. 25, 1967)

This regulation is composed of 19 Articles and relates to the protection of rivers and public water bodies from contamination. The public water bodies to which the regulations apply (Article 2), include:

- All rivers in Iraq and their tributaries.
- Streams, canals and all their branches.
- Drainage channels and its branches.
- Lakes, marshes, ponds and swamps.
- Springs, wells and other groundwater.
- Ponds and other pools of water.

Article 3 states that no wastewater discharges should be discharged into public waters unless permitted by the Health Authority.

Article 5 states that the Health Authority will determine the volume and the quality of wastewater which may be discharged into a public water body, and will establish discharge consent limits for the wastewater discharge.

The standard consent limits for the discharge of wastewater into public water bodies are detailed Article 7:

- If oxygen uptake is exceeded, suspended solids or floating rates are to be determined by the health authority's instructions, but at all times should not exceed the upper limit of 60 ppm.
- The discharge must not contain hydrogen sulphide, toxic substances, harmful amounts of bacteria or harmful substances which may produce toxic substances when they interact with chemical agents that may be present in public water.
- The wastewater must not have a hydrogen ion concentration (pH) of less than 6 or more than 10.
- The temperature must not affect the receiving water.
- Any other wastewater discharge parameters may be decided by the Health Authority.

The disposal of carcasses, secretions or faeces, solid and liquid waste of any kind, or any other harmful substance, into any public waterway or on beaches is not permitted (Article 10). Article 11 prohibits the washing of animals, leather, wool, intestine and contaminated clothing, and any material that may result in harm to public health, in public waters, and prohibits the defecation and urination in such waters or on the shores.

Article 15 contains details of the penalties for breaching these regulations.

Wastewater Discharge Quality Requirements (Instruction No. 1)

This Instruction provides discharge concentration limits for a number of substances contained in wastewater (*Table 4.4*), in accordance with the provisions of Article (16) of Regulation 25 on the Maintenance of Rivers and Public Water from Contamination, 1967.

Table 4.4: Discharge Consent Limits for Wastewater

Analyte	Limit
Lead	0.1
Arsenic	0.05

Table 4.4: Discharge Consent Limits for Wastewater	
Analyte	**Limit**
Copper	0.1
Nickel	0.1
Selenium	0.05
Mercury	0.005
Cadmium	0.1
Zinc (divalent)	5.0
Chromium	0.1
Cyanides	0.1
Hydrogen Sulphide	0.5
Carbon disulphide	1.0
Crude oil and its derivatives dissolved Hydrocarbons	0.1
Free chlorine	Trace
Sulphide	0.5
Carbon tetrachloride	5.0 (0.5?)
D.D.T.	0.2
Dinitronaphthalene	2.0
Cholorobenzene	2.0
Trinitrototoluene	0.5
Dinitrobenzene	0.5
Tetranitromethane	0.5
Fluorides	1.0

EAME understands that these consents have been expressed as a ratio (percentage) rather than an absolute concentration or maximum permissible concentration and this is the maximum percentage that each parameter is allowed to be present in wastewater discharges to natural waters.

Exceedence of these discharge consents is a direct breach of the provisions detailed of paragraph (2) of Article VII of the Maintenance System of Rivers and Public Water, 1967.

It is understood that these values may have been updated with new determinants that appear to be more stringent through the introduction of The New Determinants for the Prevention of Pollution of Rivers No. (25), 1967.

The New Determinants for the Prevention of Pollution of Rivers (No. 25, 1967)

These instructions provide physical, chemical and biological guidelines for water quality and wastewater discharges. The regulation defines Water Resources as:

- rivers and its tributaries and branches;
- streams, waterways, canals and branches of;
- lakes and ponds and other pools of water; and
- springs, wells and groundwater.

The regulations apply to wastewater from cities, industry, agriculture and other activities including:

- wastewater discharged to a public water source;
- wastewater discharged to public sewers;
- wastewater discharged to the sewage treatment works; and
- wastewater discharged to the marshes.

The regulations define discharge limits for discharges to both natural waters (water resources) and sewers (which generally have a higher permissible discharge limit). These allowable limits are outlined in the *Table 4.5*.

Table 4.5: Discharge Consent Parameters

Pollutants	Limits For Discharge to Water Resources	Limits For Discharge to Public Sewers
Colour	-	-
Temperature	Less than 35°C	45°C
Suspended solid	60	750
pH	6 - 9.5	6 – 9.5

Table 4.5: Discharge Consent Parameters

Pollutants	Limits For Discharge to Water Resources	Limits For Discharge to Public Sewers
Dissolved Oxygen	-	-
BOD	Less than 40	1000
COD(Cr_2O_7 method)	Less than 100	-
Cyanide (CN-)	0.05	0.5
Fluoride (F-)	5.0	10
Free Chlorine (Cl_2)	Trace	100
Chloride (Cl-)	A. If the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the chloride concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B. If the ratio of the amount of water discharged to the amount of source water is more than 1000:1 the wastewater discharge must not exceed a chloride concentration of greater than 600 mg/litre. C. If the concentration of fluoride in the source water is less than 200 mg/l then the permitted discharge limit must be established on a case by case basis.	600
Phenol	0.01 – 0.05	5 - 10

Table 4.5: Discharge Consent Parameters

Pollutants	Limits For Discharge to Water Resources	Limits For Discharge to Public Sewers
Sulphate (SO_4=)	A - if the ratio of the amount of water discharged to the amount of source water is 1000:1 or less, the sulphate concentration of the discharge is permitted at 1% of the concentration of the natural source before discharge. B - If the percentage of the amount of wastewater discharged to the amount of source water is more than 1000:1, the wastewater discharge must not exceed a sulphate concentration of greater than 400mg/l. C - if the concentration of sulphate in the source water is less than 200mg/l then the permitted discharge limit must be established on a case by case basis.	300
Nitrate (NO_3-)	50	-
Phosphate (PO_4^{3-})	3	-
Ammonium (NH_4+)	-	-
DDT	Nil	-
Lead (Pb)	0.1	0.1
Arsenic (As)	0.05	0.05
Copper (Cu)	0.2	-
Nickel (Ni)	0.2	0.1
Selenium (Se)	0.05	-
Mercury (Hg)	0.005	0.001
Cadmium (Cd)	0.01	0.1
Zinc (Zn)	2.0	0.1
Chromium (Cr)	0.1	0.1
Aluminium (Al)	5.0	20
Barium (Ba)	4.0	0.1

Table 4.5: Discharge Consent Parameters

Pollutants	Limits For Discharge to Water Resources	Limits For Discharge to Public Sewers
Boron (B)	1.0	1.0
Cobalt (Co)	0.5	0.5
Iron (Fe)	2.0	15
Manganese (Mn)	0.5	-
Silver (Ag)	0.05	0.1
Total Hydrocarbons & Derivatives	Allows the discharge of total hydrocarbons to water sources and A -1 and A -2 according to the concentrations and limitations set forth in the tables below; the concentration of hydrocarbons must be measured discharging to the water source. Hydrocarbons shall not be discharged to water sources A3 and A4. For a river in continuous flow 10 mg/l according to the ratio of the amount of wastewater discharged to the amount of the water source should not be less than 1000:1. For a river in continuous flow 5 mg/l and in accordance the ratio of the amount of wastewater discharged to the amount of the water source should be 500:1 or less. For a river in a continuous flow 3 mg/l and in accordance with the ratio of the amount of wastewater discharged to the amount of the water source should be 300:1 or less.	-
Sulphide (S=)	Nil	3.0
Ammonia (NH_3)	Nil	10
Ammonia Gas (Free NH3)	Nil	6.0
Sulphur dioxide SO_2	Nil	7.0
Calcium carbide CaC	Nil	Not allowed
Organic solvents	Nil	Not allowed

Table 4.5: Discharge Consent Parameters		
Pollutants	**Limits For Discharge to Water Resources**	**Limits For Discharge to Public Sewers**
Benzene	Nil	0.5
Chlorobenzene	Nil	0.1
TNT	Nil	0.5
Bromine (Br_2)	Nil	1 – 3

EAME understands the references to A1, A2, A3 and A4 to refer to water quality classifications for natural water bodies as determined by the Iraq Authorities. The values presented in *Table 4.6* are believed to be the environmental quality standards which must not be exceeded by industrial wastewater discharges.

Table 4.6: Physical, chemical and biological determinants for public water bodies to classify them into Grades A1 – A4					
A-4	**A-3**	**A-2**	**A-1**	**Material**	
normal	normal	normal	normal	Colour	1
-	-	-	-	Heat	2
	-	-	-	Suspended solids	3
	6.5-8.5	6.5-8.5	6.5-8.5	Hydrogen ion concentration	4
-	More than 5	More than 5	More than 5	Dissolved oxygen	5
	Less than 3	Less than 3	Less than 5	B.O.D.5	6
-	-	-	-	CO.D.CR207	7
0.02	0.02	0.02	0.02	Cyanide	8
0.2 or more depending on the concentration in the natural source				Fluorine	9
Trace	Trace	Trace	Trace	Free Chlorine	10
200 Or more depending on the natural	200 Or more depending on the natural	200 Or more depending on the natural source	200 Or more depending on the natural source	Chlorides	11

Table 4.6: Physical, chemical and biological determinants for public water bodies to classify them into Grades A1 – A4

A-4	A-3	A-2	A-1	Material	
source	source				
0.005	0.005	0.005	0.005	Phenol	12
200 Or more depending on the natural source	200 Or more depending on the natural source	200 Or more depending on the natural source	200 Or more depending on the natural source	Sulphate	13
50	15	15	15	Nitrate	14
0.4	0.1	0.4	0.4	Phosphate	15
-	1.0	1.0	1.0	Ammonium	16
zero	zero	zero	zero	Pesticide DDT	17
0.05	0.05	0.05	0.05	Lead	18
0.05	0.05	0.05	0.05	Arsenic	19
0.01	0.05	0.05	0.05	Copper	20
0.1	0.1	0.1	0.1	Nickel	21
0.01	0.01	0.01	0.01	Selenium	22
0.001	0.001	0.001	0.001	Mercury	23
0.005	0.005	0.005	0.005	Cadmium	24
0.1	0.5	0.5	0.5	Zinc	25
0.05	0.05	0.05	0.05	Chromium	26
-	0.5	0.1	0.1	Aluminium	27
1.0	1.0	1.0	1.0	Barium	28
1.0	1.0	1.0	1.0	Boron	29
0.05	0.05	0.05	0.05	Cobalt	30
0.3	0.3	0.3	0.3	Iron	31
0.1	0.1	0.1	0.1	Manganese	32
0.01	0.01	0.01	0.01	Silver	33

Table 4.6: Physical, chemical and biological determinants for public water bodies to classify them into Grades A1 – A4

A-4	A-3	A-2	A-1	Material	
-	-	-	-	Total hydrocarbons and their derivatives	34
-	-	-	-	Sulphide	35
-	-	-	-	Ammonia	36
-	-	-	-	Ammonia gas	37
-	-	-	-	Sulphur dioxide	38
-	-	-	-	Alcohol-oil	39
-	-	-	-	Calcium carbide	40
-	-	-	-	Organic solvents	41
-	-	-	-	Petrol	42
-	-	-	-	Chlorobenzene	43
-	-	-	-	TNT	44
-	-	-	-	Bromine	45

Note: The allowable concentration can be increased in certain special cases based on the impact of the discharge to the water source.

Concentration in mg/l unless otherwise indicated.

4.2.9 Air Quality

National Clean Air Act 1979

Local air quality standards are defined by the Iraqi National Clean Air Act 1979. This act establishes long term, medium and short term ambient quality standards across a range of pollutant parameter.

Typically air quality objectives are medium-term policy based targets set by the Government which take into account economic efficiency, practicability, technical feasibility and timescale. Some objectives are equal to the agreed WHO guideline limits, whereas others involve a margin of tolerance based on local industry activity i.e. allow a limited number of permitted exceedances of the standard over a given period. No stated exceedances are provided with the Iraqi standards.

These ambient standards are provided within *Table 4.7*.

Table 4.7: Air Quality Standards

Pollutant	Period	Ambient Air Standard (ppm)	Ambient Air Standard (µg/m^3)
Sulphur Dioxide	1 hour 24 hours 1 year	0.1 0.04 0.018	None Stated
Carbon Monoxide	8 hrs 1 hr	10 35	None Stated
Nitrogen Dioxide	1 hr 24 hrs	0.05 0.04	None Stated
Ozone	1 hour	0.06	None Stated
PM10	24 hours	None Stated	150
PM2.5	24 hours 1 year	None Stated	65 15
Total Suspended Particulate	24 hours 1 year	None Stated	350 150
Dust	30 days	None Stated	10 ton/km^2/month (residential) 20 ton/km^2/month (Industrial)
Hydrocarbon	3 hours	0.24	160
Lead	24 hours 3 months 1 year	None Stated	2 1.5 1
Benzene	1 year	None Stated	0.003 (mg/m^3)
Dioxin	1 year	None Stated	0.6 (Bg/m^3)

The Iraq Ministry of Oil has issued air quality International Oil Companies (IOCs) with respect to air quality standards. These are outlined within *Table 4.8* alongside WHO guidelines.

Table 4.8: Iraq Ministry of Oil – Air Quality Standards

Pollutant	Averaging Period	Iraq Ministry of Oil Guidelines	WHO Guidelines (µg/m^3)
CO	8-hour	35 ppm	-
	1-hour	9 ppm	-
SO_2	10 minute	-	500 µg/m^3
	1 hour	0.1 ppm	-
	24 hour	0.04 ppm (105 µg/m^3)*	125 µg/m^3 (Interim target No.1) 50 µg/m^3 (Interim target No.2) 20 µg/m^3 (Guideline)
	1 year	0.018 ppm	-
NO_2	1-hour	-	200 µg/m^3
	24-hour	0.05 ppm	-
	1 year	0.04 ppm	40 µg/m^3
O_3	1-hour	0.06 ppm	-
	8-hour	0.075 ppm (147 µg/m^3)*	160 µg/m^3 (Interim target No.1) 100 µg/m^3 (Guideline)
PM_{10}	24-hour	150 µg/m^3	150 µg/m^3 (Interim target No.1) 100 µg/m^3 (Interim target No.2) 75 µg/m^3 (Interim target No.3) 50 µg/m^3 (Guideline)
	1 year	-	70 µg/m^3 (Interim target No.1) 50 µg/m^3 (Interim target No.2) 30 µg/m^3 (Interim target No.3) 20 µg/m^3 (Guideline)
$PM_{2.5}$	24-hour	35 µg/m^3	75 µg/m^3 (Interim target No.1) 50 µg/m^3 (Interim target No.2) 37.5 µg/m^3 (Interim target No.3) 25 µg/m^3 (Guideline)
	1 year	15 µg/m^3	35 µg/m^3 (Interim target No.1) 25 µg/m^3 (Interim target No.2) 15 µg/m^3 (Interim target No.3) 10 µg/m^3 (Guideline)

Table 4.8: Iraq Ministry of Oil – Air Quality Standards

Pollutant	Averaging Period	Iraq Ministry of Oil Guidelines	WHO Guidelines (µg/m^3)
TSP	24-hour	350 µg/m^3	-
	1 year	150 µg/m^3	-
Falling dust	30 days	10 t/km^2/month residential zone	-
	30 days	20 t/km^2/month industrial zone	-
Hydrocarbons	3-hour	0.24 ppm	-
Lead	24-hour	2 µg/m^3	-
	3-months	1.5 µg/m^3	-
Benzene	1 year	0.003 mg/m^3	-
Dioxin	1 year	0.6 pg/m^3	-

Notes:

* Converted when required for comparison between ppm/ppb and µg/m^3 (or mg/m^3) at 25°Celcius assuming ppm/ppb stated by volume.

Protection and Improvement of the Environment (Law No. 27, 2009)

The Law No. (27) of 2009 for Protection and Improvement of the Environment aims to control emissions to air from a variety of sources (including industrial (factories, power stations, incinerators, oil installations, *etc.*), non-industrial, and vehicles). It establishes emissions limits for the discharge of certain pollutants to air. The law details certain restrictions on activities in order to minimise harmful emissions to air.

Article 6 details various requirements/restrictions with respect to activities which burn hydrocarbon fuels;

Article 7 prevents the unauthorised disposal, processing and burning of municipal solid waste in or near to residential, agricultural, commercial and industrial areas. It goes on to state such waste can be burnt in incinerators but applies a number of restrictions and limitations with respect to the siting and operation of an incinerator.

Article 8 requires medical facilities to have their own incinerator to incinerate their medical wastes, and goes on to detail a number of conditions which must be met with respect to the operation of that incinerator, including those wastes that cannot be incinerated.

Article 9 relates to the incineration of hazardous wastes.

Article 10 details various conditions for the spraying of pesticides and other chemical compounds for agricultural usage and public health purposes.

Article 11 relates to exploration, excavation, demolition, construction, and waste transfer activities and the control of dust emissions from such activities.

Article 12 details the requirements that should be taken into account in the design of flues/stacks for the discharge of emissions to air, specifically:

- the chemical and physical properties of the substances emitted;
- the height above sea level;
- the height of facilities in the surrounding area;
- the outer diameter of the mouth of the stack;
- the inner diameter of the mouth of the stack;
- building materials used;
- the concentration, volume and velocity of emissions;
- temperature of the emission;
- the direction of prevailing winds; and
- the percentage of moisture in the ambient air.

Article 13 requires that all point sources of noise do not exceed national noise standards.

Article 14 requires the monitoring and recording of air emissions and the submission of periodic monitoring reports to the Ministry, competent authorities and stakeholders.

Article 15 requires the owner/operator of a facility to monitor and record emissions to air from the activity; monitoring records should be kept for a minimum of 5 years to enable the Ministry and designated observers from the competent authorities to access these records during inspections of a facility or activity.

Article 16 states that existing facilities have 4 years to comply with the requirements of this law.

The following limits are provided in the Annexes of this law.

Table 4.9: Maximum Allowable Emission Limits of Air Pollutants Emitted from Stationary Sources (Ref. Annex 1)

Substance	Symbol	Sources	Max. Allowable Emission Limits (mg/Nm^3)
Visible Emissions		Combustion sources other sources	250 None
Opacity		All sources	20%
Carbon Monoxide	CO	All sources	500
Nitrogen Oxide (expressed as nitrogen dioxide)	NOx	Combustion sources material producing industries other sources	See Annex (2) 1000 1000
Sulphur dioxide	SO_2	Combustion sources material producing industries other sources	500 2000 1000
Sulphur trioxide Including Sulphuric Acid Mist (expressed as sulphur Trioxide)	SO_3	material producing industries other sources	150 50
Total Suspended particles	TSP	Combustion sources Cement industry: Exist new other sources	250 150 100 150
Ammonia and Ammonium compounds (expressed as ammonia)	NH_3	material producing industries other sources	50 10
Benzene	C_6H_6	All sources	5
Iron	Fe	Iron& steel foundries	100
Lead and its Compounds (expressed as lead)	Pb	All sources	5
Antimony and its Compounds (expressed as Antimony)	Sb	material producing industries other sources	5 1

Table 4.9: Maximum Allowable Emission Limits of Air Pollutants Emitted from Stationary Sources (Ref. Annex 1)

Substance	Symbol	Sources	Max. Allowable Emission Limits (mg/Nm^3)
Arsenic and its Compounds (expressed as arsenic)	As	All sources	1
Cadmium and its Compounds (expressed as cadmium)	Cd	All sources	1
Mercury and its Compounds (expressed as mercury)	Hg	All sources	0.5
Chrome	Cr	All sources	5
vanadium	V	All sources	5
Nickel and its compounds (expressed as nickel)	Ni	All sources	1
Copper and its compounds (expressed as cupper)	Cu	All sources	5
Hydrogen sulphide	H_2S	All sources Material producing industries	5 10
Chloride	Cl-	Chlorine works other sources	200 10
Hydrogen chloride	HCl	Chlorine works other sources	200 20
Hydrogen Fluoride	HF	All sources	2
Silicon fluoride	SiF_4	All sources	10
Fluoride and its compounds including HF & SiF_4 (expressed as fluoride)	F-	Aluminium smelters other sources	20 50
Formaldehyde	CH_2O	Material producing industries other sources	20 2
Carbon	C	Material producing industries Waste incineration	250 50

Table 4.9: Maximum Allowable Emission Limits of Air Pollutants Emitted from Stationary Sources (Ref. Annex 1)

Substance	Symbol	Sources	Max. Allowable Emission Limits (mg/Nm^3)
Total Volatile Organic Compounds (expressed as total organic carbon (TOC))	VOC	All sources	20
Dioxins & Furans		All sources	1 (ng TEQ/m3)

1. Combustion source relate to ovens, incinerators, boilers, oil and petrochemical industries, power plants and other industries, including the production of construction materials, production plants, laboratories and chemical plants, and other dyes.

2. The concentration of any substance specified in the first column emitted from any source specified in the third column shall not at any point before admixture with air smoke or other gases exceed the limits specified in the fourth column.

3. “mg” means milligram. “ng” means nanogram

4. “Nm^3”means normal cubic meter being that amount of gas which when dry occupies a cubic meter at a temperature of 25 degree centigrade and at an absolute pressure of 760 millimetres of mercury (1 atmosphere).

5. The limit of “Visible Emission” does not apply to emission of water vapour and a reasonable period for cold start-up, shutdown or emergency operation.

6. The measurement for “Total Suspended Particles (TSP)” emitted from combustion sources should be @ 12% reference CO2.

7. The total concentration of the heavy metals (Pb, Cd, Cr, Ni, Hg, Cu, As & Sb) must not exceed 5 mg/Nm^3.

8. VOC limits are for unburned hydrocarbons (uncontrolled).

9. The emission limits for all substances, excluding “Dioxins and Furans”, are conducted as a daily average value.

10. “Dioxins and Furans” - Average values shall be measured over a sample period of a minimum of 6 hours and a maximum of 8 hours.

11. Adopted in measuring the concentration of any substance the first column the method adopted by EPA as a way of measuring a reference or equivalent methods of measurement of the global reference.

Table 4.10: Maximum Allowable Emission Limits of Air Pollutants Emitted from Hydrocarbon Fuel Combustion Sources (Ref. Annex 2)

Substance	Symbol	Sources	Max. Allowable Emission Limits (Mg/Nm^3)
Visible emissions		All sources	250
Nitrogen Oxides (expressed as nitrogen dioxide (NO_2))	NOx	Fuel combustion units: Gas fuel Liquid fuel	 350 500
Nitrogen Oxides (expressed as nitrogen dioxide (NO_2))	NOx	Turbine units: Gas fuel Liquid fuel	 70 150
Sulphur Dioxide	SO_2	All sources	500
Total Suspended Particles	TSP	All sources	250
Carbon Monoxide	CO	All sources	500

1. The concentration of any substance specified in the first column emitted from any source specified in the third column shall not at any point before admixture with air, smoke or other gases, exceed the limits specified in the fourth column.

2. "Nm^3" means normal cubic metre, being that amount of gas which when dry, occupies a cubic meter at a temperature of 25 degree centigrade and at an absolute pressure of 760 millimetres of mercury (1 atm).

3. The limit of “Visible Emission” does not apply to emission of water vapor and a reasonable period for cold start- up, shutdown or emergency operation.

4. The “NOx” emission limit of any existing turbine units operated by gas fuel, prior to the issuance and adoption of this regulation will be 125 mg/Nm3.

5. The measurement for “Total Suspended Particles (TSP)” emitted from combustion sources should be @ 12% reference CO_2.

6. Adopted in measuring the concentration of any substance the first column the method adopted by EPA as a way of measuring a reference or equivalent methods of measurement of the global reference.

Table 4.11: Maximum Allowable Emission Limits of Air Pollutants Emitted from Solid Waste Incinerators (Ref. Annex 3)

Substance	MAX. ALLOWBLE EMISSION LIMITS (mg/Nm^3) Incinerator capacity less than 3 ton/hour	MAX. ALLOWBLE EMISSION LIMITS (mg/Nm^3) Incinerator capacity 3 ton/hour or more
Total suspended particles (TSP)	100(daily average)	30(daily average)
Carbon Monoxide (CO)	100(daily average)	100(daily average)
Nitrogen Oxides (NOx) (expressed as nitrogen dioxide (NO_2))	350(daily average)	300(daily average)
Sulphur Dioxide (SO_2)	500(daily average)	300(daily average)
Hydrogen Chloride (HCl)	30(daily average)	20(daily average)
Hydrogen Fluoride (HF)	4(daily average)	2(daily average)
Total Volatile Organic Compounds (VOC) (expressed as total organic carbon (TOC))	20(daily average)	20(daily average)
Nickel (Ni) and its Compounds (expressed as Ni)	Total (1)	Total (1)
Arsenic (As) and its Compounds (expressed as As)	Total (1)	Total (1)
Cadmium (Cd) and its Compounds (expressed as Cd)	Total (0.2)	Total (0.1)
Mercury (Hg) and its Compounds (expressed as Hg)	Total (0.2)	Total (0.1)
Lead (Pb) and its Compounds (expressed as Pb)	Total (5)	Total (1)
Chrome (Cr) and its Compounds (expressed as Cr)	Total (5)	Total (1)
Copper (Cu) and its Compounds (expressed as Cu)	Total (5)	Total (1)
Manganese (Mn) and its Compounds (expressed as Mn)	Total (5)	Total (1)
Dioxins and Furans	0.1 (ng TEQ/m^3)	0.1 (ng TEQ/m^3)

Table 4.11: Maximum Allowable Emission Limits of Air Pollutants Emitted from Solid Waste Incinerators (Ref. Annex 3)

Substance	MAX. ALLOWBLE EMISSION LIMITS (mg/Nm^3) Incinerator capacity less than 3 ton/hour	MAX. ALLOWBLE EMISSION LIMITS (mg/Nm^3) Incinerator capacity 3 ton/hour or more
1. The concentration of any substance specified in the first column emitted from the incinerator shall not at any point before admixture with air, smoke or other gases, exceed the specified limits. 2. "Nm3" means normal cubic metre being that amount of gas which when dry, occupies a cubic meter at a temperature of 25 degree centigrade and at an absolute pressure of 760 millimetres of mercury (1 atm) 3. The Total concentration of the heavy metals (Cd, Hg, As, Cr, Cu, Pb, Mn, Ni, V) shall be measured over as ample period of minimum of 30 min and a maximum of 8 hours. 4. "Dioxins and Furans" Average value shall be measured over sample period of a minimum of 6 hours and a maximum of 8 hours. The emission limit value refers to the total concentration of dioxins and furans are calculated using the concept of toxic equivalence in accordance with Annex 5. Adopted in measuring the concentration of any substance the first column the method adopted by EPA as a way of measuring a reference or equivalent methods of measurement of the global reference.		

Table 4.12: Maximum Allowable Emission Limits of Air Pollutants Emitted from Hazardous and Medical Waste Incinerators (Ref. Annex 4)	
Substance (Symbol)	**MAX. ALLOWABLE EMISSION LIMITS (mg/Nm^3)**
Total suspended particles (TSP)	10(daily average) 30 (half-hourly average)
Carbon Monoxide (CO)	50 (daily average) 100 (half-hourly average)
Nitrogen oxides (NOX) (expressed as nitrogen dioxide NO2)	200 (daily average) 400 (half-hourly average)
Sulphur dioxide (SO2)	50(daily average) 200 (half-hourly average)
Hydrogen Chloride (HCL)	10(daily average) 60 (half-hourly average)
Hydrogen Fluoride (HF)	1 (daily average) 4 (half-hourly average)
Total Volatile Organic Compounds (VOC) (expressed as total organic carbon (TOC)	10(daily average) 20(half-hourly average)
Cadmium (Cd) and Its Compounds (expressed as Cd) Thallium (Ti) and Its Compounds (expressed as Ti)	Total (0.1) Total (0.1)
Mercury (Hg) and Its Compounds (expressed as Hg)	0.1
Antimony (Sb) and Its Compounds (expressed as Sb) Arsenic(As) and Its Compounds (expressed as As) Chrome(Cr) and Its Compounds (expressed as Cr) Cobalt (Co) and Its Compounds (expressed as Co) Copper (Cu) and Its Compounds (expressed as Cu) Lead (Pb) and Its Compounds (expressed as Pb) Manganese (Mn) and Its Compounds (expressed as Mn) Nickel (Ni) and Its Compounds (expressed as Ni) Tin (Sn) and Its Compounds (expressed as Sn) Vanadium (V) and Its Compounds (expressed as V)	Total (1) Total (1) Total (1) Total (1) Total (1) Total (1) Total (1) Total (1) Total (1) Total (1)
Dioxins and Furans	0.1 (ng TEQ/M3)
1. The concentration of any substance specified in the first column emitted from the incinerator shall not at any point before admixture with air, smoke or other gases, exceed the specified limits.	

Table 4.12: Maximum Allowable Emission Limits of Air Pollutants Emitted from Hazardous and Medical Waste Incinerators (Ref. Annex 4)	
Substance (Symbol)	**MAX. ALLOWABLE EMISSION LIMITS (mg/Nm^3)**
2. "Nm^3" means normal cubic meter being that amount of gas which when dry, occupies a cubic meter at a temperature of 25 degree centigrade and at an absolute pressure of 760 millimeters of mercury (1 atm) 3. The Total concentration of the heavy metals (Cd, Hg, As, Cr, Cu, Pb, Mn, Ni, V) shall be measured over a sample period of a minimum of 30 min and a maximum of 8 hours. 4. "Dioxins and Furans" Average value shall be measured over a sample period of a minimum of 6 hours and a maximum of 8 hours. The emission limit value refers to the total concentration of dioxins and furans are calculated using the concept of toxic equivalence in accordance with Annex 5. Adopted in measuring the concentration of any substance the first column the method adopted by EPA as a way of measuring a reference or equivalent methods of measurement of the global reference.	

Table 4.13: Dioxins and Furans (Ref. Annex 5)

Dioxin / Furan	TEF
2,3,7,8- Tetrachlorodibenzo-p-dioxin (TCDD)	1
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (peCDD)	0.5
1,2,3,4,7,8-Hexachlrodibenzo-p-dioxin (HxCDD)	0.1
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.1
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.1
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	0.01
Octachlorodibenzo-p-dioxin (OCDD)	0.001
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.1
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.05
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.5
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.1
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.01
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.01
Octachlorodibenzofuran (OCDF)	0.001

1. “dioxins and furans” means polychlorinated dibenzo-p-dioxins (peCDD) and polychlorinated dibenzofurans (peCDF), being tricyclic and aromatic compounds formed by 2 benzene rings which are connected by 2 oxygen atoms in peCDD and by one oxygen atom in peCDF and the hydrogen atoms of which may be replaced by up to 8 chlorine atoms.

2. “TEF” means Toxic Equivalency Factor (Toxicology).

3. “TEQ” means Total Equivalent Quantity (Toxic Equivalent), being the sum total of the concentration of each of the dioxin and furan compounds specified in the first column of the table below multiplied by their corresponding TEF specified in the second column thereof: TEQ= Σ (TEF X Concentration) for each type of Dioxin or Furan

4.2.10 Waste

Public Health Act (Law No. 89, 1981)

Chapter V of Public Health Act (Law No. 89, 1981) sets specifications for healthy burial of waste. This chapter indicates five fundamentals concerning determination of site selection, methods of burial, machinery required, staff involved and other requirements.

As approved by the Presidency Office of the Presidency of the Republic in its letter No. m/5/4/5637, dated 05/05/1980, to adopt the following principles required for the burial of waste.

This Specification details the requirements for the establishment of sites for the burial of waste. Sites for the disposal of waste must be outside the boundaries of cities/towns and preferably in natural depressions, former quarries, or other such sites, or in the absence of such sites, land which is deemed unfit for cultivation. In the absence of depressions, trenches can be excavated to bury the waste. Such waste disposal sites should avoid locations where there is a high groundwater table, whenever possible. The Instruction details the methods to be used for the disposal of waste including the thickness of waste layers and the covering of the waste at the end of the working day to prevent odours and the breeding of insects, etc. Each waste disposal site must have staff dedicated to various tasks.

4.2.11 Noise

Noise Prevention (Law No. 21, 1966)

These regulations aim to prevent excessive noise in public places. They prevent broadcasting in public places that may disturb the peace but does allow for the use of speakers internally in public and private places if approved by the police, although the speakers cannot be used between the hours of 10pm and 8am. Applications for the use of such equipment should be made to the Police 3 days beforehand, except in urgent situations where a decision may be made on the same day as the application.

Article III details the need for obtaining approval for the use of such equipment.

The authorities have the right to supervise and control media broadcasts in public places, and to take legal action in the event of any violations (Article IV). Article V of the regulations details the violations and penalties should the regulations be breached.

Instructions (No. 2, 1993)

This Instruction details the conditions for determining the levels of noise emitted from sound equipment in tourist facilities. With respect to outdoor concerts, the Instructions state noise levels must not exceed 96db(A) at a distance of five (5) meters from the source of the sound. The power rating of the sound equipment must not exceed 100 watts.

With respect to indoor concerts full of sound insulation of the walls, ceilings and floors are required so noise levels do not exceed 38 db(A). The capacity of a single set of speakers must not exceed 100 watts.

Industrial and commercial operations have a maximum permissible noise limits of 70 dB(A) and residential activities of 55 dB(A).

The total capacity of the sound equipment must not exceed the limits as detailed in the *Table 4.14*.

Table 4.14: Noise Limits

The inside size of the hall/m^2	The electronic power of the loudspeaker/watt
10000	100
2000	180
3000	220
4000	280
5000	350
6000	400
7000	450
8000	500
9000	580
10000	600

4.2.12 Handling and Storage of Chemicals

Safe Storage and Handling of Chemicals (Instructions No. 4, 1989)

These Instructions detail the requirements for the safe storage and handling of chemicals, being issued in accordance to the provisions of the sixth and seventh paragraph of Article (3) and Article (105) of the Public Health Law No. 89, 1989.

These regulations apply to activities involving the manufacture, use, storage or handling of the following chemical types:

- Explosive;
- Flammable;
- Oxidizing;
- corrosive chemicals, radioactive chemicals and carcinogenic chemicals;
- chemical drugs;
- toxic chemicals and pesticides;
- chemical irritants; and
- inert chemicals.

Article 2 details the necessary precautions for the handling and storage of chemicals, and the need for suitable signage. The replacement of hazardous chemicals with less hazardous materials is required whenever possible, and the minimum possible quantity of such chemicals should be stored at facilities

Article 3 stipulates for chemical manufacturers the provision of suitable signage and labelling, security and safety, and for the adoption of the international system for the classification and written instructions for chemicals.

Article IV details the factors that should be considered when planning for the storage of chemicals including the properties of the materials to be stored, the systems needed to protect the chemicals from damage or exposure to fire, the transport of the chemical containers to and from the store, *etc.*

Article V goes on to detail specific requirements when constructing new chemical stores, and Article VI the rules for correct storage.

Articles VII to XIX detail the requirements for the safe storage and use of chemicals, for the disposal of waste chemical containers (Article XVIII), and actions to be taken in the event of the release of a chemical (Article XI); Article XIX details the need for personal protective equipment (PPE) for individuals working with such chemicals.

4.2.13 Vibration

Public Health (Law No. 89, 1981)

These regulations (Protection of Workers from Vibration Pursuant to Article III, paragraph VI and VII) relate to the protection of workers from sources of vibration. It details the requirements of the employer to provide medical examinations for employees whose jobs involve exposure to vibration; to provide vibration resistant gloves; and the need for rest periods during the day for workers exposed to sources of vibration.

It stipulates that the employer must minimise levels of equipment vibration, use low-vibration equipment; monitor levels of vibration in the workplace, and provide training to employees with respect to vibration in the workplace.

The permitted levels of exposure to vibration and the duration of exposure for hands and arms are detailed in the regulations.

Penalties for breaching these regulations are provided in Article 99 of the Public Health Law No. 89 1981.

However, it is recognised that currently within the country there remains limited effective institutional or administrative infrastructure to ensure implementation of this legislation. The enforcement of present legislation is weak and ad-hoc and is not effective at ensuring those environmental standards that do exist are being adhered to, but such an expectation would probably be unreasonable at this stage in the reconstruction of Iraq.

4.3 International Standards and Guidelines

4.3.1 International and Regional Conventions

The following United Nations (UN) treaties, agreements and protocols have been concluded and/or ratified by Iraq since Saddam Hussein and the Ba'ath Party were deposed from power in April 2003 (*Table 4.15*).

Table 4.15: UN Treaties Concluded and/or Ratified by Iraq (2003 – 2014)

Name	Signed	Additional Notes	Project Relevance
Ramsar Convention on Wetlands	1971	The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. It Convention entered into force in Iraq on 17/02/08. There is currently one Ramsar site (137,700 ha) in Iraq. Hawizeh Marsh (Haur Al-Hawizeh) is a transboundary wetland, part of the Mesopotamian marshlands complex centred at the confluence of the Tigris and Euphrates rivers, the marshes are ca.75-80% located in Iraq with the remaining area extending into the Islamic Republic of Iran.	Awareness
Vienna Convention for the Protection of the Ozone Layer	1985	The Montreal Protocol on Substances that Deplete the Ozone Layer (1987) was designed to reduce the production and consumption of ozone depleting substances in order to reduce their abundance in the atmosphere, and thereby protect the earth's fragile ozone Layer. Iraq was listed under Article 5 paragraph 1 of the Montreal Protocol as a developing country. On 25th June 2008 Iraq deposited the accession document for joining the Vienna Convention, the Montreal Protocol and its 4 Amendments. Three months later it became the 193 party to the Montreal Protocol.	Awareness

Table 4.15: UN Treaties Concluded and/or Ratified by Iraq (2003 – 2014)

Name	Signed	Additional Notes	Project Relevance
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	1992	The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" - household waste and incinerator ash. The Convention aims to reduce hazardous waste generation and the promote environmentally sound management of hazardous wastes and restrict transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management. Iraq has signed the convention on 02/05/2011 (Accession) but, as of 2014, has yet to ratify it.	Awareness
Convention on Biological Diversity (CBD)	1992	National Biodiversity Strategies and Action Plans (NBSAPs) are the principal instruments for implementing the Convention at the national level as defined under Article 6. Under Article 26 of the Convention Parties prepare national reports on the status of implementation of the Convention. Iraq was party (accession) to Convention on 26/10/09.	Applicable
Convention to Combat Desertification	1994	Desertification, along with climate change and the loss of biodiversity were identified as the greatest challenges to sustainable development during the 1992 Rio Earth Summit. Established in 1994, UNCCD is the sole legally binding international agreement linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found. Iraq was party (accession) to Convention on 28/05/10.	Applicable

Table 4.15: UN Treaties Concluded and/or Ratified by Iraq (2003 – 2014)

Name	Signed	Additional Notes	Project Relevance
United Nations Framework Convention on Climate Change	1992	An international environmental treaty negotiated at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit. The objective of the treaty is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Iraq accession of the Kyoto Protocol (1997) occurred on 28/07/09 whilst it entered in to force on 26/10/09. Under the Kyoto Protocol (1997) Iraq has been designated as a developing country without binding targets during the commitment period 2013-20.	Applicable
Agreement on International Roads in the Arab Mashreq	2001	The Agreement has the objective of forming the roads of the States of the United Nations Economic and Social Commission for Western Asia (ESCWA) region into a cohesive and homogeneous network capable of supporting and promoting intra-regional land trade and tourism. The agreement includes Route 8 between Basra and Safwan that is located 18 km west of the Project site. Iraq signed on 19/12/02 with full ratification on 17/03/08.	Awareness
United Nations Convention against Corruption (UNCAC)	2003	UNCAC requires that Parties implement several anti-corruption measures which may affect their laws, institutions and practices. These measures aim at preventing corruption, criminalizing certain conducts, strengthening international law enforcement and judicial cooperation, providing effective legal mechanisms for asset recovery, technical assistance and information exchange, and mechanisms for implementation of the Convention, including the Conference of the States Parties to the United Nations Convention against Corruption (CoSP). Iraq was party (accession) to Convention on 17/03/08.	Applicable

Table 4.15: UN Treaties Concluded and/or Ratified by Iraq (2003 – 2014)

Name	Signed	Additional Notes	Project Relevance
Convention for the Safeguarding of the Intangible Cultural Heritage	2003	The purposes of this Convention are to safeguard intangible cultural heritage, to ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned and to raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof. Iraq ratified the convention on 06/01/10.	Applicable

The following UN Treaties concluded and/or have been ratified by Iraq have been excluded from the table as they are not considered applicable to the Project.

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)
- Convention on Hostages (1979)
- Convention on the Civil Aspects of International Child Abduction (1980)
- Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (1988)
- Convention on Terrorist Bombings (1988)
- Convention on the Marking of Plastic Explosives for the Purpose of Detection (1991)
- Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (1993)

- Comprehensive Nuclear-Test-Ban Treaty (CTBT) (1996)
- Ottawa Treaty (1997) often referred to as the Anti-Personnel Mine Ban Convention
- Convention on Terrorist Financing (2000)
- Convention against Transnational Organized Crime (2000) and associated protocols
- Optional Protocol to the Convention on the Rights of the Child on the Involvement of Children in Armed Conflict (2000)
- Optional Protocol on the Sale of Children, Child Prostitution and Child Pornography (2000)
- Cartagena Protocol on Biosafety (2000)
- World Health Organization Framework Convention on Tobacco Control (2003)
- UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005)
- Convention against Doping in Sport (2005)
- Convention on Nuclear Terrorism (2005)
- Convention for the Protection of All Persons from Enforced Disappearance (ICCPED) (2006)
- Convention on the Rights of Persons with Disabilities (2007)
- Convention on Cluster Munitions (CCM) (2008)

4.4 Project Environmental Standards

The following project environmental standards have been identified:

4.4.1 World Bank/International Finance Corporation (IFC)

Operational Manual and Policies

The World Bank Operational Manual contains the operational policies (OPs), Policies, bank procedures (BPs), Directives, and interim instructions to staff (OpMemos) on the conduct of Bank operations. Ops of potential relevance include:

- OP 4.01 - Environmental Assessment (January 1999 revised April 2013)
- OP 4.02 - Environmental Action Plans (February 2000 revised in 2002)
- OP 4.03 - Performance Standards for Private Sector Activities (May 2013)
- OP 4.04 - Natural Habitats (June 2001 revised April 2013)
- OP 4.07 - Water Resources Management (February 2000)
- OP 4.10 - Indigenous Peoples (July 2005 revised April 2013)
- OP 4.11 - Physical Cultural Resources (July 2006 revised April 2013)

General Guidelines

The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. They are a technical reference document with general and industry-specific examples of Good International Industry Practice (GIIP). It should be used together with the relevant industry sector guideline(s).

- Environmental, Health, and Safety General Guidelines, April 30, 2007

Industry Sector Guidelines

The Industry Sector Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to specific industry sectors. Sixty-two industry sector guidelines have been produced by the IFC of which four have been assessed as potentially relevant to the proposed Project, they include:

- Onshore Oil and Gas Development (April 30, 2007)

- Ports, Harbours and Terminals (April 30, 2007)
- Shipping (April 30, 2007)
- Crude Oil and Petroleum Product Terminals (April 30, 2007)

In February 2013, the World Bank Group began a three-year process to review and update its Environmental, Health, and Safety (EHS) Guidelines (as referenced in *Table 6.15*). The current status of relevant EHS Sector Guidelines is as follows:

- Ports, Harbours, and Terminals EHS Guidelines – First consultation was undertaken between 15/10/13 – 15/11/13. The second consultation has yet to start.
- Onshore Oil and Gas Development EHS Guidelines – First consultation was undertaken between 15/10/13 – 15/11/13. The second consultation has yet to start.

Performance Standards

The IFC's Performance Standards (PS) define an internationally recognised way to manage environmental and social responsibilities associated with development.

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts (2012) including associated guidance note
- Performance Standard 2: Labour and Working Conditions (2012) including associated guidance note
- Performance Standard 3: Resource Efficiency and Pollution Prevention (2012) including associated guidance note
- Performance Standard 4: Community Health, Safety, and Security (2012) including associated guidance note
- Performance Standard 5: Land Acquisition and Involuntary Resettlement (2012) including associated guidance note
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources (2012) including associated guidance note
- Performance Standard 7: Indigenous Peoples (2012) including associated guidance note
- Performance Standard 8: Cultural Heritage (2012) including associated guidance note

Equator Principles

The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. The Equator Principles was subject to review and re-issue in June 2013 (now referred to as Equator Principles III). There are ten statements of principle:

- Principle 1: Review and Categorisation
- Principle 2: Environmental and Social Assessment
- Principle 3: Applicable Environmental and Social Standards
- Principle 4: Environmental and Social Management System and Equator Principles Action Plan
- Principle 5: Stakeholder Engagement
- Principle 6: Grievance Mechanism
- Principle 7: Independent Review
- Principle 8: Covenants
- Principle 9: Independent Monitoring and Reporting
- Principle 10: Reporting and Transparency