Executive By-Law for
The Environment Protection Law,
Issued vide the Decree Law No. 30 for the Year 2002

Preliminary

Definitions

Article (1)

For the purposes of implementing the provisions of this Executive By-Law, the following words and phrases shall have the following meanings unless expressly provided otherwise in the text:

The Law: The Environment Protection Law issued vide the Decree No. 30 for the Year 2002.

The Council: The Supreme Council for the Environment & Natural Reserves (SCENR).

The Secretariat General: The Secretariat General of the Council.

The Secretary General: The Secretary General of the Council.

Treatment: Processing of the wastes to change their chemical, physiological or biological characteristics/ composition or to reduce its size or to render that waste non-hazardous or less hazardous and secure the same for shipping, storage or final disposal.

The operator: The person or organization in charge of operations at the

waste disposal site.

Environmental quality standards: the legally enforceable standards that dictate the level of pollution or nuisance that shall not be exceeded on a daily average basis unless otherwise specified.

Leak: Intermittent, non-routine emission or discharge, unintentionally released due to failure or an emergency in the system.

Trans-boundary movement: Movement of hazardous wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State provided at least two States are involved in the movement.

In-Transit: Non-stop route across State borders through international territories without storage of the material there. Temporary storage during shipment is allowed.

The Exporter: Any person who makes the necessary arrangements for the export or shipping/ transportation of hazardous wastes abroad for disposal in accordance with the provisions of the law and this Executive By-Law.

The Generator: Any person whose activity produces hazardous wastes.

Disposer: Any person who disposes of hazardous wastes locally or transports the same abroad.

The State of Export: The State from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated;

The State of Import: The State to which a transboundary movement of hazardous wastes or other wastes is planned or takes place for the purpose of disposal therein or for the purpose of loading prior to disposal in an area not under the national jurisdiction of any State;

Deposit Facilities: Tanks or any containers for the deposit, sedimentation, treatment and drainage of pollutants or ballast water, or any other arrangements provided by the person or organization dealing in the shipping of petroleum products or any other administrative authority in charge of the ports or waterways.

Chapter 1

Protection of the Environment against Pollution

Environment and Sustainable Development

Article (2)

The concerned administrative agencies, in co-ordination with the Council, shall develop the measures and procedures necessary for achieving the goals and objectives outlined in Articles (3), (4), (5), (6), (7) ,(8) and (9) of the Law and in particular the following:

(i) Identify national institutes and experts who can contribute to the development and implementation of environment protection programs and utilize the same in the preparation and implementation of proposed projects and studies.

(ii) Provide local and international data pertaining to the state of the environmental and the periodic changes thereto, assess and use the same in the environmental planning, management and publishing of such data.

(iii) Propose economic incentives to encourage the various agencies to adopt environment friendly measures for preventing pollution.

(iv) Propose appropriate projects for preserving the natural resources and set out the mechanisms for implementation of the same.

Article (3)

The standards for environmental protection as prescribed in Annex (3) of this By-Law hereby come into force.

The Council, will review, develop and update such standards in co-ordination with the concerned administrative agencies.

Chapter 2

The Environmental Impact of Projects

Article (4)

Any proposed public or private project or development plan, regardless of type or location, including industrial, agricultural and infrastructure projects, shall be submitted to the Council, prior to construction, for review and modification (if necessary) and to ensure that the projects comply with scientific and practical environmental planning methods, in conformity with the standards, specifications, restrictions, measures and conditions prescribed in this By-Law.

Article (5)

The categorization/classification of public and private development projects which are likely to cause environmental harm is given in Annex (1) attached to this By-Law.

Article (6)

The environmental significance of any area or locality is determined subject to the following environmental sensitivities or criteria:

(i) Places of high environmental value such as valleys, coasts, islands, coral reefs and areas of unique fauna and flora, including natural reserves.

(ii) Historical and archeological locations of scientific and aesthetic value.

(iii) Natural resource development areas and particularly those areas where natural resources (in particular uniquely

depleting resources) are being produced and utilized.

(iv) Those development areas such as industrial cities, industrial services areas, new suburbs and urban areas.

Article (7)

The licensing authorities may not issue construction licenses for any of the proposed projects referenced in Annex (3) of this By-Law, or for any expansion or renovation of such projects, unless the environmental impacts of those projects have been assessed and identified. Accordingly, the Council must issue the environmental authorization (clearance) for the project or any expansion or renovation thereof.

The project/facility or the expansion or renovation of such projects shall not be constructed or operated, unless authorized by the Secretariat General.

Article (8)

The applicant for a project operating permit, expansion or renovation, is to complete the Environmental Authorization Application Form as contained in Annex 2/2 of this By-Law. The completed form is to be forwarded to the licensing authorities along with detailed drawings, and other required documents and data including a study of the environmental impact of the project outlined in Annex 2/2 attached to this By-Law.

Before granting the license for the project or any expansion or renovation thereof, the licensing authorities are to forward the Application Form along with those attachments to the Secretariat General

for consideration and review. The Application Form shall be forwarded to the Council for approval in pursuance of the procedures outlined in Annex 2/3 attached to this By-Law.

Article (9)

The Secretariat General may seek assistance from experts and/or competent public or private agencies to review the project environmental impact study in accordance with the standards, specifications, restrictions, measures and conditions prescribed in this By-Law and any Annex attached thereto. The results of this review are to be forwarded to the Secretary General.

Article (10)

The Secretariat General shall review the project Environmental Authorization Request in view of the duly completed Application Form and its attachments and any other documents so required in conformity with the standards, specifications, restrictions, measures and conditions prescribed in this By-Law. Based on this review, the Secretariat General shall recommend one of the following:

(i) Approval of the environmental authorization (clearance) for the requested activity or project or any expansion or renovation thereof.

(ii) Conditional approval of the environmental authorization (clearance) of the project upon implementation of specific environmental requirements or measures.

(iii) Disapproval of the environmental authorization.

Article (11)

Within ten days of receiving the duly completed Application Form and the environmental impact study, the Secretariat General shall forward a report to the Council giving its findings, including the reasons for their recommendation, pertaining to the project environmental authorization request. The Council shall give its decision regarding the approval of the authorization request within ten days of receiving the Secretariat General's report. If the environmental authorization (clearance) is not granted, the reasons for that rejection shall be clearly stated. The Secretariat General shall inform the licensing authorities with the decision of the Council through registered mail within ten days of receiving the duly completed Application Form and the environmental impact study.

Article (12)

The following conditions are to be fulfilled in order to obtain the environmental authorization for the operation (Permit to Operate) of the project/facility as per Article (7) of this By-Law:

(i) Obtain the environmental authorization (clearance) for those project types included in Annex (1) attached to this By-Law.

(ii) Obtain the necessary license(s) from the licensing authorities.

(iii) Duly complete the Application Form to obtain the authorization (clearance) for the operation of the project (Permit to Operate) as given in Annex (2/4) attached to this By-Law.

(iv) Fulfill the conditions required as per the environmental authorization and the authorization for the operation (Permit

to Operate) of the project.

Article (13)

The Secretariat General shall study the request to operate the project, and based on review of the submitted data, may request more data be provided.

The Secretariat General shall issue the authorization for the operation of the project (Permit to Operate) within thirty days of receiving the duly completed Application Form and its enclosures. If the thirty-day period lapses without reply, it shall be considered a rejection of the Permit to Operate. However, the Secretariat General shall notify the licensing authority and the applicant by registered mail within ten days of the decision of the rejection of the Permit to Operate, in accordance with the procedures and formalities for obtaining authorization for the operation of a project as set forth in Annex (2/5) attached to this By-Law.

Article (14)

The applicant may submit a petition to appeal the Permit of Operation rejection within thirty days of the date of being so notified or lapse of the thirty days period stated in the preceding article.

The appeal petition is to be submitted in writing to the Secretariat General stating the reasons that the Permit to Operate should be granted and producing any supporting documents. The Secretary General shall refer the appeal to the Petitions and Grievances Committee to be constituted as deemed fit by the chairman of the Council. The Committee shall consider the petition, and forward its recommendations within ten days of receiving the petition and its enclosures (if any). The recommendations shall be forwarded to the Secretary General for onward

transmission to the Council for final action.

Article (15)

The environmental impact study of a project should include the following points depending on the nature of the project:

(i) Comprehensive and accurate description of the project.

(ii) The socio-economic considerations/ feasibility of the project.

(iii) The objectives and goals of the project.

(iv) The phases of the project.

(v) General project impacts and detailed impacts on natural resources and safety.

(vi) The proposed avoidance and mitigation measures for protection of the environment.

(vii) The proposed project emission minimization and waste management programs.

(viii) Comprehensive description and analyses, by project phases, of the environmental impacts of the project

Article (16)

The description and analysis of the project environmental impacts referred to in the preceding article shall include the following:

(i) Projected impacts to human health in nearby residential areas.

(ii) Projected impacts to ecological systems in the locale of the project.

(iii) Projected impacts on any historical, archeological, aesthetic, scientific, cultural, recreational, or social value site, place or building.

(iv) Projected impacts to fauna and flora.

(i) Projected long term impact on the environment.

(ii) Projected changes in the environmental quality or characteristics of the region.

(iii) Projected deterioration in the environmental characteristics.

(iv) Projected environmental emission/discharge sources.

(v) Identification of any threats to the public health and environmental safety.

(vi) Identification of any decreases in the useful utilization of the environment.

(vii) Identification of any waste disposal environmental impacts.

(viii) Potential depletion of natural resources and other unique resources.

(ix) Documentation of cumulative environmental impacts from this and other local projects.

Article (17)

All relevant administrative agencies, private companies and individuals will submit to the Council relevant data, information and studies in relation to the issue of project environmental clearances/authorizations.

Article (18)

Project owners must maintain environmental impact registers as per the Form located in Annex (6) of this By-Law. The register is to

contain the following:

(i) The rate of project/facility discharges and emissions.

(ii) The discharge/emission treatment equipment specifications and efficiencies.

(iii) Environmental monitoring, analytical, custody transfer, and auditing procedures applied in the facility/ project.

(iv) Periodic environmental monitoring tests and results.

(v) The responsible person in charge of the audit and follow up.

(vi) Upon violation of any of the standards, the facility/project operator or his representative shall immediately notify the Secretariat General specifying the nature of the violation and the corrective actions taken.

Article (19)

The Secretariat General shall review the submitted data and records required in the preceding article to ensure that they are true and accurate. Additionally, sampling and testing will be conducted to monitor the environmental impact of the facility activities and to verify compliance with the environmental protection standards.

The review shall be conducted on a regular basis, and, in case of any violation, the Secretariat General shall notify the concerned administrative agency and the facility operator by registered mail and require immediate correction of the violation. If remedial action is not taken within sixty days, the Council, pursuant to a recommendation by the Secretariat General, may revoke the operator's Permit to Operate as per the procedures outlined in Article (20) of this By-Law. Legal action may also be initiated to recover appropriate damages based on the estimated cost to remedy the damages.

The facility shall maintain the subject register as long as it operates the facility.

Article (20)

The Council in co-ordination with the concerned administrative agency and, after citing the reasons given by that agency, may revoke or suspend the facility Permit to Operate in the following circumstances:

(i) The authorization was issued based on false or incomplete statements.

(ii) The authorized operator of the facility violated the provisions of the Permit to Operate.

(iii) Unforeseen environmental impacts are resulting from the activities of the facility.

The Council, before suspending or revoking the license for the operation of the facility, must notify the owner/operator about the infringement and order him to take the necessary remedial measures within a reasonable period specified by the Council subject to the magnitude and nature of the infringement, without prejudice to the provisions of the preceding article.

If required, the Council and the concerned administrative agency may take the required remedial measures, and the owner/operator shall incur all remedial expenses.

The owner/operator of the facility may submit a petition to annul the license suspension of the facility within the period and in accordance with procedures prescribed in Article (14) of this By-Law.

Chapter 3

Emergency Response Plans for Environmental Disasters

Article (21)

The Council, the Permanent Emergency Committee, and the concerned administrative agencies shall work together to draft a general emergency response plan to manage environmental disasters. This plan shall not be effective unless approved by the Cabinet. The general emergency response plan is to be based on the elements outlined in the following phases:

1. Pre- Emergency phase:

a. Collection of both locally and internationally available data and information for responding to environmental disasters and the means to reduce/ mitigate the resulting damage.

b. Identification of available local, national, and international resources and determination of the optimum utilization of the same to quickly address the disaster.

c. Conducting training exercises, drills and tests to determine the readiness status of the emergency response team, highlight areas for improvmement and how to improve the emergency response plan and enhance the performance of the emergency response team.

d. Identify the most likely types of environmental disasters, the most likely impact locations, the environmental sensitivity and most likely impact to those locations, and the proper resulting responses to each disaster.

e. Identify the agencies responsible for reporting (or receiving the reports) of the disaster or forecasting its initiation.

f. Establish a central Operations Room to receive the reported environmental disaster notifications, to follow up and ensure that the relevant incoming and outgoing information is accurate and correct, and to mobilize the required resources in response to the disaster.

g. Constitute a working group to manage the response to an imminent environmental disaster or one which has happened. The chairman of the working group shall have all necessary powers to respond to the disaster in co-ordination with the competent administrative agencies.

h. Conduct training, follow up and closely monitor the response to the disaster at all levels.

i. Adopt a system and methods for the smooth and efficient exchange of information between the various agencies in relation to any disaster.

j. Determine a method for the exchange and mutual request of assistance between the various agencies during the crisis management and to maintain a useful database system for the same.

2. **Overcoming the Disaster:**

a. Implementation of plans for co-ordination and co-operation at the local, regional and international levels, to safeguard the flow of supplies, equipment and tools at the disaster site.

b. Optimizing the use of available resources with the various agencies managing the disaster.

c. Determining the best communication method of informing the public of the disaster and keeping them informed as the incident is managed and controlled.

3. Mitigating the Aftermath:

a. Determine the actual performance of the various agencies in dealing with the consequences/ aftermath.
b. Develop plans aimed at improving the performance.
c. Enhance the public awareness of the methods of responding to the disaster.

4. **Documenting the impacts of the disaster and the lessons learned:**

a. document the socio-economic impact of the disaster.

b. document the lessons learned from responding to the disaster.

c. document proposals for addressing any deficiencies and shortcomings highlighted during the response to the disaster.

Chapter 4

Wastes and Hazardous Materials

Article (22)

The competent administrative agencies shall issue licenses/permits to hazardous wastes/materials treatment, management, and handling facilities based on their type, intended uses, and the suitability of the facility location per the requirements contained in Annex (5) of this By-Law.

The Council shall, in co-ordination with the appropriate administrative agencies, issue a table of the hazardous wastes and materials which details the following:

(i) The type/category and hazardous nature of each hazardous waste or material within the scope of each agency activity.

(ii) Strict handling restrictions for each hazardous waste/material.

(iii) Management and disposal requirements for empty waste/material containers/ receptacles.

First: Hazardous Wastes

Article (23)

It is prohibited to import hazardous wastes or permit the entry, transit, dumping, burial, injecting or accumulation of the same in the State.

Article (24)

Ships carrying hazardous wastes are not permitted to navigate in the territorial sea or the Exclusive Economic Zone of the State, without prior authorization from the concerned administrative agency and subject to the approval of the Council and are required to meet the following requirement.

(i) Provide sufficient details about the hazardous wastes carried on board the ship/ vessel including the type, amount, and source of the wastes, destination and itinerary.

(ii) Produce the approvals from the exporter and importer of the hazardous wastes.

(iii) Produce evidence that the ship is equipped with required safety equipment and systems for carrying such cargo.

(iv) Produce evidence that a number of qualified hazardous waste handling specialists are on board the ship and capable of responding to emergencies.

(v) Observe and comply with all safety precautions prescribed in the relevant International Conventions.

(vi) Submit a financial guarantee certificate as set forth in Article (49), regardless of the total cargo weight.

Article (25)

It is prohibited to establish or construct any hazardous waste treatment facility, unless it is specifically authorized by the concerned administrative agency and subject to the approval of the Council pursuant to the following requirements:

(i) Submit an application to the competent administrative agency as per the Form contained in annex (2/2) attached to this By-Law.

(ii) Subject to the provisions in Chapter 2 of Part 1, of this By-Law, the competent administrative agency shall forward the duly completed Application Form along with the required attachments to the Secretariat General for consideration and review and then final approval by the Council. The Secretariat General is to notify the applicant within thirty days of receiving the duly completed Application Form and its attachments of its decision. If the period of 30 days lapses without a reply from the Secretariat General, the application shall be considered as rejected.

(iii) The location selected for setting up hazardous waste treatment project/ facility, should fulfill the conditions outlined in Article (36) of this by-law.

Article (26)

It is prohibited to handle, treat, recycle or dispose of hazardous wastes locally or abroad, without prior authorization from the concerned

administrative agency, subject to the approval of the Council in accordance with the following conditions and procedures:

First: **The conditions:**

(i) Produce complete data, information and documents as required by this By-Law.

(ii) Develop management systems and provide resources and facilities necessary for the safe storage, handling, treatment, recycling and or disposal of hazardous wastes.

(iii) Provide well-trained personnel for the operation of the hazardous wastes facility.

(iv) Provide appropriate risk-based contingency measures to address hazardous waste management incidents.

(v) Protect the environment and public health.

Second: The procedures:

The applicant for operating a hazardous waste facility shall submit an application (Application Form contained in Annex 2/7, 8, 10, and 11 attached to this By-Law) and other supporting documents to the concerned administrative authority describing the activities of his proposed facility and provide the following details

(i) Facility handing the hazardous wastes: (name of the facility, address and telephone number, fax location of the facility and dimensions (in kilometers) , diagrams or site plan of the facility, depth of groundwater, site safety equipment, insurance policy and the environmental monitoring program for the site and surrounding area)

(ii) The hazardous waste generator: (name of the facility, address and telephone and fax number)

(iii) Complete description of the hazardous wastes to be handled and the nature and concentration of hazardous substances.

(iv) The annual estimated hazardous waste quantity to be managed and a description of how it is to be shipped and received (i.e., contained in drums, tanks or loose)

(v) For each waste stream, describe the hazardous waste storage means, duration of storage, and the waste labeling process to ensure each waste is properly identified and identifies emergency response instructions in case of spillage or accident.

(vi) List the means of transport (land, sea or air) and timings and routes of the same.

(vii) Detailed description of the method/mode of the hazardous waste treatment and disposal.

(viii) Minimize mixing of hazardous wastes with other wastes generated by the production activities etc..

(ix) Maintain permanent records to register details of the hazardous waste namely; the amount, type, sources, rate and duration of waste accumulation, storage, and means of transporting and treating the wastes. These records are to be continually maintained and easily accessible.

(x) Commitment to exercise due care during the packing, collecting, shipping and storage of the hazardous wastes.

(xi) Detailed description of the emergency response plan.

(xii) A certificate of experience in the management and handling of hazardous waste.

(x) Certify that the details given in the Application

Form and its attachments are true and correct.

The competent administrative authority in co-ordination with the Council may request the applicant to produce other necessary documents or data to ensure the proper functioning of the facility.

Article (27)

The concerned administrative authority shall forward a copy of the Application Form along with the attachments to the Secretariat General for review and subsequent submittal to the Council for final decision within thirty days of receiving the duly completed Application Form and attachments. If the thirty days period lapses without reply from the Secretariat General, the application will be considered rejected.

Article (28)

Subject to the approval of the Council, the license shall be granted by the concerned administrative agency, for the handling, treatment, recycling or disposal of the hazardous wastes locally or abroad. The license is valid for two years.

In the interim, the Council, or the concerned administrative agency may examine the license at any time so as to ensure strict compliance with the relevant terms and conditions.

No hazardous waste activity, whatsoever, is allowed by the potential operator until receipt of the approved license.

Article (29)

In consultation with the Council, the concerned administrative agency may revoke or suspend the issued license or authorization in the following circumstances:

(iv) The license was issued based on false or incomplete statements.

(v) The authorized operator violates the conditions of the license.

(vi) If severe unforeseen environmental impacts result from the facility activities.

(vii) If the Council finds that the hazardous wastes are not safely handled.

Article (30)

The Council and the concerned administrative authority, each within his competence, shall control and monitor the hazardous waste activities identified in the schedule in paragraph two of Article (22) of this By-Law, and also monitor the categories of wastes which should be controlled and those wastes needing special considerations based on their hazardous properties, as listed in Annexes (7/4, 5, 6) all contained or attached to this By-Law.

Article (31)

The management and handling of hazardous wastes is subject to the regulations, standards, rules, measures and conditions prescribed for each phase as given below:

(i) The hazardous waste generation phase.

(ii) The hazardous waste collection and storage phase.

(iii) The hazardous waste transportation phase (within the State).

(iv) The hazardous waste treatment and disposal phase.

(v) The hazardous waste disposal phase by shipment outside the State.

Article (32)

Hazardous waste generation is subject to certain rules and procedures as described below. The hazardous waste generator shall attempt to eliminate or reduce hazardous waste generation by using appropriate management practices as detailed below:

(i) Attempt to minimize the quantity and toxicity of waste through the use of alternative production techniques or the use/substitution of less toxic raw materials.
(ii) Develop the best systems for hazardous waste management.
(iii) Promote recycling and reuse of hazardous wastes after treatment.
(iv) Document and describe the generated hazardous waste by both quantity and quality.
(v) Design and operate units to treat wastes at the generation source. Obtain Council approval for the treatment plant, technique, and operation.
(vi) If unable to treat the hazardous waste at the source, the generator shall arrange to collect and transport the waste to a specially designed waste facility approved and licensed by the Secretariat General. All By-Law rules and regulations shall apply to these wastes.

Article (33)

The hazardous waste collection and storage phase is subject to the

standards, rules, measures and conditions prescribed in this By-Law. Additional rules and conditions are listed below:

(i) Design and designate an appropriate hazardous waste storage facility to prevent and contain accidents and risks to the public and private property.

(ii) Use appropriate hazardous waste storage containers to avoid leaks. Each container is to be tightly capped and properly sized and selected for the individual type of stored waste.

(iii) Ensure all hazardous waste containers are clearly labeled and marked as to their contents including appropriate warnings, hazards, and risks for improper handling.

(iv) Ensure appropriate collection of hazardous waste containers to minimize prolonged storage.

(v) The waste generator shall be responsible for obtaining the appropriate waste containers as required above and storing them away from public places.

Article (34)

The hazardous waste transportation phase (within the State) is subject to the standards, rules, measures and conditions prescribed in this By-Law. Rules and conditions are listed below:

1. Transportation of hazardous waste is prohibited in unlicensed hazardous waste transport vehicles. The transport vehicle shall meet the following requirements:

a. Be equipped with appropriate, serviceable and well-maintained safety equipment.

b. Have the proper vehicle capacity and capability to transport the subject amount and type of hazardous wastes.

c. The drivers of such vehicles shall be well trained and capable of proper response in cases of emergencies.

d. The vehicles are to be clearly marked indicating the hazardous nature of the load and the appropriate actions to take in cases of emergencies.

2. Designate an appropriate schedule and route for the hazardous waste vehicles and promptly notify the Civil Defense and Traffic Department of any changes or detours to enable their quick response in cases of emergency.

3. It is prohibited to transport hazardous waste through residential areas or down town during daylight hours.

4. The concerned agency is to be notified about the location of the parked hazardous waste transport vehicles along with their registration number and road permit validity.

5. Decontamination of each hazardous waste vehicle is required after each use.

Article (35)

The hazardous waste treatment and disposal phase is subject to the standards, rules, measures and conditions prescribed in this By-Law. Requirements are listed below:

(i) Designating suitable locations for hazardous waste treatment and disposal facilities.

(ii) Designing a system or framework for the treatment of those hazardous wastes which can be recovered, recycled and reclaimed.

(iii) Designing a system for the treatment and disposal of those hazardous wastes that, after treatment, can not be re-used,

recovered, recycled and reclaimed.

Article (36)

The following conditions must be met for the siting of hazardous waste treatment and disposal facilities:

(i) Must be located at least 5 kilometers from residential areas.

(ii) Must have sufficient land area and capacity to handle received hazardous waste volumes without requiring long-term storage.

(iii) The facility must be surrounded by a minimum 2.5 meter high perimeter fence.

(iv) The facility should incorporate adequate gates that allow transport vehicles easy entrance and exit from the site.

(v) Essential services such as electricity, water and telephone shall be provided.

(vi) Adequate safety and emergency response equipment shall be provided as required by the labor and occupational health laws.

(vii) Adequate mechanical equipment, such as forklifts, should be provided to facilitate handling of the wastes.

(viii) Adequate warehouse and storage space shall be provided to ensure safe and segregated hazardous waste storage for each waste stream prior to treatment and disposal.

(ix) Adequate machinery and equipment should be provided to facilitate the sorting and categorization of hazardous wastes for re-use and recycling.

(x) Adequate treatment and processing units, such as

incinerators and/or chemical/physical treatment units, should be provided for the treatment of special wastes prior to recycling, re-use, or disposal.

11. Specially engineered waste cell(s) of the appropriate capacity shall be constructed for the disposal of incinerated wastes. A separate engineered cell(s) shall be constructed for the disposal of other wastes with safely sloping walls to avoid collapse and a capacity which allows a minimum operating life of 20 years.

Article (37)

The hazardous waste treatment processes for those wastes that can be re-used, reclaimed, or recycled shall be designed and operated in accordance with the procedures outlined in Annex (7/7 Section– b). Those types of re-used, reclaimed, or recycled wastes include the following:

(i) Use as a fuel or other means to generate energy.

(ii) Solvent reclamation/regeneration.

(iii) Recycling/reclamation of non-solvent organic substances.

(iv) Recycling/reclamation of metals and metal compounds.

(v) Recycling/reclamation of other inorganic materials.

(vi) Regeneration of acids or bases.

(vii) Recovery of components used for pollution abatement.

(viii) Recovery of components from catalysts.

(viii) Recovery of used oil for re-refining.

Article (38)

The hazardous waste treatment processes for those wastes that can not be re-used, reclaimed, or recycled shall be designed and operated in accordance with the procedures outlined in Annex (7/7 Section– a). Those requirements include the following:

(i) Waste disposal in specially engineered cells which are isolated from the environment.

(ii) Treatment of organic-containing wastes in biological treatment units to reduce the organic content.

(iii) Physico-chemical treatment (e.g., evaporation, drying, calcinations, neutralization etc).

(iv) Incineration in specially engineered incinerators with emission controls to avoid the release of toxic or harmful emissions.

Article (39)

The hazardous waste disposal phase by shipment abroad is subject to the rules and procedures prescribed in the applicable International Conventions to which the State is a member and pursuant to the rules and procedures prescribed in this By-Law. Additional rules and conditions are listed below:

1. Trans-boundary movement of the hazardous wastes is not permitted in the following cases:

a. If the waste has a flash point over 60 degress.

b. If the waste is being shipped to a State banning the import of such wastes.

c. If the waste is being shipped to States that cannot provide

guarantees of their ability to safely dispose of the waste in an environmentally sound manner.

d. If the wastes is being shipped to a State or country which has not ratified the Basel Convention, unless the State is a member of other appropriate multinational, bilateral or regional conventions.

2. Procedures for obtaining the Council's approval for trans-boundary shipment of hazardous wastes are as follows:

a. The waste generator must take all practical steps to ensure that the hazardous wastes are collected, treated, stored, and disposed in an environmentally sound manner either "in-house" or by contracting with an operator of a licensed disposal facility.

The generator shall provide the Council with a monthly summarized report (Sections: a, b) as provided in Annex (7/2) describing the handling and treatment of the hazardous waste. The generator shall attempt to minimize hazardous waste quantities, conduct an annual evaluation of those efforts, and submit the report to the Council stating the reason for requiring trans-boundary shipment of wastes.

b. The Secretariat General shall inspect the hazardous waste storage and treatment facilities within the State and ensure that sound and proper methods are being utilized. If it is determined that the facilities and the methods are not suitable and proper for the types of wastes managed at that facility, the generator will be required to utilize other waste facilities including those available in other countries.

c. The generator must provide seven days notice to the Council prior to contacting waste treatment/disposal facilities abroad. In no objection is received from the Council, the generator shall forward a request for hazardous waste treatment/disposal abroad along with

a brief description of the hazardous wastes as per the summarized report Sections (a and b) referred to above. Additionally, a sample of the hazardous wastes intended for disposal abroad must be submitted for analysis. The sample described is to be forwarded for approval subject to the requirements contained in Form (7/3) attached to this By-Law.

d. If hazardous waste treatment/disposal approval is received from the facilities abroad, then the generator has to provide documented approval from the local authority in the State of import including the requirements for packing, labeling and marking for the purposes of shipping abroad, and specification of the port or point of entry into that State.

e. After review, the Council may approve the trans-boundary movement, subject to the approval of the States of transit (if any) in pursuance of the provisions of the applicable International Conventions.

3. Obligations of the licensed generator regarding the safe trans-boundary movement of hazardous wastes:

The generator licensed for export of hazardous waste is obligated to follow the steps/ procedures prescribed for trans-boundary movement of the hazardous wastes as listed in Annex (7/1) attached to this By-Law, as follows:

a. The licensed generator shall provide the details and documents required by the State of export and the State of transit, including the notifications for trans-boundary movement of hazardous wastes as required in Annex (7/8) attached to this By-Law. The forms are to be completed both in Arabic and English and any other language required by those States. Completion of the form of notification for trans-boundary movement in Annex (2/10)

is required.

b. The hazardous waste transporter/carrier shall have appropriate risk insurance coverage during trans-boundary movement.

c. The hazardous waste transporter/carrier shall ensure appropriate packing, labeling and marking of the wastes as per international best practices and standards. He is to produce copies of Customs clearances and insurance documents.

d. The transporter/carrier is to keep six copies of the shipping documents for the hazardous waste cargo as required in Annex (7/9), and in accordance with the trans-boundary shipment/delivery form contained in Annex (2/11) attached to this By-Law.

e. Copies of the shipping documents are to be signed by the disposer or operator of the disposal facility abroad. Two copies are to be returned to the carrier who shall keep one copy and forward the other to the generator or exporter as evidence of trans-boundary movement. The disposer keeps the remaining four copies of the shipment documents.

f. After satisfactory treatment and disposal of the hazardous wastes, the disposer operating the facilities abroad shall keep one copy of the shipment documents and sign and return a copy each to the generator, the concerned authority in the State of Export and the State of Import. The Council shall notify the Secretariat of the International Conventions to which his state is a member when the hazardous waste shipping and the disposal operations are completed.

Article (40)

Each licensed hazardous waste management and disposal facility is

to develop a regular monitoring program to monitor the levels of organic and inorganic elements both on-site and in the surrounding locality.

The facility is also liable for any harm, damage, or loss incurred by third parties due to non-compliance with the provisions of this By-Law. The Council may revoke or suspend the facility operating license if there is evidence of harm to the local ecosystem.

Article (41)

The owner/operator of a hazardous waste generation facility is to maintain a record of such activities in accordance with the Form given in Annex (6/second) attached to this By-Law. The following information shall be required:

(i) The terms and conditions imposed by the Council in relation to operating the facility/installation.

(ii) Types and quantities of hazardous wastes generated by the activities of the facility.

(iii) The hazardous waste disposal mode used by the facility.

(iv) The hazardous waste contractors who collect the hazardous wastes for disposal.

The Secretarial General shall regularly review the information on the record to ensure that it is accurate and correct.

Secondly: Hazardous Materials

Article (42)

Articles (26), (27), (28), (29) of this By-Law are applicable to the issuance of licenses for the import, handling, or shipment of hazardous materials. The duration of the license, the obligations and the circumstances for revoking and suspending the license, and other conditions and procedures are also contained in this chapter.

Article (43)

The following conditions must be met to obtain a hazardous materials import license:

1. Imported hazardous materials must be used in one of the following activities:
    a. Industry
    b. Construction, building
    c. Scientific research
    d. Oil and gas
    e. Electricity.
    f. Pesticides.
    g. Water treatment.
2. The license applicant shall meet the environmental authorization requirements per the Form contained in Annex (2/13) prior to being entered into the business registry or adding a hazardous material import activity. The applicant shall comply with the hazardous material importer license requirements as per the Form contained in Annex (2/12) of this By-Law.
3. Hazardous materials prohibited for use subject to the provisions of the International Conventions of which the State is a member are not allowed to be imported.
4. If the hazardous materials represent a risk to the general public, a license or authorization should be obtained from the state of origin to the effect that the importer is authorized to use that material for the public.
5. Provide a statement to stating that the present stock of hazardous material to be imported is in short supply and needs replenishment.
6. Complete the hazardous materials import form contained in Annex (2/14) of this By-Law, including the following details:

a. The scientific, common commercial name, and the chemical composition of the hazardous material.

b. The proper UN identification number and the chemical registration number.

c. The hazardous nature of the material and its potential adverse effects on human health and the environment.

d. Weight and volume of the hazardous materials.

e. The estimated date and time of shipment.

f. The purpose for the import (as given in the issued license).

g. The proper storage and disposal requirements of the hazardous materials.

h. The measures to be taken in cases of leaks/ spills.

j. Full name, address and contact number of the cargo dealer, the consignee and the consignor and the facility utilizing such hazardous material.

k. a certificate of analysis for pesticides, a lead-free certificate for paints , and a certificate that fertilizers are free from radioactive elements.

l. The expiry date of the hazardous material.

Article (44)

The hazardous material importer shall maintain a record of the hazardous materials including the amount, type of hazardous materials imported, and transferred as per the form given at Annex (6/ 3rd) of this By-Law.

The Secretariat General in co-ordination with the appropriate authority shall conduct regular inspections of the record to verify the accuracy of the recorded data, storage conditions, and transportation handling activities.

Article (45)

The licensed hazardous materials importer shall provide the following original documents and information if the shipment is to be transported by air:

(i) The statement of the freight handler.

(ii) The airway bill.

(iii) The original bill of lading for the hazardous material (acceptance test).

When the hazardous materials packages are shipped by sea, the licensed hazardous materials transporter/cargo dealer shall notify the Customs and Ports Public Corporation at least (48) hours before the arrival of the packages at the port. The notification shall include the following details:

(i) The hazardous material package storage plan.

(ii) Details about shipment of the packages.

(iii) Hazardous materials details.

Article (46)

Producers, handlers, and shippers of hazardous materials, whether in gaseous, liquid or solid form, are to take necessary safety measures to ensure there is no harm to the environment including the following requirements:

(i) Hazardous material production and storage locations shall be selected as appropriate for the type and amount of materials to be handled.

(ii) Hazardous material production and storage buildings shall be designed and equipped as appropriate for each type of material and should be periodically inspected by the concerned administrative authority and the Council.

(iii) The hazardous material transport and storage methods shall not cause harm to the environment, workers, or residents.

(iv) Ensure that the technology and equipment used in the production of these materials causes no harm to the environment, workers, or residents.

(v) The production facility buildings shall be provided with alarm and safety warning systems, a sufficient quantity of safety and first aid equipment as required by the Civil Defense in co-ordination with the concerned administrative authority and the Council.

(vi) An emergency response plan shall be developed to respond to contingencies/accidents during the production, storage, transport or handling of these materials. The plan is to be revised, updated and approved by the concerned administrative authority in consultation with the Council and the Civil Defense Department.

(vii) Facility employees shall undergo routine medical examinations/check ups and shall be treated for occupational diseases at the expense of the employer.

(viii) Employees shall be well trained and made fully aware of the potential risks which may result from handling these materials and to be briefed to take the necessary precautions.

(ix) Residents in the surrounding area shall be informed of the potential risks resulting from the production and handling facilities. They are to be briefed on the facility alarm system and how to respond in cases of accident.

Article (47)

Facilities licensed for the management of hazardous material shall comply with the following:

1. Following compliance with the requirements in Annexes (2/12), (14), (15), (16), (18), (19), and (20), the facilities shall not perform any work or activities beyond the scope and duration of the issued license.

2. Renew the license well in advance of the expiry date.

3. Develop internal rules and procedures for the protection of employees, the public and environment against the hazards resulting from the hazardous material facility practices and activities. Ensure the availability of employee personal protective equipment.

4. Prepare an emergency response plan to respond to accidents and environmental damage resulting from operation of the hazardous material facility, including the warehouse/depot, the transport vehicles and the hazardous material packing area. The Plan should include employee information including their number, years of experience and individual medical files. The plan should also address the general plan for responding to fires, damage, or harm threatening employees.

5. Develop an administrative system appropriate for the size and nature of the authorized activities. This system should cover the standards and requirements necessary for protection and safety as follows:

    a- Define responsibilities for decision making relating to accident prevention, health, and safety as well as individual safety responsibilities.

    b- Define the problems that affect accident prevention, health and safety and how to address them.

    c- Qualify and train employees who are tasked with accident

prevention, health, and safety matters.

d- Set up organizational arrangements that facilitate communication and expedite the flow of information regarding health and safety matters.

6. Implement an accident prevention, health, and safety system appropriate for the potential hazard exposure to achieve the following:

   a- Prevention of accidents that may cause the exposure to hazardous material dangers.

   b- Minimization of accident consequences.

   c- Insurance of the availability of first aid equipment.

   d- Provision of adequate fire safety precautions.

7. Develop and implement a quality control program and ensure that all relevant accident prevention, health, and safety requirements are fulfilled. Ensure that the employees are well trained, provided with the mechanisms and procedures necessary to comply with quality control standards through periodic checking up and evaluation and carrying out of routine maintenance of the protection and safety equipment.

8. Conduct hazardous material packing in accordance with general requirements for both the interior and exterior of the packing containers/materials. Ensure proper warning and handling labels are attached indicating the type and quality of each material packed as per the provisions contained in Annex (8/2nd and 4th) attached with this By-Law.

Article (48)

Facilities licensed for the storage of hazardous material shall comply with the following requirements, in addition to complying with the

provisions of Annex (2/17) and the procedures in Annex (2/18) of By-Law:

(i) The facility shall not change or substitute the stored hazardous materials allowed per the license unless it is authorized to do so by the licensing authority.

(ii) Compliance with the fire safety precautions prescribed by the licensing authority.

(iii) Compliance with hazardous material handling instructions including any employee/environmental preventive requirements.

(iv) Compliance with pre-handling hazardous material safety regulations, maintaining a clean and safe work area, and the use of appropriate personal protective equipment and other safety equipment

(v) Use of approved and reliable hazardous material storage containers that are properly labeled with appropriate storage and shipping handling information and precautions.

(vi) Non-standardized containers shall not be used for storage of hazardous material and the manufacturer's storage instructions should be followed.

(vii) Pressurized gas cylinders and flammable and explosive hazardous materials shall be kept away from heat sources.

(viii) The hazardous material storage area shall be kept well-maintained, neat, and in good order to reduce the risk of damage, leakage and fire and to ensure safe and efficient operations.

(ix) Hazardous material stocks shall be inspected on a regular basis for leakage or mechanical defects.

(x) Empty and flammable packing containers/ materials shall be

stored away from the stores depot/warehouses.

(xi) Entrance/exit gates shall be kept clear from obstructions to ensure accessibility of emergency response personnel and equipment.

Article (49)

Hazardous materials should be stored in depot/warehouses at a safe distance from residential areas - that distance depends on the nature and type of the stored hazardous materials as required in Annexes (2/17, 18) attached to this By-Law. The warehouses/depot should be designed in accordance with the following standards and conditions:

1. The construction materials should be fireproof and the supporting structure of the building should be made of concrete or steel. The steel structure is to be insulated against heat by the use of non-flammable materials such as steel wool or fiberglass.

2. Wall-mounted electrical wiring/cables should be fire resistant.

3. At least two emergency exits shall be located in any large closed area. The emergency exits should be clearly marked and designed to permit unobstructed and safe exit in cases of emergency. The exits are to be fitted with illuminated signs for easy exit visibility during darkness or smoke and with exit doors fitted with easy opening handle bars.

4. Warehouse ventilation should be designed considering the nature of the hazardous materials to be stored. Adequate natural ventilation should be provided through wall or ceiling windows or ventilation openings.

5. Flooring material should be solid with no cracks, leak-proof, smooth, but not slippery, to facilitate easy

cleaning, sweeping and draining of contaminated water and materials.

6. Open drainage tanks containing hazardous or toxic liquids are not allowed in warehouses/depot. Uncontrolled discharge of contaminated water is not allowed. Contaminated water should be disposed of as soon as possible.

7. Minimize fire and spill hazards and ensure hazardous materials are properly stored and segregated.

8. The light fittings and other electrical equipment should be installed and maintained only by qualified electricians. Temporary electric equipment wiring is not allowed. Electrical equipment shall be designed with proper loading and overloading protection devices.

9. Appropriate fire protection and response equipment shall be provided for low flashpoint solvents/liquids or dust creating chemicals.

10. Welding, battery recharging or other spark-creating work is prohibited within storage areas.

11. If hazardous materials are required to be stored in the open air, covers should be provided to protect the materials from the elements.

12. Drums should be stored vertically on loading racks/skids and spaced to allow easy access in cases of fire.

13. If the hazardous materials are of a type which may generate static electricity while being moved, the licensed operator shall make the following provisions:

a- Ensure the electrical safety/shielding of tanks, pipe connections, transfer systems and treatment equipment.

b- Operating instructions should include preventive maintenance/troubleshooting procedures to minimize the risks from static electricity.

14. Living areas, lodging rooms, change rooms, or kitchens must be at a minimum of 10 meters away and are not allowed in the warehouses/depot.

15. Appropriate safety equipment including sinks, safety showers, and eye wash stations are to be provided.

Article (50)

The following provisions shall be applied when storing loose/ unpacked hazardous materials:

1. Must be stored in special above-ground or underground tanks or containers.

2. For above-ground hazardous material tanks or containers, the following requirements apply:

a. To be kept in secondary containment enclosures. The dimensions of storage area should not be less than 110% out of the total volume of the containers within that area.

b. The tanks or containers shall be separated into different enclosures unless the materials share the same United Nations category.

c. The floor of the hazardous material storage area should be constructed of solid, non absorbing material.

d. Flammable liquids should be stored at a minimum of

500 meters away from residential areas and a minimum of 200 meters from employee residential areas.

3. For underground storage of hazardous material in tanks or containers, including petroleum products tanks, the following requirements apply:

a. Containers are to be constructed with double-walled design for those containers placed in environmentally sensitive areas per Paragraph (1) of Article (6) of this By-Law.

b. Containers are to be installed under the supervision of an expert engineer in this field.

c. Containers are to have necessary leak detection, monitoring and inspection equipment.

Article (51)

A plan is to be developed for the storage of hazardous materials taking the following into consideration:-

1. Allow sufficient space between the wall and the stacked materials to ensure adequate inspection, ventilation, and easy access for emergency response personnel.

2. Stack materials to allow adequate movement of handling equipment such as forklifts and emergency response equipment.

3. Clearly mark and maintain proper clearance for all exits.

4. Material stacking should be no higher than (3) meters unless a shelving system is used.

5. Prepare and maintain a diagram or site plan identifying the hazardous materials in each part of the

warehouse, including a list indicating the places and the amount of stored material or the group of substances and their hazardous properties, the location of emergency and fire fighting equipment, doors, and emergency exits.

6. This site plan/diagram should be maintained, updated, and kept in a safe place.

7. Hazardous materials should be sorted and stored separately according to UN classifications as per the provisions contained in Annex (8/3rd) and stored away from public access.

8. Warehouse/store employees are to be briefed and aware of the following instructions and relevant manuals as follows:

a. Safe operating instructions for warehouse/store equipment/tools.

b. Instructions on the safe handling of hazardous materials stored in the warehouse.

c. Other public health and safety procedures and instructions.

d. Emergency instructions/procedures.

9. The hazardous materials are to be stored away from food products and not to be transported on food transportation trucks or vehicles.

Article (52)

In case of leaks or spills, the hazardous material handling facility shall strictly follow emergency response recommendations in the material safety data sheets (MSDS) and comply with the following requirements:

(i) No amount of spilled or leaked hazardous materials shall be disposed or drained into the sewage system.

(ii) Provide the following spill response equipment:

a. Personal protective equipment.

b. Empty drums.

c. Labels to identify the drums.

d. Absorbent material e.g. sand or sawdust.

e. Detergents/alcoholic spirits, cleaning solutions etc.

f. Brushes, squeegees, vacuum cleaners.

g. Shovels.

h. Spanners, screw drivers.

i. Metal funnels.

j. Drum caps/plugs.

k. Chemical-proof insulation material.

(iii) Conduct regular inspection and maintenance of emergency and safety equipment.

(iv) Properly decontaminate personal protective equipment after each use and keep them well maintained.

(v) Absorb spilled liquids with sand or sawdust. Sawdust is not to be used for absorbing flammable liquids falling within Category 3, 5 listed in Annex (8/3rd) attached to this By-Law.

(vi) Spilled powder/solid materials are to be cleaned with an industrial vacuum cleaner.

(vii) In cases of spills or fires which release toxic gases, ensure proper ventilation is applied. Appropriate respirators should be used depending on the type of gas emitted.

(viii) Dispose of all wastes and garbage, including packing materials, in a safe and environmentally sound manner.

Article (53)

1. Licensed hazardous material management facilities are to provide the following personal protective and first aid equipment:

a. Hard hats/ helmets.

b. Safety glasses, goggles or face masks.

c. Respirator with appropriate filters based on the type of hazardous materials.

d. Work overalls.

e. Plastic or rubber overalls, apron and gloves.

f. Safety shoes or boots.

g. Any other equipment required by the material safety data sheets or required by the concerned administrative authority.

2. Provide first aid in pursuance of the technical instructions issued by the Ministry of Public Health.

3. Provide eye wash fountains, safety showers, and washbasins within easy reach.

4. Sleeping is not allowed within the hazardous material storage warehouse.

Article (54)

Packing of hazardous materials shall be done as required in Annex (8/4th) of this By-Law and as follows:

(i) The materials are to be packed in vibration-proof, temperature-proof, and weather-proof parcels or packages suitable for shipping.

(ii) Ensure the interior packing lining is properly coated/ insulated to prevent leaks and material interactions with the surface packing.

(iii) The packing is to be tightly sealed, fragile items are to be well protected to avoid breakage and leakage, and items are to be tightly packed to preclude movement.

(x) Packing coating, lining or absorption materials used for packing liquids are to be sufficient to minimize hazards.

(xi) Proper headspace must be allowed in containers holding flammable or dangerous liquids taking into account temperature changes and resulting expansion during shipment.

(xii) Compressed gas cylinders must be manufactured to industry standards and properly filled, tested, and handled.

(xiii) Packing should comply with international air or sea transporter requirements and procedures.

(xiv) Package or parcel sizes should be sufficient to affix all labels/ stickers as required by the material safety data sheets (MSDS).

(xv) Labels are to be of good adhesive type, not easily removed, and durable to ensure information stays clear and legible during shipping conditions.

(xvi) Hazardous material classification, labels, and marking is subject to the following conditions:

a. Classification in accordance with the hazardous material categories given in Annex (8/1st and 2nd) of this By-Law.

b. For hazardous material sea shipment, the type of the materials should be clearly identified so that the carriers/ transporters take the necessary precautions.

c. Hazardous material packages shall be properly labeled with the scientific name, the UN classification/ identification number, and other international symbols as required.

Article (55)

Licensed hazardous material transporters shall comply with the conditions and procedures set forth in this By-Law, in addition to the conditions listed at Annex (2/19) and the licensing procedures at Annex (2/20) of this By-Law.

Article (56)

Hazardous material land transporters must comply with the following requirements:

(i) Hazardous material trucks/vehicles should be driven safely within the prescribed speed limit. The drivers are to comply with the prescribed timings and routes.

(ii) Proper hazard warnings should be displayed on all sides of the containers or tanks loaded on the trucks/vehicles. The warning hazard is to be written on a phosphoric or luminous background.

(iii) Tankers or trucks carrying liquid hazardous materials are to be provided with yellow strobe light hazard indicators fitted on the trailer and switched on at all times, throughout the duration of the trip.

(iv) Drivers shall be well trained, properly licensed to drive such vehicles, and properly trained on emergency response.

(v) Drivers shall carry proper shipping documents including information about the hazardous material cargo e.g. (scientific name, classification of the substance and UN identification number). A metal placard is to be fixed on the body of the vehicle with the same information. The Traffic Police may stop the vehicle for inspection to ensure compliance with these safety measures. The drivers of the subject trucks in transit are to abide by the

provisions set forth in this article.

(vi) The shipping documents are to include the weight and volume and a statement that each parcel or package is properly packed, filled and tightly sealed.

(vii) Hazardous materials, not carried in tanks, should meet the following conditions:

a. The drum or container should be constructed of metal fit for transport in that environment. The exterior surface and the coating of the drum should also be of appropriate material.

b. Containers shall be built according to approved international standards.

c. Containers should be designed for the weight and volume of the cargo, appropriate for the characteristics/ properties of the substance and must bear the stress, pressure and temperature extremes.

d. Container valves, gauges and other test and safety fittings are to be available on the hazardous material containers, so as to avoid the risk of damage and harm during shipment.

e. Each part of the container shall be easily accessible for inspectors.

f. All pipes and connections of the container are to be made of appropriate materials.

g. All containers are to be fitted with pressure relief valves, as appropriate.

h. The body and all fittings of the container are to be inspected by a qualified person.

j. The exterior surface and interior container coatings are

to be inspected periodically including hydraulic pressure tests.

k. Ensure that containers are free from defects and are regularly serviced and maintained. If there are minor defects in the container, it is not to be used until repaired.

(viii) Hazardous material containers are not to be transported in a trailer unless the trailer is equipped with appropriate locks.

Article (57)

Hazardous material air transport shall meet the following conditions:

(i) The hazardous material transporter/freight handler must comply with transport requirements of the State of origin, State of transit or the State of export, in addition to the technical instructions set forth by the International Civil Aviation Organization.

(ii) The transporter/freight handler shall comply with the following:

a. Ensure there is no international ban for the subject hazardous material.

b. Ensure proper packing of the hazardous material container and no leaks or defects. Ensure correct labeling to properly identify the material and ensure all shipping documents are accurate and properly completed.

c. The handler is liable for the transfer of infectious and heat sensitive materials. All the necessary precautions are to be taken for the safe shipping of hazardous

materials, of all types.

d. Compliance with the provisions of the International Conventions to which the State is a member pertaining to the hazardous materials carried by the passengers, crew members or the operators and all clearances restrictions or ban.

Article (58)

Hazardous material sea transporters must comply with the following requirements:

(i) Strict compliance with the provisions for the appropriate packing of hazardous material.

(ii) Compliance with the provisions of the International Sea Transport Conventions ratified by the State.

(iii) Compliance with packaging requirements for stacking and sorting of hazardous material in compliance with the International Sea Transport Manual for non-homogeneous substances.

(iv) Packed or solid hazardous materials which release harmful vapor are to be stored in a safe place on the deck or in a mechanically ventilated compartment.

(v) Compliance with the safety precautions against fire or explosion on board the ship, particularly the ships which carry flammable gases or liquids.

(vi) Additional precautions are to be taken to reduce the risk of fire while shipping hazardous materials which are highly flammable (spontaneously combustible).

(vii) The captain of the ship or any person in charge of the ship is to promptly report any accident involving the hazardous

materials in detail, particularly if there is a risk of damage or loss to packed or unpacked hazardous material.

Article (59)

Training on the management of hazardous materials is subject to the following rules, conditions and procedures:

(i) Those who handle hazardous materials are to be aware of the characteristics/ properties of the substances, the potential hazards, how to reduce the risk, and how to respond in cases of emergency.

(ii) Instructors or training institutes are to provide the necessary training courses pertaining to safety and protection against hazardous materials. The training is to cover the proper handling, categorization, sorting and storage of hazardous materials.

(iii) The training institutes are to provide the necessary information about their senior staff and instructors, namely their experience, qualifications and professional background in the management of hazardous materials.

(iv) No person is allowed to operate a hazardous material transportation vehicle unless he has completed the drivers training course.

(v) Managers/supervisors in charge of hazardous materials storage warehouses/depots shall have completed a hazardous materials storage training course.

(vi) Staff working in hazardous material storage warehouses/depots is to be well trained in hazardous material management.

(vii) The typical training course shall include the following:

a. Basic hazardous materials management training including the following: categories of hazardous materials, labeling, proper packing, characteristics/ properties of the hazardous materials, proper and safe handling of hazardous materials, personal protective equipment, safety regulations, and the relevant national, regional and international laws and rules.

b. The typical training courses in the storage and handling of hazardous material shall include the following: (UN codes for the identification of materials, the proper design of warehouses/depots, emergency response plans, proper storage placement and partitioning, occupational health standards, protection of the skin and respiratory system, and minimization/management of static electricity.

c. The typical training course in hazardous materials shipping shall include the following: briefing on static electricity, proper loading/unloading, safe driving techniques, placing hazard warning placards on transport vehicles, the use of UN identification codes for materials, chemical hazard warnings, and accident and emergency response procedures.

Article (60)

The staff of the Secretariat General and the concerned administrative authority that are on deputation at the Council can be authorized with quasi judicial powers for the inspection and monitoring of any facility with the potential of cause environmental impact. Any evidence of contravention or infringement of the provisions of the law

and this By-Law shall be documented and brought forward subject to the following restrictions:

(i) Inspect and monitor all hazardous materials activities to ensure compliance with the conditions for their use, storage, transportation, and handling including record and document inspections and inspections of the site in general.

(ii) The inspection shall be carried out during facility/installation working hours after the Inspector has produced his identification papers. The purpose of the inspection is to verify compliance with the safety rules and operating instructions at the facility/installation.

(iii) The inspector shall check the license validity, the compliance with required environmental requirements, the compliance with worker protection and safety measures, and if the protective/compliance measures are proportionate to the nature of the potential hazard.

(iv) Inspect the availability of the appropriate warning labels and check that safe working conditions for the staff are enforced.

(v) Check the files and the documents relevant to the import and management of hazardous material.

(vi) If necessary, the inspector may question the staff on any matter relevant to the operation of the facility without interference from the owner/operator of the facility.

(vii) The inspector shall prepare a report giving details of the procedures and steps followed by him and in particular the following:

a. Name of the licensed facility.

b. The details of the inspection, its circumstances and any violations or concerns found.

c. Any recommended corrective actions or improvements for the performance at the facility.

d. The final result, findings and recommendations.

(viii) The report made by the inspector shall be submitted to the Secretary General within (3) days of the inspection. The concerned administrative authority shall be notified about the findings of the report and in the case of any violations, the necessary actions shall be taken.

(ix) The inspector is not allowed to disclose any information obtained during the inspection or in the course of his work. These procedures apply to the inspections carried out at any hazardous waste/material facilities.

Part 2

Protection against Air Pollution

Article (61)

Subject to the provisions of Chapter (2), Part (1) of this By-Law, the project location should be suitable for the activities of the facility in terms of compatibility with the natural environment and land use zoning and utilization. Air emission pollutant concentrations should not exceed the allowable limits and ambient air quality concentrations should be within the allowable limits set forth in Annex (3) attached to this By-Law.

The following factors should be considered for determining the suitability of a location for the facility - its distance from an urban area, the surrounding areas, the direction of prevailing winds, and the facility's likelihood to cause environmental damages. The approval to construct a facility, based on its ability to comply with air pollution and nuisance limits, shall be issued by the Council.

Article (62)

All facilities/projects shall comply with the air quality standards contained in Annex (3) attached to this By-Law. Ambient air quality limits and emissions from stationary sources shall not exceed the maximum allowable limits given in Annex (3).

Mobile sources such as machines, generators, engines, and vehicles must also comply with the maximum allowable emission limits contained in Annex (3).

Article (63)

It is prohibited to dump, treat or burn solid and liquid wastes in places other than those designed/permitted for that purpose.

Burning of garbage and solid wastes should be done in special incinerators subject to the following:

(i) The prevailing wind direction should be away from residential areas.
(ii) The incinerator should be at least 5 kilometers away from residential, agricultural areas and waterways.
(iii) The incinerator should have the capacity of burning the wastes within 24 hours.
(iv) The incinerator facility should provide sufficient space to receive the expected waste according to the nature and population of the area.

The concerned administrative authorities shall enforce all regulations, standards, and measures included in these By-Laws.

Article (64)

Emissions and smoke resulting from fuel combustion from any industrial process, power generation, construction, or other commercial process facility shall be within the permissible limits given in annex (3) attached to this By-Law. Facilities shall control and minimize emissions in accordance with the following procedures:

(i) Choose an appropriate fuel, proper design and efficient emission controls for incinerators, boilers, furnaces,

chimneys, stacks, etc..

(ii) Avoid equipment designs that result in incomplete combustion and install engineered stack and chimney emission controls with proper technical specifications.

(iii) The design of combustion equipment shall ensure sufficient air/fuel mixing for complete combustion that reduces emissions. Pollutant air emission concentrations shall comply with the maximum limits given in Annex (3) attached to this By-Law.

(iv) Crude oil, diesel, and other heavy petroleum products should not be used as combustion fuels in or near residential areas.

(v) Sulfur dioxide (SO_2) emissions should be discharged through stacks/chimneys designed of sufficient heights so that the concentrations are dissipated before reaching ground level; alternatively high sulfur fuels should only be used in locations away from urban areas. Weather conditions and proximity to residential, agricultural, and water resources should be taken into consideration when determining siting industrial facilities with air emissions.

(vi) Comply with fuel combustion maximum emission limits for smoke, particulate matter, nitrogen oxides (NO_x), sulfur dioxide (SO_2), and total hydrocarbons. These emissions should not exceed the limits given in Annex (3)

(vii) Industrial facility chimneys/stacks should be of sufficient height to release air pollutants so that ambient air concentrations do not exceed the maximum allowable concentrations listed in Annex No.3.

(viii) The height of chimneys/stacks in public businesses such as bakeries, restaurants, hotels, or other commercial businesses

should be at least 3 meters above the edge of the roof. The discharge of gases from these chimneys/stacks should be accelerated.

Article (65)

Companies involved in oil and gas exploration, drilling, production, refining, manufacturing, and research shall comply with the following rules and procedures:

(i) Incorporate environmental best practices from the international oil industry into projects, facilities, and operations.

(ii) Incorporate and follow international safe operation standard specifications and technology for refining, storage and shipment of petroleum products, petrochemicals and gas.

(iii) Take necessary measures to prevent fire and protect equipment, wells, rigs, employee accommodation, warehouses and oil and gas production/treatment installations.

(iv) Maintain safe distances between exploration and production wells, production facilities, other industrial facilities, workshops, primary and secondary pipelines, accommodations, religious places, social utilities and cemeteries.

(v) Comply with minimum distance provisions when using explosives for seismic surveys and pipeline construction.

(vi) Provide oil and gas wells with the necessary safety equipment to prevent leaks and explosions of oil and gas.

(vii) Install properly designed separation and flaring equipment

for production operations, gas, oil refining, petrochemicals and transportation operations.

(viii) Take necessary precautions to prevent leakage of oil and gas during drilling and well testing. All oil and gas flaring should utilize engineered flare systems to minimize air emissions. Diesel can also be used to enhance complete combustion of heavy crude oil during flaring operations.

(ix) Install engineered stacks/chimneys, flaring and venting devices for production, operation, refining and power stations.

(x) Implement emergency response plans, provide necessary safety equipment, and provide appropriate training to minimize leakage or fire at wellheads, offshore rigs, pipelines, marine platforms, industrial facilities, storage tanks, warehouses, workshops, employee housing or any other similar facility installations.

(xi) To ensure the safety of the storage tanks, the following conditions should be fulfilled:

a. The distance to the main roads, other stores, buildings and places exposed to fire.

b. Storage tanks should be compact and tightly sealed. The release of excess vapors should be controlled in accordance with the international standard specifications in this regard.

c. Tanks should be painted white or any other light color.

d. Each tank should be enclosed by firewalls designed to confine and collect any oil leaks, equipped to drain collected rainwater, and should meet international requirements.

(xii) If possible, compressed air, instead of compressed gas, is to be used in instruments, gauges, measuring equipment, and actuated valves.

(xiii) All operational tools, equipment, and machines should be in good condition, serviceable, and well maintained.

(xiv) Proper disposal of unusable oil subject to compliance with international standards.

(xv) Petroleum wastes produced during the exploration, production, and processing of crude oil and natural gas should be contained in properly designed pits and tanks maintained at a safe distance from wells, production facilities, storage areas, and residential areas to ensure no runoff of wastes into ground surfaces, roads, waterways, the coastline, or the sea.

Article (66)

Pesticides or any other chemical compounds are prohibited for agricultural, hygienic or any other purposes unless approved by the concerned administrative authority in coordination with the Secretariat General in accordance with the following:

(i) The pesticides should be approved for use and registered by the concerned administrative authority with notification of the Council.

(ii) Notification to the concerned area health units about types and uses of pesticides is required to ensure appropriate emergency first aid is available if needed.

(iii) Provision of appropriate clothing and personal protective equipment to workers using pesticides is required.

(iv) Local inhabitants are to be adequately warned to ensure they do not enter pesticide spray areas.

(v) Provide and display warning signs at safe distances from the pesticide spraying area to ensure local inhabitants do not enter the area.

(vi) Only trained personnel are to apply pesticides.

(vii) Exclude certain areas from pesticide spraying including areas in the close proximity of residential areas, apiaries, fisheries, poultry farms and cattle farms.

(viii) Refrain from spraying pesticides in windy conditions.

Article (67)

Establishments licensed to spray pesticides or chemical compounds as mentioned in the preceding article, should abide by the following:

(i) Develop a program for monitoring employee health, based on general occupational health principals and evaluate the fitness of the personnel for carrying out their tasks. This monitoring should continue throughout the employee's service.

(ii) Implement a work place surveillance program to maintain proper protection and safety for the employees, the public and the environment. Soil and agricultural product sampling and analysis should be performed periodically to monitor the rate of hazardous materials accumulation in the soil. Sampling and analytical methods/companies should be documented.

(iii) Periodical medical testing of employees should be performed to ensure that they are healthy. It is prohibited to smoke, eat

or drink in work areas.

(iv) A register is to be maintained for employees exposure to risks in accordance with the following procedures:

a. A medical record for each employee is to be maintained.

b. Each employee is to undergo medical tests periodically to document the extent of exposure to dangerous materials and any harm done.

c. If the employee medical reports reveal any significant accumulation of dangerous materials in the body, he should be stopped from work.

d. All employee accidents are to be documented and reported.

e. Employees are only to be assigned tasks corresponding to their capabilities and qualifications. They are to be briefed on the characteristics and toxicity of each substance and trained to avoid accidents.

(v) A pesticide/chemical register is to be maintained, periodically updated, and include the following:

a. An information sheet for each substance documenting the common commercial name, scientific name, chemical number, the remaining quantity, and date of expiry.

b. Upon each use, register the date and amount used.

c. Conduct regular inspections of the chemical stock and document the date and any observations.

d. Perform regular chemical inventory checks and ensure

their safety and validity. This register should be reviewed by the Secretariat General on a quarterly basis.

Article (68)

All facilities and personnel involved in quarrying, drilling, excavation, building, demolition or transportation must take necessary measures to safely store, transport, and prevent spillage of soil, rocks, or debris. The licensing authority should require the following

(i) All site work should be done safely without hindering traffic or pedestrian movements.

(ii) Covering of the waste loads to minimize dust pollution.

(iii) Transportation of demolition, excavation, and construction wastes and debris should be in receptacles or special containers on trucks/dump trucks and should meet the following requirements:

a. The trucks/dump trucks should be equipped with special boxes or beds that can be completely covered to prevent dust and wastes form being blown out.
b. The dump trucks should be equipped for fast loading and unloading.
c. The dump trucks should be in good road-worthy condition and equipped with safety equipment in accordance with prescribed safety rules.

(iv) Waste dumping sites are to be licensed by the concerned authority. The low-lying dump sites should be a minimum of 2 km from any residential areas. These sites, when filled

with environmentally friendly wastes, should be covered with a layer of soil and leveled.

Article (69)

All facilities and personnel in manufacturing, service, or related fields, when operating machines, equipment, warning devices, and loudspeakers shall not exceed the permissible noise and vibration limits inside the workplace and closed public places. The noise and vibration should not exceed the standards and measures listed in Annex (3) attached to this By-Law.

The license granting authorities should ensure that the total noise emanating from static noise sources in one area should be within the permissible limits and ensure that appropriate devices are being used to achieve that purpose. The noise and duration of exposure standards are listed in the above referenced Annex (3)

Article (70)

The owner/operator of a project or facility shall take the measures stipulated by the concerned administrative authority, to prevent excessive workplace air pollutant emissions in the workplace pursuant to the provisions of Annex (3) attached to this By-Law. The owner/operator should provide the employees with the necessary means of protection, subject to the requirements of the safety and occupational health regulations, which include the use of the appropriate devices, equipment, materials and fuel. The duration of exposure to these pollutants should be taken in consideration. Appropriate stacks/chimneys are to be installed and sufficient air filtering and ventilation are to be provided.

Article (71)

The owner/operator of the project/ facility shall take the necessary measures to control the temperature and humidity within the workplace in accordance with the permissible limits. The employees are not to exceed the maximum duration of exposure to high temperature. If work in areas of high temperature and humidity are required beyond the permissible limits, the employees are to be provided with special clothing, equipment, and observe limited durations of exposure as requirements in Annex (3) attached to this By-Law.

Article (72)

In enclosed and semi-enclosed public places, projects and facilities, sufficient ventilation proportionate to the size and capacity of the place and type of activity should be provided. The ventilation system should regulate fresh air transfer, temperature, and humidity in compliance with the limits given in Annex (3) attached to this By-Law.

Part Three

Protection of the Water Environment Against Pollution

Chapter (I)

Protection of Surface/Ground Water

Article (73)

The standards prescribed for the drinking water, ground water and sewage water as set forth in annex (3) of this By-Law, shall apply.

Article (74)

The concerned administrative agencies are to take the necessary measures to regulate the use of ground waters (aquifers), achieve sustainable utilization of the same over time, not impair groundwater quality, and not impair distribution.

Article (75)

Drinking water should comply with all applicable standards in terms of mineral, chemical, biological, and microbiological characteristics as well as organic and inorganic components that might affect human health as required in Annex (3) of this By-Law.

Article (76)

The standards for sanitary sewer water quality, treated industrial wastewater used for irrigation, industrial sewage discharged into the public sewer system, and combined sewage standards shall be according to those applicable standards in Annex (3) of this By-Law. The concerned administrative agency in coordination with the Council shall implement the rules and restrictions to regulate the optimum utilization of good quality treated sewage water for landscaping, agricultural purposes, and general agriculture pursuant to Annex (3).

Article (77)

The concerned administrative authority in coordination with the Council shall determine the appropriate waste disposal sites for garbage and solid waste disposal including the sorting of wastes subject to common types: namely household wastes, buildings wastes and solid inorganic wastes. When selecting the sites allocated for waste disposal, they are to ensure that it will not pollute the subsurface water aquifers. Monitoring wells are to be placed at these sites to monitor and detect pollution.

Article (78)

The concerned administrative authority in coordination with the Secretariat General, each within their respective expertise, shall conduct water monitoring, sampling on a regular basis, testing, and required actions based on sampling results in order to protect the water resource, prevent contamination of drinking water, and preserve public health.

Chapter II

The Protection of Marine Environment

First: Pollution arising from the ships / vessels

(1) Oil Pollution

Article (79)

All ships and tankers operating at the ports of the State are to meet the requirements set forth in the law and in this By-Law, regarding the discharge or release of oil in the ports of the State, its territorial seas or its exclusive economic zone.

Article (80)

Ship owners, captains, or those responsible for oil transportation, as well as port authorities, and companies operating production platforms and drilling rigs are to immediately report any oil spill incident to the concerned administrative authority stating the circumstances and the type of spilled material and actions taken to stop or reduce the leak or spill. The report is to include the following:

(i) The probable source of the leak or spill.

(ii) Any fire resulting from the accident or leak.

(iii) The direction of movement of the oil slick.

(iv) The leakage/spillage rate if not stopped.

(v) The dimensions of the oil slick and the amount of oil spilled or leaked.

(vi) The speed and direction of the wind, the weather conditions namely temperature and visibility.

(vii) The speed and direction of the water current and water temperature.

(viii) The condition of the sea (rough or calm).

(ix) The tide (high, low or medium)

(x) The coastal areas threatened.

(xi) The features of the area (coral reefs, marine flora/fauna, etc.)

(xii) Contact information (name, telephone number and address)

(xiii) The method employed to contain, control, and mitigate the spill.

In all cases, the concerned administrative authority is to immediately inform the Council on the spill details so that appropriate responsive action can be taken. The concerned administrative authority shall also submit a comprehensive post accident report to the Council.

Article (81)

The oil shipping ports and offshore terminals and dockyards for the repair of ships referred to in Articles (47) and (52) of the law are to be provided with sufficient equipment necessary to dispose of the dirty ballast water, and wash water from the storage tanks of tankers or other ships.

These ports and terminals are to be provided with sufficient means to cope with the wastes, garbage, and oily wastes discharged by ships/tankers while anchored at the port.

No ship/tanker is allowed to load/unload unless they contact the concerned administrative authority and are briefed regarding the waste and ballast water disposal requirements.

Article (82)

Any ship with cargoes exceeding 150 tons and tankers with loads exceeding 400 tons which utilize Qatari ports or navigate through Qatar's exclusive economic zone shall be equipped with the required pollution control equipment in accordance with the International Conventions ratified by the State.

Article (83)

Any tanker carrying oil from a Qatari port/offshore terminal on a regular basis or from offshore platforms within the territorial sea or the Exclusive Economic Zone (EEZ) shall hold an oil pollution prevention certificate endorsed by the International Classification authorities and sanctioned by the Qatar Public Department of Customs and Ports.

Article (84)

The owner or captain of any ship registered in the State or abroad must maintain an onboard oil record in which he documents the following:

(i) Loading/unloading or other operations for shipping oil giving the type of oil (crude, refined etc.).

(ii) Discharge of oil or oil mixtures in cases of emergency for the safety of the ship, the load or the crew.

(iii) Oil spill due to collision/accident giving the amount spilled and the rate of leak/spill.

(iv) Discharge of dirty ballast water or water used for flushing the tanks.

(v) Disposal of pollutant wastes.

(vi) Draining machinery compartment oily water mixtures while the ship is anchored in the port.

Article (85)

Records for oil discharges are to be maintained at the offshore oil platforms/terminals similar to the record referred to in the preceding Article. That record should include the following:

(i) Name and location of the terminal/ platform

(ii) The license issued for its operation.

(iii) The owner/operator of the terminal/ platform.

(iv) The activity carried out at the terminal/platform.

(v) List the oil discharge treatment, control, and monitoring systems.

(vi) Quantity and composition of liquids and substances which it is authorized to discharge annually and the rate of the discharge.

(vii) The actual quantity of substances and liquids discharged.

(viii) A report describing any system/equipment failures and units for treating the oil/oily blend, the date and duration of the failure and the findings/results of the analysis immediately after the repair.

(ix) Name and signature of the person in charge of entering the data in the record.

(x) Date of data input.

Article (86)

Oil tankers whose total cargo is 2000 tonnes and above and which are operating in the territorial sea or the exclusive economic zone of the State, shall produce the financial guarantee certificate referred to in Article (49) of the law and submit it to the concerned administrative authority on demand. The certificate is to be valid and covers the liability for compensation in all cases of harm resulting from pollution incidents caused by that oil tanker as determined by the concerned administrative authority.

This subject certificate is to be made and submitted subject to the rules issued pursuant to a decision from the concerned Minister.

2- Pollution by harmful substances:

Article (87)

Regulations pertaining to the discharge of harmful substances into the water environment are described in Annex (4) of this By-Law.

Ships and other vessels are prohibited from throwing or discharging any liquid or non-liquid organic or inorganic materials that may affect the marine environment into the territorial seas or the exclusive economic zone in accordance with Annex (4/2) of this By-Law.

3. Pollution resulting from sewage and wastes / garbage

Article (88)

Ships and offshore marine platforms are prohibited from discharging untreated sewage into the internal waters, the territorial sea, or the exclusive economic zone and are required to dispose of sewage subject to the following standards and procedures:

(i) The ship or offshore platform shall be provided with a sanitary treatment unit.

(ii) Treated sewage effluent is to be discharged at a distance not less than (4) nautical miles off the coast.

(iii) Untreated sewage effluent can only be discharged beyond 12 nautical miles from shore.

The ship or offshore platform shall discharge sewage effluent accumulated in the tanks gradually and at moderate rates. The ship is to be navigating at a speed of not less than 4 knots per hour at the time of discharge. The discharge should not result in floating objects nor change the color of the water.

If the sewage effluent is mixed with wastes which need to be treated, this treatment should be done prior to the discharge.

These provisions are not applicable in cases of emergency to safeguard the safety of the ship and those on board or to save the life of others in the sea or due to a failure or defect in the equipment of the ship, on condition that all reasonable precautions have been taken to avoid such discharge or to minimize it before or after the failure of the equipment.

Article (89)

The concerned administrative authority is to determine the appropriate containers/receptacles or other means to receive, transfer the wastes received from ships. Such facilities are to be maintained in a serviceable condition and to be cleaned and disinfected regularly.

Article (90)

The concerned administrative authorities shall ensure that, when transporting the collected wastes at the facilities referred to in the preceding Article, that there are no spills, leaks or odors emitted from the wastes. The wastes are to be disposed of in appropriate facilities and subject to the restrictions and rules prescribed in the Law No. (8) of the Year 1994 pertaining to public sanitation and cleanliness and its Executive By-Law.

Secondly: Pollution from Land Sources

Article (91)

License holders setting up projects or installations including shops,

commercial, tourist facilities or services in close proximity to beaches or the coastlines shall comply with the following:

(i) No discharges of untreated wastes/liquids that might lead to the pollution of the coast and the contagious waters.

(ii) No discharges of polluted non-decaying substances directly or indirectly into the water environment or into the coastal waters as given in Annex (4/2) of this By-Law.

(iii) No discharges of polluted decaying organic substances in the water environment and contiguous waters, unless treated subject to the specifications and standards listed in Annex (3) and Annex (4/1) of this By-Law.

(iv) Provide appropriate treatment units with sufficient capacity to treat the required solid or liquid wastes. The subject units are to be operated upon project or facility commissioning and production commencement and are to be properly serviced and maintained.

The operator or person in charge of running the facility is responsible for any violations of the law and this By-Law including those from his employees. He is also responsible for ensuring the treatment units operate in compliance with the standards and specifications listed in Annex (3) and Annex (4/1) attached to this By-Law.

Article (92)

No projects may be constructed within 200 meters of the coastline or impact or modify the natural coastline, except with the approval of the concerned administrative authority in coordination with the Council and subject to the provisions of the Law No.4 of the Year 1983 regarding the

exploitation and protection of the marine living resources in Qatar and Law No.10 regarding the Public Property of the State.

Article (93)

The following conditions and procedures shall be followed for obtaining a project/installation license or to perform any activities referred to in the preceding Article:

(i) Submit a written application to the concerned administrative authority on the form given at Annex (2/2) attached to this By-Law, along with the documents and studies required.

(ii) Conduct an environmental impact assessment per the requirements of Chapter 2 of Part (1) of this By-Law, predicting the environmental impact of the project/activities on the coastal area and shall take the following into consideration:

  (a) Shore-water interface erosion

  (b) Precipitation/ sedimentation

  (c) Coastal currents

  (d) Pollution resulting from the project

  (e) Precautions/measures proposed to avoid or mitigate the adverse effects (if any)

(iii) Provide the means necessary for treating solid or liquid wastes which if discharged might lead to the pollution of the coast and the contiguous waters.

(iv) The socio-economic considerations/rationale for the project/facility and ensuring the selected location is the best among the alternatives.

(v) The Secretariat General shall review the application request

for the project environmental license along with the supporting documents and studies. The Council will issue the environmental license as per the procedures listed in Chapter 2 of Part 1 of this By-Law.

(vi) Fulfill any other conditions as prescribed by the concerned administrative authority, subject to the nature of the project or facility requested to be licensed and in accordance with the provisions of both: Law No. (4) of the Year 1983 and Law No. 10 of the Year 1978 referenced above.

Annexes of the

◌ ◌Executive By-Law for
The Environment Protection Law,
Issued vide the Decree Law No. 30 for the
Year 2002

Annexes of the

Executive By-Law for
The Environment Protection Law,
Issued vide the Decree Law No. 30 for the Year 2002

1- Annex (1): Categorization of Public and Private Development Projects which are likely to cause Environmental Impacts.

2- Annex (2): Application Forms for Authorizations, Permits and Licenses.

3- Annex (3): Standards for Environment Protection.

4- Annex (4): Standards and Specifications of Hazardous Materials when Discharged into the Water Environment.

5- Annex (5): The administrative Agencies concerned with the issue of licenses in relation to hazardous wastes.

6- Annex (6): the record of the activities carried out by the facility/ installation.

7- Annex (7): The Rules for the Management and Tran-boundary movement of Hazardous Wastes.

8- Annex (8): The Rules for the import, production, handling and shipping of Hazardous Materials.

Annex (1)

Categorization of Public and Private Development Projects which are likely to Cause Environmental Impacts.

Annex (1)

Categories of Public and Private Development Projects which are likely to cause Environmental Harm.

S. No.	The Project/ facility
1.	Projects for the exploration, production, manufacturing/ re-manufacturing, refining, storage, shipping and sale of oil and its derivatives and sub-products e.g. diesel, benzene, oils and lubricants including the relevant installations and equipment.
2.	Projects for the exploration, production, manufacturing / re-manufacturing, storage, shipping of gas, LNG and other hydrocarbon products, including the relevant installations and equipment.
3.	Petrochemical plants and oil refineries.
4.	Projects for the exploration, production, manufacturing, storage, shipping of sand, rocks, gravel, granite and gypsum.
5.	Projects for melting, manufacturing, storage of aluminium and other metals.
6.	Projects for coating/ plating of metals, e.g. steel
7.	Projects for the production and storage of cement and concrete.
8.	Projects for the production and storage of fiberglass, sponge, glass, cork.
9.	Projects for the production and storage of building slabs, tiles made of cement or lime, and floor tiles.
10.	Projects for the production and storage of insulators.
11.	Projects for the production and storage of paper, ink and

	printing materials.
12.	Projects for the production and storage of plywood/ timber.
13.	Projects for the manufacturing of textiles.
14.	Projects for the recovery, recycling, reclamation and treatment of hazardous and non- hazardous wastes.
15.	Projects for the reuse and recycling of photography inks and photo processing and printing materials.
16.	Projects for the production, packing and storage of chemicals of all types.
17.	Fertilizer projects.
18.	Projects for the production, packing and storage of medicines, cosmetics, and drugs.
19.	Projects for the production, packing, storage and transport of pesticides of all types.
20.	Projects for the production, packing, and storage of paints of various types.
21.	Projects for the production, packing, storage and transport of gases of various types.
22.	Projects for the production and storage of weapons/ ammunition and fire works.
23.	Projects for the production and storage of batteries of various types.
24.	Projects for the production, packing and storage of detergents and soap.
25.	Projects for the production and storage of plastics.
26.	Projects for the production and storage of tires for vehicles.

Categorization of Projects

27.	Projects for the production and storage of electric appliances and cooling systems.
28.	Projects for the erection of communication towers, tele-communications, and microwave.
29.	Projects generating electromagnetic emissions or iodized radiation.
30.	Projects for electric power generation and distribution lines.
31.	Projects for drinking water desalination plants and distribution network.
32.	Facilities for the treatment of liquid and solid wastes.
33.	Projects for the production and packing of food stuffs.
34.	Projects for live stock and slaughter houses,
35.	Projects for leather processing and tannery.
36.	Projects for fisheries in the sea or in special pools.
37.	Projects for land reclamation.
38.	Projects for agriculture/ landscape.
39.	Projects for oil mills, manufacturing edible oil and derivatives.
40.	Projects for fodder.
41.	Projects for roads in unplanned areas
42.	Projects for infrastructure, large construction projects - highways, shopping complexes, stores, residential compounds, towers more than (10) stories high, recreational zone etc...
43.	Projects for the construction of industrial zones, construction of new suburbs.
44.	Projects for the construction of airports, sea ports, jetties etc..
45.	Projects in close proximity to areas of high environmental value such as valleys, coasts, islands, coral reefs and areas of unique fauna and flora, including natural reserves & sensitive

	ecosystems.
46.	Any facility, works or activity constructed on the coasts or islands of the State.
47.	Projects for land filling of coasts or shores of Islands.
48.	Projects that may affect the local historical, scientific, archaeological recreational aspects.
49.	Projects for the construction of hospitals, health and medical facilities including their laboratories and incinerators.
Classification of Projects	
50.	Military projects.
51.	Warehouses/depot for the storage of hazardous material.
52.	Projects that may affect the soil and subsurface water such as sewage and irrigation systems.
53.	Projects constructed at locations for the exploration and production of natural resources particularly the unique one.
54.	Projects for the re-qualification of archaeological sites affected by pollution due to dumping of liquid and solid wastes.

Annex (2)

Application Forms for Authorizations, Permits, Licenses and Procedures.

Annex (2)

Application Forms for Authorizations, Permits, Licenses and Procedures

1- **The procedures for submitting the plans for Public and Private Development Projects to the Secretariat General for authorization before commissioning and operation.**

2- **Application for the grant of environmental authorization.**

3- **The procedures for applying for the Environmental Authorization.**

4- **Application for the Operating Permit/ Authorization.**

5- **The procedures for applying for the Operating Permit/ Authorization.**

6- **The procedures for submitting petitions/appeals against non-approval to grant environmental authorization or the operating permit/ authorization.**

7- **Application for the Transportation and Disposal of hazardous wastes.**

8- **Chart demonstrating the procedures for Transportation and Disposal of hazardous wastes.**

9- **Certificate of approval for the Transportation and Disposal of hazardous wastes.**

10- **Notification regarding the Tran-boundary shipping of hazardous Wastes.**

11- Documents for the Tran-boundary shipping of the Hazardous Wastes.

12- Application for a license to import hazardous materials.

13- Application to obtain an environmental authorization for the purposes of registration in the Business Registry or to add an activity thereof.

14- Application to import hazardous materials.

15- The procedures for applying to import hazardous materials.

16- The procedures for the release of hazardous materials.

17- Application for a license to store hazardous materials.

18- The procedures for a license to store hazardous materials.

19- Application for a license to transport hazardous materials.

20- The procedures for a license to transport hazardous materials.

Annex (2/1)
The procedures for submitting plans for Public and Private Development Projects to the Secretariat General for authorization before the commissioning and operation.

[Note - Form is Missing]

Annex (2/2)
Application for the grant of Environmental Authorization

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/4

(Application Form for Environmental Authorization)

Application No.

1. Background information:

1-1: Name of the project: ----------

Nature of the project: (infrastructure- industrial- agricultural- others)

--- -- -- --- -- -- -- -- -- -- -- -- -- - --- -- -- -- -- -- -- -- -
- -- --- - -- -- -- -- -- - - -- -- -- -- --- - -- -- -- -- --- -- -- --

1-2: Owner of the project: (a person- company- etc-----

--- -- -- --- -- -- -- -- -- -- -- -- -- - --- -- -- -- -- -- -- - -- -- -- - - -- -- -- -- --- - -- -- -
- -- --- -- -- --

1-3: The person in charge:

-- -- --- -- -- -- -- -- -- -- -- -- - --- -- -- -- -- -- -- --

Address: --- -- -- --- -- -- -- -- -- -- -- -- -- - --- -- -- -- -

Telephone No.: --- -- -- --- -- -**Fax:** --- -- -- --- --

1-4: Licensing Authority: -- --- -- -- -- -- -- -- -- -- -- - --- --

Details of the project:

Location/ site: (please attach a detailed site plan endorsed by the concerned admin authority, showing the location/ site of the project in relation to the residential areas, the nearby activities, highways, protected archeological sites and tourist attractions (if any), the rate of discharging pollutants and nuisance expected to be caused by the project in the locality)

2-1: Address of the project: tick as appropriate

City/ town	village	Industrial zone	Others (to be mentioned)

planned	Not yet planned	residential	Commercial	Independent

		areas	area	building

Total area of the project (square meters): -- --- -- -- -- -- -- -- -- --
Total of the built area of the project (square meters): -- --- -- -- -- --

2-2: Nature of the project:

new	existent	expansion	modification	shifting	renewal

Nature of the project's expansion/ renewal: -- --- -- -- -- -- -- -- --
If it is an expansion/ renewal of the project is there any study submitted regarding the environmental impact of the main project?

Yes	No

Date of obtaining the previous environmental authorization from the council: --- -- -- -- -- -- -- -- --

2-3: The production capacity:	The storage capacity:

Give the units used in measuring the capacity: --- -- -- -- -- -- -- --

2-4: the final product: --- -- -- -- -- -- -- --
- -- --- - -- -- -- -- - - -- -- -- -- --- - -- -- -- -- --- -- --
2-5: the secondary product: --- -- -- -- -- -- -- --
- -- --- - -- -- -- -- - - -- -- -- -- --- - -- -- -- -- --- -- --

2-6: general description of the area surrounding the project including the historical, archaeological, tourist, recreational and protected sites.

- -- --- - -- -- -- -- - - -- -- -- -- --- - -- -- -- -- --- -- --

- -- --- - -- -- -- -- - - -- -- -- -- --- - -- -- -- -- --- -- --

2-7: The infrastructure available / not available:

- Water supply Network	available	not available
- Electricity Network	available	not available
- Sewage Network	available	not available
- Roads Network	available	not available
- Energy source	available	not available

2-8: Reasons for selecting this site/ location: - -- --- - -- -- -- -- - -

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

3- Phases of the project and the estimated date for the start of each phase:

Construction: --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

Actual operation: --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

4- Brief description of the project during the phases of construction:
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
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-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
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4-1: Water resources: -- -- Utilization: -- --Rate of consumption:- -

4-2: Types of Fuel: -- --- sources: -- - --Rate of consumption:- -

4-3: Expected manpower and their accommodation: -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
5- Wastes generated by the construction and mode of disposal:

5-1: Solid wastes: -- -- -- - - -- **quality/ type:** -- - - --

Amount: -- -- -- - - -- **mode of disposal:** -- - - --

5-2: Liquid wastes: -- -- -- - - -- **quality/ type:** -- - - --

Amount: -- -- -- - - -- **mode of disposal:** -- - - --

5-3: Gaseous emissions: (smoke-odour-volatiles) --- - -- -- -- --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

5-4: Nuisance/ noise: --- -- --- -- --- - -- -- -- --

6- Detailed description of the phase of operation (sketches to be attached)
6-1: The main components of the project: --- -- --- -- --- - -- -- --

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
6-2: Describe the industrial processes/ operations (supported with catalogues / drawings ...etc)
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
6-3: Electric power supply used: - -- -- -- -- - **-Source:** - -- -- -- --

6-4: Raw materials;

The materials	Type Gas- liquid-solid	Quantity m/day or kg/ day	Source

6-5: Alternative raw materials taken into consideration: --- - -- -- --

6-6: Reasons for selecting the type of technology used: -- -- --

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
6-7: Expected manpower and their accommodation: -- -- -- - - --

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- --
6-7: 4-2: Types & sources of Fuel: -- - **--Rate of consumption:-** -

(Public electricity- power generators- solar cells/ ….)

6-7: 4-2: sources of water: -- - **--Rate of consumption:-** -

(Public water supply- subterranean- water channels/ ….)

7- Wastes generated by the operation of the project and mode of treatment/ disposal:

Give the estimated gas emissions and sewage water after treatment)
7-1: Liquid Wastes: -- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - ---- -- -- -- --- - -- -- -- -- --- -- ------ -- ---
Rate of discharge: ( ) m/ day or kg/ day
Modes of Control: --- - -- -- -- -- --- -- --- -- --- -
Mode of disposal: (public network- tanks- etc..)
the industrial sewage: ---- -- -- -- --- - -- -- -- -- --- -- ------ -- --- -- -- -- - - ---- -- -- -- - -- - -- -- -- -- --- -- ------ -- -
Rate of discharge: ( ) m/ day or kg/ day
Modes of Control: --- - -- -- -- -- --- -- --- -- --- -
Expected analysis of the Industrial sewage: --- - -- -- -- -- --- -- ------ -- --- -- -- -- - - ---- -- -- -- --- - -- -- -- -- --- -- ----
Mode of disposal: (tick where appropriate)

- discharged in the public network directly ( )
- Special treatment unit is available for the industrial sewage, after that it is discharged in the public network ( )

(Attach a catalogue of the treatment unit used and its' output)

- dumped in a depot without treatment ( )

7-2: Gaseous air Pollutants:

- Pollutants from static sources: -- -- -- --- - -- -- -- -- --- -- ---
- Pollutants from mobile sources: -- -- -- --- - -- -- -- -- --- -- --
- Pollutants from burning fuel: -- -- -- --- - -- -- -- -- --- -- ----

7-3: Solid hazardous wastes:
Methods of transportation, handling/ storage:
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
Wastes disposal (safe pit/ landfill – contractor- others)
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
7-4: hazardous wastes and Materials:
Methods of transportation, handling/ storage:
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
Wastes disposal (safe pit/ landfill – contractor- others)
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

<u>8- Initial Analysis of the environmental impact during the operation and measures taken to reduce such impact:</u>

8-1: impact of the project on the air quality
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
8-2: impact of the project on the quality and abundance of water:
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --**8-3: impact of the project on the quality and fertility of the soil:**
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
8-4: Visual pollution -- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- --- - -- -- -- -- ---
-- --- -- --- - -- -- -- -- - - --
8-5: Nuisance/ noise
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
8-6: any other potential impacts resulting from this activity
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

8-7: Description of any means to reduce the adverse effects of the project not mentioned before: --- - -- -- -- -- - - --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --
8-8: Measures taken to safeguard the human health at the place of work and fire fighting facilities: -- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - ----- -- --- -- --- -
-- -- -- -- - - --

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- - - --

9- Storage:

9-1: means for the storage of raw materials and their efficiency: --- - -- -- -- -- - - - ---- -- --- -- --- - -- -- -- -- - - --

9-2: means for the storage of basic products and their efficiency: --- -
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

9-3: means for the storage of secondary products and their efficiency: --
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

10- Transportation:

10-1 means of transporting the raw materials and its' efficiency: --- - -- -- -- -- - - ----- -- --- -- --- - -- -- -- -- - - --

10-2 means of transporting the basic products and its' efficiency: ---
-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

10-3 means of transporting the secondary products and its' efficiency: --- -- - - -- -- --- -- --- -- --- - -- -- -- -- -

-- -- -- -- --- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

11-: The cost of environment protection compared to the capital of the facility: -- - -- -- -- -- --- -- --- -- --- - -- -- -- -- -

11-1: The cost of controlling pollution (Qatari Riyals): --- -- -- -- -- --

- -- --- -- --- - -- -- -- -- ---- -- -- -- -- ---

11-2: the Qatari capital: --- -- -- -- -- --

- -- --- -- --- - -- -- -- -- ---- -- -- -- -- ---

- **A study of the environmental impact is to be attached in case of applying for a project listed in annex (1) of this bylaw.**

Acknowledgment

I, the undersigned hereby acknowledge that the statements given in this application form are correct and accurate to my best knowledge. In case of any subsequent amendment I will notify the Council immediately.

Signed by: - -- --- -- --- - -- -- -- -- ---- -- -- -- -- ---

ID No.: - -- --- -- --- - -- -- -- -- ---- -- -- -- -- ---

My designation/ capacity: - -- --- -- --- - -- -- -- -- ---- -- -- --

Date: - -- --- -- --- - -- -- -- -- ---- -- -- -- -- ---

To be completed by the concerned admin authority/ licensing authority

Approved by the concerned admin authority/ licensing authority:

Name: - -- --- -- --- - -- -- -- -- ---- --

Designation/ appointment: - -- --- -- --- - --
Signature: - -- --- -- --- - -- -- -- -- ---- --

The licensing authority

Seal / Stamp

Annex (2/3)

The procedures for Applying for the Environmental Authorization

[Note - Form is Missing]

Annex (2/4)
Application for the Operating Permit/ Authorization

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	

Annex 2/4

(Application Form for Operating Permit/ Authorization)

NOTE TO APPLICANTS

1. This Application for Consent-to-Operate (operating permit) shall be completed in block letters and submitted with relevant supplemental information to: General Secretariat.
2. All sections in the permit Application may not be relevant to every activity. However, the Applicant should look through the complete form and provide all relevant information. All questions must be answered. If any question is considered 'not applicable' (N/A) the reason should be stated in full.

3. Where attached sheets and other technical documents are utilized, indicate appropriate cross references. SCENR will take all available information into account in reviewing the Application. Unclear, incomplete, or improperly filled out Applications will be returned to the Applicant.

4. This Application consists of two parts: Background Information and Further Information. The completed Application may be subject to further verification and review. However, if you wish any information in your application to remain confidential please enclose a statement with your completed application stating the reasons in full.

5. The Supreme Council for the Environment & Natural Reserves is not responsible for delays arising from submission of incomplete information.

1- Background Information

Application (if applicable)		**Application Date (mm/dd/yy)**		
Type of Application	**Transfer**	**Modification**	**New**	**Renewal**

Installation was or will be commissioned give (month and year)				
Company/ Installation Name				
Contact Person				
Postal Address				
Telephone			**Cellular:** **Fax:**	
Email **Type of Activity**				
Capital Cost **(new installations only)**				
License Issue Date				
Licensing Authority				
Conditional Approval				
Situation from Execution of Postponed Procedures				
Storage Permit Number for Hazardous				
List any other Approvals in Respect of Installation	***granted***		***Being processed***	

2. Further Information

2.1 Raw materials used per day

S. No	Raw Material	Quantity (kg / day)
1		
2		
3		

2.2 List of products and by-products manufactured per day.

S. No	Product / By-product	Quantity (kg / day)
1		
2		
3		

3. Water Pollution

3.1. Explain the methods of treatment of industrial wastewater arising from different processes along with flow diagrams showing different sources of generation of wastes
Please attach a write up with a mass balance of water utilized
3.2 Explain the method and mode of disposal of wastewater arising daily from domestic, industrial, cooling and offshore activities.

S. No	Activities	Quantity (m^3)	Mode of disposal
(i) Domestic			
(ii) Industrial			
(iii) Cooling			
(iv) Offshore			

4. Air Pollution

4.1 Atmospheric emission from each stack

(1)	**Total number of stacks in the premises***					
(i)	**Stack No.**	**1**	**2**	**3**	**4**	**5**
(ii)	**Stack height (m)**					
(iii)	**Stack diameter (m)**					
(iv)	**Gas Quantity (m3/hr)**					
(v)	**Gas temperature (°C**					

(vi)	**Exit velocity (m/sec)**					
(vii)	**Type of monitoring system (continuous/portable)**					
(viii)	**Pollution emission rate(mg/s)** **SO2** **NOx** **CO** **HC (Hydrocarbons)** **PM (Particulates matter)** **Others**					

*** Each stack should be provided with suitable portholes for stack monitoring**

4.2 Fuel consumption per day

		Natural Gas	**Oil**
(i)	**Daily consumption in tons or m^3**		
(ii)	**Sulphur content %**		

5. Solid Waste

S. No	**Sources/Activities**	**Quantity(kg/m^3)**	**Nature of waste (Hazardous/Non-Hazardous)**	**Mode of disposal**
1				
2				
3				

6. Proposed technology and other techniques for preventing or minimizing discharges and wastes from the installation

7. Storage:

7.1 Means of storing raw material and their efficiency:

7.2 Means of storing primary products and their efficiency:

---

8. Transportation:

8.1 Ways of transporting raw material and their efficiency:

8.2 Ways of transporting primary products and their efficiency:

8.3 Ways of transporting primary products and their efficiency:

Validation by the Applicant	
I hereby certify that the information provided is true, complete, and correct:	
Name	Date
Position	
Address	
Fax :	Telephone

Signature with Stamp	
For official SCENR use only	
Received by:	**Date:**
Forwarded for Action to	

N.B:

Use additional sheets of paper if necessary to complete the list of primary products, material and information about the stacks and air and water pollution.

Attachments:

- **(i) Detailed description of the products and materials and modes of manufacturing.**
- **(ii) Details of the quantities used and modes of storages.**
- **(iii) A report on the analysis of water discharged by the various units and the places of discharge (if any).**
- **(iv) Results of the tests for the various components / elements of solid wastes.**
- **(v) Detailed chart / layout of the various production units, places emitting gasses (stacks, flares).**
- **(vi) The latest report on the components of the gasses emitted from the various stacks (if any) in the facility.**

Annex (2/5)
The procedures for Applying to obtain the Operating Permit/ Authorization

[Note - Form is Missing]

Annex (2/6)
The procedures for submitting the petitions/ appeals against the non-approval to grant Environmental authorization or the Operating permit

[Note - Form is Missing]

Annex (2/7)

Application for Transportation and Disposal of Hazardous Wastes

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/7

(Application for Transportation & Disposal of Hazardous Wastes)
Form (1)

NOTE TO APPLICANTS

Application Procedures

1. This form is to be completed in block letters and submitted with any relevant supplemental information to: General Secretariat.

2. All who proposes to transport and/or dispose of industrial waste (either hazardous or non- hazardous) you will need to fill out and send in this Application Form for Proposed Waste Transport & Disposal (also known as *Waste Form 1,2 within 24 hours before shipment*). This Application asks for information that SCENR needs in order to decide appropriate means for transport and disposal of the waste in question. By filling in the form accurately and completely, processing delays are minimized.

3. All Generators, Transporters, and Receiving Facilities are to refer to the *SCENR Guidelines on Waste Transport & Disposal* for all general conditions applicable to waste transport and disposal within Qatar. Once an application is accepted, SCENR in consultation with other bodies may stipulate that further specific conditions be applied to the expected transfer. Any further specific conditions will be indicated in the "Official Decision" box of this Application (see pages 2 and 3).

4. Applicants must read this form and fulfil all the requirements. In case of any query, they may contact SENR directly. The Council is not responsible for delays arising form submission of incomplete information.

Information on the Proposed Waste Transfer										
From	***Name and Address of Industrial Waste***						***Generator identification Number:***			
Reference Number										
Date ***(dd/mm/yy)***										
To the Concerned Administration										
CC ***(automatic)***	**Supreme Council for the Environment & Natural Reserves**									
Nature of Application	***Normal***			***Urgent***			**Reason:**			
Proposed Disposal Date *(dd/mm/yy)*										
Tick (√) or fill in the appropriate box	***Toxic***	***Inert***	***Flam-mable***	***Cor-rosive***	***Odor-oous***	***Acid***	***Highly Reactive***	***Infectious***	***Flash point***	***Boiling Point***
Description of the Waste ***NB: Please enclose also:*** ***a) Waste analysis, and*** ***b) Material Safety Data Sheet***	***Type of waste (solid / liquid / paste / gas):***									
	UN number for hazardous waste (if any)									
	UN number for dangerous goods (if any):									
	origin									
	Quantity (tons or litres, number of drums, etc)									
	How is the waste is contained (e.g., loose, drum, sacks, skip, other – please describe):									
	Additional description of waste:									

Special Handling Instructions	***(e.g., avoid eye/skin contact; avoid heat or open flame; wear gloves and apron; avoid prolonged breathing of vapors; eye protection required, other)*- please describe*: :_____*** _____ _____ _____ _____ _____ _____

Validation of the Application

Contact Person for Applicant	***Name***	***Stamp***
	Signature	***Date (dd/mm/yy)***
	Telephone	***Fax***

For Official Use Only

Official Decision

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	
To Concerned Administration		***Telephone***
		Fax
CC: **CIVIL DEFENSE**	***(Note: usually cc only for hazardous waste transfers)***	***Telephone***
		Fax
DECISION	**Request Accepted**	**Request Refused**
(with conditions)	**If accepted, the waste transfer is to be realized <u>pursuant to further specific conditions on:</u>**	

	A. Generator – ***B. Transporter –*** ***C. Receiving Facility-*** ***Circle as applicable:*** ***Return copy of completed Forms 1+2 to SCENR (Circle YES / NO)*** ***Other conditions on receiving facility:***	
RECOMMENDED BY	***Name***	***Title***
		Signature
APPROVED		**General Secretariat**
		Date (dd/mm/yy)

(*)**For the eventual waste transfer, copy of the full Official Decision (this signed Form) must be carried by the Transporter along with Waste Form 2 (Certificate)**

Annex 2/8

Procedures for the Authorization for the Transportation & Disposal of Hazardous Wastes

[Note - Form is Missing]

Annex 2/9

Certificate of Transportation & Disposal of Hazardous Wastes

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/7

(Certificate of Transportation & Disposal of Wastes)
Form (2)

NOTE TO USERS

This Form must be completed and sent by the waste Generator -- 48 hours before the intended waste transfer -- to SCENR and concerned administration. The generator must wait to have the final signature of both SCENR and concerned administration before shipping his waste via the services of a duly licensed waste transporter.

Transporters must carry this Certificate as well as the approved *Application for Waste Transport & Disposal (" Waste Form No. 1").* The Form is then progressively completed by the Generator, Transporter and Receiving Facility for each waste load. Please refer to the SCENR Guidelines on Waste Transport and Disposal to assure you understand how Forms 1 and 2 are to be used.

- ***Please complete in block letters –***

Part A : to be completed by <u>the Waste Generator:</u>		
From:	***Name and Address of Industrial Waste Generator:***	***Generator identification Number:***
Reference No.	**NOTE: Form 1 contains the full description and is to accompany the waste shipment along w/ Form 2**	
Today's Date *(dd/ mm/ yy)*		
Summary Description Of the Waste		
To:	**Supreme Council for the Environment & Natural Reserves**	
CC: To Concerned Administration		
Generator Validation	**I hereby declare that the above information is true and correct to the best of my knowledge.** **Signature of Manager for** **Safety/ Environment_____** **Print name** **_____** **Designation with seal_____**	

Part B : to be completed <u>by the Waste Transporter:</u>			
Transporter Information	**Company and/ or Operator or Driver Name:**		**License #**
	Telephone	**Mobile**	**Fax**

licensing Authority or Licensing Entry	**Concerned Administration**	**MIC**	**RLC**	**Other**
Mode of Transport	**Road**	**Air**		**Sea**
Vehicle Registration Number				
Transporter Validation	**I hereby acknowledge receipt of the above- mentioned waste for transport.** **Print Name of Driver / Operator_____ Exit Date** **Signature of Driver / Operator_____ Exit Time**			

Part C : to be completed <u>by the Receiving Facility:</u>

Receiving Facility Information	**Facility Name and address:**	**Permit or Authorization Number:**
Receiving Facility Validation	**I hereby acknowledge acceptance of the Waste accompanying this Form.** **Print Name of Site Attendant_____** **Signature of Site Attendant _____** **Date:**	**Any observed discrepancies Between Waste Form 1 and Actual shipment?** **Yes** / **No** **Why?**

For Official Use Only

Final approval before waste shipment

SCENR	**Name**	**Designation**	**Signature**	**Date**

Representative				
Concerned Administration	**Name**	**Designation**	**Signature**	**Date**

SCENR post- shipment verification, if required		
Waste Forms Received from Disposal Facility	**Arrival Date at SCENR**	**Any discrepancy with original Application?**
	Yes	**No**
	describe in detail_____ _____	
Checked by SCENR Staffer **Name**	**SCENR Staffer Name**	**Date**

Annex 2/10

Notification for Trans-boundary Movement of Hazardous Wastes

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/10

Notification of Trans-boundary Movement of Hazardous Wastes

1- The exporter(Name , Address)		
The Point of Contact:		
Telephone:	**Fax/ Telex:**	
The reason for export/ trans-boundary movement:		
2- The importer (Name , Address)		
The Point of Contact:		
Telephone:	**Fax/ Telex**	
3- Special notification for :	**Notification No.:**	
(a)		
(1) Only one shipment/ trip		
(2) General Notification((multi- shipments/ trips		
(b)		
(1) disposal (non- recovery)		
(2) recovery		
(c) The recovery Facility is licensed?	**Yes**	**No**
Complete the particulars of the recovery Facility		

in the member State (OECD)	
4- The total number of shipments	
5- The quantity approximately (kg/ liter)	
6- The projected date of delivery of the shipments	

7- The intended transporter/ carrier: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
8- The Disposer: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
The actual site of Disposal	
9- Mode of Disposal Code (d) , (e)	
Technology used in the disposal (Attach details if necessary)	
10- The generator: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
The site of generating the wastes, the generation itself	
11- Means of transport:	
12- The packing:	
13- The formula, description of the wastes:	**Special handling requirements:**

14- The physical description of the wastes:		
15- Identification No. of the wastes (IWIC):		**In the State of Export**
		In the State of Import
		In other places
		The Customs Code (H.S)
16- Categorization (OECD) & the No.:		
Others (give details)		
17- Y number		
18- H number		
19- UN's classification No.: **Shipment as per UN's nomenclature:** **UN's rank**		
20- The concerned States, code number, the specified points of entry/ exit:		
the State of Export	**the State of Transit**	**the State of Import**
21 Customs at the points of entry/ exit (EEC): **Entry:** **Exit:**		
22- Attachments:		
23- Acknowledgement by the Exporter/ Generator: **I, acknowledge that the information given is correct and complete. I, also acknowledge that we have entered into the written contractual obligations and the financial guarantee and insurance cover the trans-boundary movement of the materials.**		
Name:		**Signature:**
		Date:
For Use by the Competent authority		
24- to be completed by the Competent authority: (OECD)- (EEC)		

Date of receiving the notification: **Transit (Basel)** **Receipt acknowledged on :** **the Competent authority;** **Signature/ Seal/ stamp**		
25- Approval to the shipment **by the Competent authority:** **(The State):**		
Date of Approval	**Valid till:**	
Specified conditions:	**Yes** **See column 26 on the back of the attached sheet**	**No**
the Competent authority; **Signature/ Seal/ stamp**		

- **To complete this form tick (x) as applicable.**
- **If more than one shipment, please attach a list.**
- **See the list in case of multi- shipments.**
- **See the list on the back of the sheet.**

Annex 2/11

Shipping Document for the Trans-boundary Movement of Hazardous Wastes

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/11

Shipping Document for the Trans-boundary Movement of Hazardous Wastes

1. The exporter(Name , Address)		
The Point of Contact:		
Telephone:	**Fax/ Telex:**	
The reason for export/ trans-boundary movement:		
2. The importer (Name , Address)		
The Point of Contact:		
Telephone:	**Fax/ Telex**	
3- Special notification for :	**Notification No.:**	
(a)		
(2) Only one shipment/ trip		
(2) General Notification((multi- shipments/ trips		
(b)		
(1) disposal (non- recovery)		
(2) recovery		
(c) The recovery Facility is licensed?	**Yes**	**No**
Complete the particulars of the recovery Facility		

in the member State (OECD)	
4- The total number of shipments	
5- The quantity approximately (kg/ litre	
6- The projected date of delivery of the shipments	

7- The intended transporter , carrier: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
8- The Disposer: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
The actual site of Disposal	
9- Mode of Disposal Code (d) , (e)	
Technology used in the disposal (Attach details if necessary)	
10- The generator: (Name , Address)	
The Point of Contact:	
Telephone:	**Fax/ Telex:**
The site of generating the wastes, the generation itself	
11- Means of transport:	
12- The packing:	
13- The formula, description of the wastes:	**Special handling requirements:**

14- The physical description of the wastes:	
15- Identification No. of the wastes (IWIC):	**In the State of Export**
	In the State of Import
	In other places
	The Customs Code (H.S)
16- Categorization (OECD) & the No.:	
Others (give details)	
17- Y number	
18- H number	
19- UN's classification No.: **Shipment as per UN's nomenclature:** **UN's rank**	

20- The concerned States, code number, the specified points of entry/ exit:		
the State of Export	**the State of Transit**	**the State of Import**

21 Customs at the points of entry/ exit (EEC): **Entry:** **Exit:**
22- Attachments:
23- Acknowledgement by the Exporter/ Generator: **I, acknowledge that the information given is correct and complete. I, also acknowledge that we have entered into the written contractual obligations and the financial guarantee and insurance cover the trans-boundary movement of the materials.**

Name:	**Signature:**
For Use by the Competent authority	

24- to be completed by the Competent authority: (OECD)- (EEC) **Date of receiving the notification:** **Transit (Basel)** **Receipt acknowledged on :** **the Competent authority;** **Signature/ Seal/ stamp**		
25- Approval to the shipment by the Competent authority: **(The State):**		
Date of Approval	**Valid till:**	
Specified conditions:	**Yes** **See column 26 on the back of the attached sheet**	**No**
the Competent authority; **Signature/ Seal/ stamp**		

- **To complete this form tick (x) as applicable.**
- **If more than one shipment, please attach a list.**
- **See the list in case of multi- shipments.**
- **See the list on the back of the sheet.**

Annex 2/12

Application for Authorization to Import Hazardous Materials

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

Annex 2/12

(Application for Authorization to Import Hazardous Materials)

Company / Est. Name	
Company Address:	
Zone Name	**St. Name**
Tel:	**Fax:**
Store Address	
Zone Name	**St. Name**
Type of Activity	

We undertake to provide all the necessary technical publications, standard material and samples about the items listed in the attached copy of the invoice when required by the concerned agencies.

We also undertake to take the necessary precautions pertaining to the packing, shipping and storage of these substances, and there use of these substances shall be restricted to the following:

Furthermore, we undertake not mix the hazardous material except with prior authorization from the concerned administrative authority and maintain update records of the hazardous material the person in charge

The person in charge	**Signature:**	**Date:**

Attachments:

- **Maps**
- **Safety Equipment**
- **Emergency Plan**
- **Driver's Experience Certificate**

Annex 2/13

Application for the Environmental Authorization for the purposes of Registration in the Business Registry

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

إدارة الشؤون الفنية
TECHNICAL AFFAIRS DEP

Annex ٢/13

Application for the Environmental Authorization For the purposes of registration in the Business Registry or for adding an activity

Application No.	**Date:**		
Type of application	**New registration**	**Adding an activity**	
1- Business name of the company: ……			
2- nationality of the company	**Qatari**	**Non- Qatari**	
3- Address	**Street**	**Area/ zone**	
	Telephone	**Fax:**	
4- Type of activity			
-The import of pesticides	**-The import of hazardous detergents & disinfectants**		
--The import of printing hazardous materials	**-The import of hazardous photography materials**		
-The import of hazardous materials for construction works	**-The import of thermal insulators**		
-The import of hazardous materials pertaining to paints	**-The import of hazardous materials for Oil & Gas industry**		
-The import of hazardous adhesive materials	**-The import of hazardous materials for water treatment**		
-The import of chemicals	**-The import of hazardous laboratory materials**		
-The import of anti corrosive hazardous materials	**-The import of hazardous materials pertaining to plastic**		
The import of hazardous materials pertaining to -- --- - -- -- -- -- --- **--- - -- -- -- -- ---etc**			
5- The purpose of import	**manufacturing**	**use**	**sale**
Any other purposes (indicate): -- --- - -- -- -- -- --- **-- --- - -- -- -- -- ---**			

6- Imported for whom:	**Imported for the government:**		**Imported for the private sector:**
7- mode of Import:	**Split import**	**Single import**	**Direct import**
8- in charge of the import:	**Name**	**telephone**	**fax**
We acknowledge that the statements given above are correct and accurate.			
Signature:	**Seal/ stamp of the Company**		
N.B In case of any change in the data given above, the Chemicals Section of the Supreme Council for the Environment & Natural Reserves should be informed accordingly.			
For Official Use Only			
Approved:	**Date of Approval**		
The person in charge	**Signature:**		

N.B; * Two copies of the Certificate of the company's registration in the Business Registry are to be attached in case of adding an activity.

*** This form is to printed**

Annex (2/14)

Application for Authorization to Import Hazardous Materials

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

إدارة الشؤون الفنية
TECHNICAL AFFAIRS DEP

Annex 2/14

(Application for Authorization to Import Hazardous Materials)

Application No.:			**Business Registry No. Of the Facility**			
Name and Address of the company			***Name :__***	***Plot No.___***	**Zone No.**	
			P. O. Box	***City***	***Telephone :***	
For whom the import is made			***Date***	**dd/ mm/y**	***Means of Transport & Port***	
S. No.	**Trade Name.**	**Chemical Name or Chemical Formula**	**CAS No**	**Quantity**	**Type of Package**	**No. & volume of**
Note: Please Type all the information						

Toxicity Level	Producer's Name	Exporter's Name& Country	Storage Condition	Method of Disposal	Approval Date
Note: Please Type all the information					

Annex 2/15

Procedures for Obtaining a License to Store Hazardous Materials

[Note - Form is Missing]

Annex 2/16

Procedures for the Release of Hazardous Materials

[Note - Form is Missing]

Annex 2/17

Application for Obtaining a License for a Warehouse/ Depot or to Store Hazardous Materials

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

إدارة الشؤون الفنية
TECHNICAL AFFAIRS DEP

Annex ٢/17

Application for Obtaining a License for a Warehouse/ Depot or to Store Hazardous Materials

Name and Address of the company	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
1- Location:	***Residential Area***	***Commercial Area***	***Industrial zone***
2- Building:	***Independent***	***shared***	***Multi storey***
3- ***storey used:***	***basement***	***Ground***	***First Floor***

Safety Conditions

Fire fighting Alarm	**Fire Extinguishers**	**Water Wash Bow**	**Emergency Exit**
Ventilation Shaft	**Drainage System**	**Warning Board**	**Identification Board**

Properties of the Materials stored

Flammable Gas	**Explosive**	**Corrosive**	**Combustible**
Paints & Inks	**Biological**	**Non Flammable**	**Poison & Toxic**
Flammable Liquids	**Interact with air and water**		**Pesticide**

Storage Condition: (Tick as applicable)	**Yes**	**No**
Steel stands & shelves		
Wooden stands & shelves for the Storage of materials interacting with air and water		
Distance between walls & the stacks of chemicals is 75 cm		
Height 30 cm from ground level		
The warehouse/ depot is clean (no packing materials, plywood, cardboard etc..)		
The movement of chemicals is registered in a record:		
The packing: (Tick as applicable)	**Yes**	**No**
There are spaces/ pass ways between the stacks		
The packing is suitable for the products		
No rust , corrosion in the packing& they are tightly capped		
Sign boards are displayed on stacks / packing for guidance		
The hazardous materials are clearly marked to show their hazardous nature		
Materials/ products are separated subject to the hazardous nature/ categorization		

Remarks by the Civil Defense		
Name of the Inspector:	**Signature**	**OC Technical & Engineering Section**

Remarks by (SCENR) The Supreme Council for the Environment & Natural Reserves		
Name of the Inspector	**Signature**	**Head of the Chemicals Section**

For Official Use Only	
Approved & Complying with the conditions/ Requirements:	**Rejected for the following reasons:** **1-** **2-**

Certificate No.		**Valid up to:**	

Annex 2/18

Procedures for Obtaining a License for a Warehouse/ Depot or to Store Hazardous Materials

Annex 2/19

Application for Authorization for the Transport of Hazardous Materials

SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES

إدارة الشؤون الفنية
TECHNICAL AFFAIRS DEP

Annex 2/19

Application for Authorization for the Transport Of Hazardous Materials

Application No.:	**Date:**

Name and Address of the company	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
The person in charge:	**Type of vehicle:**	**Vehicle Registration No.:**	

Safety Conditions

Fire fighting Alarm	**Fire Extinguishers**	**Water Wash Bow**	**Emergency Exit**
Ventilation Shaft	**Drainage System**	**Warning Board**	**Identification Board**

Properties of the Materials stored

Flammable Gas	**Explosive**	**Corrosive**	**Combustible**
Paints & Inks	**Biological**	**Non Flammable**	**Poison & Toxic**

Flammable Liquids	**interacting with air and water**	**Pesticide**

Particular of Hazardous Materials to be Transported

Chemical name	**Trade name**	**Chemical No.: CAS**	
Packing:	**weight**	**Number of packed items:**	**Total weight**
Tanks/ reservoirs	**weight**	**Total weight**	

Packing	**Yes**	**No**
1-packed items suitable for transport		
2- No rust , corrosion in the packing & tightly capped		
3- Sign boards are displayed on stacks / packing for guidance		
4- the hazardous materials are clearly marked to show their hazardous nature.		
Tanks/ reservoirs	**Yes**	**No**
Safety equipment , gauges and valves to release pressure		
Tanks/ reservoirs are free from any defect or damage		

Annex 2/20

Procedures to obtain authorization to Transport Hazardous Materials

[Note - Form is Missing]

Annex (3)
The Standards for the Environment Protection

Annex (3)

The Standards for the Environment Protection:

First: The standards for Air Quality

Second: The Standards for Waste Water Quality

Third: The Standards for Drinking Water Quality

Fourth: The Standards for Sea Water Quality

Fifth: The Standards for Noise

Sixth: The Standards for Work in Closed Places of Work

Annex (3/ 1st)

The Standards for Air Quality

Annex (3/ first)

The standards for the Air Quality

1- The maximum permissible limits for emissions from stationary sources subject to the type of facility:

a- **Cement Industry**:

Air pollutants	Permissible limits
Particulate matte	**50 mg\Nm3**
Sulphur dioxide	**35 mg\Nm3**
Nitrogen oxides	**240 mg\Nm3**

b- Power Plants, desalination stations and power generating facilities:

1- Power facilities generating more than 25 mega watts:

Air pollutants	Permissible limits
Particulate matters	**5 mg\Nm3**
Nitrogen oxides	**55 mg\Nm3**
Sulphur dioxide	**0.2tons/daily/ mega watts of the first 1000 mega watts, in addition to 0.1tons daily/ mega watts of any amount more than1000 mega watts**

- **For the projects/ facilities licensed to operate before the law come into force , the maximum permissible limit for emissions of Nitrogen Oxides is 125 mg\Nm3.**
- **Gas turbines should include units to recover the lost heat.**
- **Factories are to use all the generated electricity.**

2- Power facilities generating less than 25 mega watts:
the emission of Nitrogen Oxides is controlled by dry low NOx burners.

c- Steel Industry

Air pollutants	**Permissible limits**
Particulate matters	**50 mg\Nm3**
Sulphur dioxide	**35 mg\Nm3**
Nitrogen oxides	**300 mg\Nm3**

d- Fertilizers

Air pollutants	**Permissible limits**
Ammonia	**150 mg\Nm3**
Nitrogen oxides	**55 mg\Nm3**
Sulphur dioxide	
Particulate matter **Drilling Tower** **Granulation**	**150 mg\Nm3** **50 mg\Nm3**

*** For the projects/facilities licensed to operate before the law come into force, the maximum permissible limit for emissions of Nitrogen Oxides is 125 mg\Nm3.**

e- Oil and Gas Industry(Land operations):

1- Stack emissions:

Air pollutants	**Permissible limits**
Unburned hydrocarbons	**20 mg\Nm3**
Hydrogen sulphide	**15 mg\Nm3**
Sulphur oxides	**1000 mg\Nm3**
Nitrogen oxides	**55 mg\Nm3**

Particulate matter **Gas fired** **Gas fired**	**5 mg\Nm3** **50 mg\Nm3** **500 mg\Nm3**
Sulphur dioxide	**500 mg\Nm3**

*** For the projects/ facilities licensed to operate before the law come into force, the maximum permissible limit for emissions of nitrogen oxides is 1000 mg\Nm3.**

N.B
The maximum permissible limit for emissions is not applicable to units producing acid gas which is deep-well injected.

2- Treatment of gas containing sulphur:

- **These standards are for units treating gas containing 5 tons of sulphur daily**
- **Sulphur recovery rate in the total gas input should not be less than 99% for (7) consecutive days.**

Air pollutants	**Permissible limits**
Carbon monoxide	**5000 mg\Nm3**
Reduced sulfur compounds (CS2,COS,H2S)	**50 mg\Nm3**

3- Geysers, water heaters (more than 25 mega watts

Air pollutants	**Permissible limits**
Particulate matters	**5 mg\Nm3**
Sulphur dioxide	**500 mg\Nm3**
Nitrogen oxides	**55 mg\Nm3**

- **For the projects/ facilities licensed to operate before the law come into force , the maximum permissible limit for emissions of nitrogen oxides is 125 mg\Nm3.**
- **In applying these standards due consideration is to be given to the best feasible and available technology and the total emissions.**

- **less than 25 mega watts the emission of nitrogen oxides is controlled by dry low NOx burners.**

4- <u>Gas Turbine Engines more 25 mega watts:</u>

Air pollutants	**Permissible limits**
Particulate matters	**5 mg\Nm3**
Sulphur dioxide	**500 mg\Nm3**
Nitrogen oxides	**55 mg\Nm3**

- **For the projects/ facilities licensed to operate before the law come into force , the maximum permissible limit for emissions of nitrogen oxides is 125 mg\Nm3.**

- **less than 25 mega watts the emission of nitrogen oxides is controlled by dry low NOx burner.**

5- <u>Facilities for loading ships containing volatile organic compounds (more than 3 m 1000000 annually):</u>

Ships are loaded with vapor pressure equal or more than (1.5 P)10.3 KPa) at temperature of 25c degree.

Air pollutants	**Permissible limits**
Volatile Organic Compounds (VOC)	**5 mg\Nm3** **recovery of 95% weight**

Emission from volatile organic compounds for each operation should not exceed 20 mg\Nm3.

f- Oil and Gas Industry(Offshore operations):

Stack emissions

Air pollutants	Permissible limits
Particulate matter Gas fired Gas fired	50 mg\Nm3 5 mg\Nm3
Hydrogen sulphide	15 mg\Nm3
Carbon monoxide	500 mg\Nm3
Sulphur oxides	500 mg\Nm3
Nitrogen oxides	55 mg\Nm3
Sulphur dioxide	500 mg\Nm3

*** For the projects/ facilities licensed to operate before the law come into force, the maximum permissible limit for emissions of nitrogen oxides is 125 mg\Nm3.**

g- Petrochemicals

Stack emissions

Air pollutants	Permissible limits
Particulate matters Gas fired Gas fired	50 mg\Nm3 5 mg\Nm3
Hydrogen sulphide	15 mg\Nm3
Carbon monoxide	500 mg\Nm3
Sulphur oxides	35 mg\Nm3
Nitrogen oxides	55 mg\Nm3
Sulphur dioxide	500 mg\Nm3

- **For the projects/ facilities licensed to operate before the law come into force , the maximum permissible limit for emissions of nitrogen oxides is 125 mg\Nm3 and for Sulphur dioxides 500 mg\Nm3.**

2- <u>The maximum permissible limit for fuel burning</u>

Air pollutants	**Permissible limits**
Smoke from flares	**The smoke should not to exceed 5 minutes per hour(using Ringleman Card 2)**
Particulate matter	**5 mg\Nm3**
Sulphur dioxide	**500 mg\Nm3 average concentration per hour**
Total Organic Carbons	**10 mg\Nm3 daily average**

3- <u>The maximum permissible limits for emissions from mobile sources:</u>

- **Vehicles/ automobiles used should be tested for emissions as part of the registration procedure as follows:**

Type of Vehicles	**Old model Before 2006**	**New model After 2006**
Petrol-driven Vehicles		
Carbon monoxide	**4.5%**	**0.5%**
Hydrocarbons	**1200 parts of a million**	**300 parts of a million**
Lambda	**- -**	**1.0± 0. 3**
Diesel – driven		
Opacity		
k factor	**2.44m-1**	**2.44m-1**

Vehicles' drivers and operators of other sources of emission should do their best to reduce the emissions. There should be no smoke coming out of the exhaust pipe.

Ambient Air Quality

Pollutant	Limit	Averaging period	Unit	Ambient Air Quality Criteria Attainment Key
Sulfur Dioxide	365	24 hr Annual	**ug/m3**	**A**
Particulate Matter (< 10 microns diameter)	**150** **50**	 **24 hr** **Annual**	**ug/m3**	A B
NO2) Nitrogen Oxides, as NO2	**400** **150** **100**	**1 hr** **24 hr** **Annual**	**ug/m3**	**D** **A** **B**
Photochemical Oxidants, as O3	**235** **120**	**1 hr** **8 hr**	**ug/m3**	**C** **G**
Carbon Monoxide		**1 hr** **8 hr**	**ug/m3**	**D** **E**
Lead	**1.5**	**3 months' average**	**ug/m3**	**F**

Criteria Attainment key

The key (a) means 99.7% for all daily average throughout one year of evaluation.

The key (b) means average for all the daily measurements for one year of evaluation.

The key (c) means s 99.7% for all days in one year of evaluation including readings for one hour at or less than in the criteria.

The key (d) means 99.9% of all the measurements for one hour throughout one year of evaluation.

The key (e) means an average for all measurements per hour on a quarterly basis.

The key (f) means 98% of all maximum daily measurements (8hours average) throughout one year of evaluation.

1. **Quantity of air for the ventilation of closed or semi closed places of works/facilities.**

S. No.	The outer air (***) decimetre ^{3}/ minute / person	The Activity/ Facility
1.	280-140	A place with elevated ceiling – bank, lecture hall / auditorium, mosque (place of worship) theatre, department store – no smoking room.
2	240-280	Apartment – barbershop – beauty saloon – a hotel room or room with little smoking.
3.	560-420	Cafeteria, small restaurant, public place of work, hospital room, restaurant or a room with medium smoking.
4.	850-560	Private place of work / on office or clinic with too much smoking.
5.	1700-850	Conference room, crowded room with much smoking.

(***) without using the air conditioners

- **The space for each person should not be less than 4-25 cube meters.**
- **The area for each person should not be less than (1.4) square meter.**
- **The dangerous closed areas should be provided with a mechanical means of ventilation capable of changing all the air inside the place (12) times per hour.**
- **Natural ventilation is also to be provided in dangerous areas which are open totally or partially so that the air changes 12 times per hour at about 95% of the time. If necessary mechanical ventilation system is also to be used for such dangerous places.**

Annex (3/ 2nd)

Standards for Treated Wastewater

Annex (3/ 2nd)

Standard for Treated Wastewater

1- Standard for Treated Wastewater from Industrial Land based Facilities Used for Irrigation:

Parameter	Symbol	Limit for Irrigation	Limit for for landscape	Unit
1- Physical Tests				
Total Dissolved Solids	TDS	2000	2000	mg\L
Total Suspended Solids	TTS	50		mg\L
ph	ph	6-9	6-9	
Floating Particles		Nil	Nil	
2- Inorganic Matters				
Ammonia as N	NH4 +	15	15	mg\L
Chlorine Residual	Cl2	0.1	0.1	mg\L
Cyanide (Total)	CN	Nil	0.2	mg\L
Dissolved Oxygen	DO	> 2	> 2	mg\L
Fluoride	F	15	15	mg\L
Phosphate as P	PO4 -3	30	30	mg\L
Sulphate	SO4 -2	400	400	mg\L
Sulfide	S-2	0.1	0.1	mg\L
Biochemical Oxygen Demand	BOD5	10	50	mg\L
Total Kjeldahl Nitrogen as N		35	35	mg\L

Chemical Oxygen Demand	**COD**	**150**	**150**	**mg\L**
3- Trace Metals				
Aluminum	**Al**	**15**	**15**	**mg\L**
Arsenic	**As**	**0.1**	**0.1**	**mg\L**
Barium	**Ba**	**2**	**2**	**mg\L**
Boron	**--B**	**1.5**	**1.5**	**mg\L**
Cadmium	**Cd**	**0.05**	**0.05**	**mg\L**
Chromium ,total	**Cr**	**0.01**	**0.2**	**mg\L**
Cobalt	**Co**	**0.2**	**0.2**	**mg\L**
Copper	**Cu**	**0.2**	**0.5**	**mg\L**
iron	**Fe**	**1**	**1**	**mg\L**
lead	**Pb**	**0.1**	**0.1**	**mg\L**
Manganese	**Mn**	**0.05**	**0.05**	**mg\L**
Mercury	**Hg**	**0.001**	**0.001**	**mg\L**
Nickel	**Ni**	**0.2**	**0.5**	**mg\L**
Zink	**Zn**	**0.5**	**0.5**	**mg\L**
Sodium Absorption rate	**SAR**	**10**	**10**	**mg\L**
4-Organic Matters				
Oil & Grease		**10**	**10**	**mg\L**

Phenols		**0.5**	**0.5**	**mg\L**
Total Organic Carbon	**TOC**	**75**	**75**	**mg\L**
5-Biological Tests				
Total Coliform		**2.2**	**23**	**MPN/100ml**
Egg parasites		**1 <**	**1 <**	
Worm parasites		Nil	Nil	
Toxicity Evaluation	**Study each case independently**			

2- Standard for the Discharge of Industrial Effluents into Sewers

Parameter	**Symbol**	**Limit**	**Unit**
Synthetic detergents		**30**	**mg\L**
Cyanide Compounds	**CN**	**1**	**mg\L**
sulphides	**S^{-2}**	**10**	**mg\L**
Sulphates	**SO_4^{-2}**	**1000**	**mg\L**
Tar & Tar Oils		**20**	**mg\L**
Oil & Grease		**15**	**mg\L**
Suspended Solids	**SS**	**500**	**mg\L**
Chemical Oxygen Demand	**COD**	**3000**	**mg\L**
Metal Salts (Total)			
Cadmium	**Cd**	**10**	**mg\L**

Chromium ,total	**Cr**	**2**	**mg\L**
Copper	**Cu**	**4**	**mg\L**
Lead	**Pb**	**5**	**mg\L**
silver	**Ag**	**4**	**mg\L**
Zinc	**Zn**	**4**	**mg\L**
Arsenic	**As**	**5**	**mg\L**
Mercury	**Hg**	**0.1**	

3-Standard for the Discharge of Ballast Water

Parameter	Symbol	Limit	Unit
Ammonia, as N	**NH3**	**3**	**mg\L**
Biochemical Oxygen Demand	**BOD5**	**50**	
pH	**pH**	**6-9**	**mg\L**
Chemical Oxygen Demand	**COD**	**250**	**mg\L**
Oil and Grease		**Nil**	**mg\L**
Suspended Solid	**SS**	**35**	
Total Oil (Hexane Extractable)	**TO**	**15**	
Total Organic Carbon	**TOC**	**100**	
Oil & Grease		**15**	

4- Standard for Drainage of Liquid Waste to the Public Sewage Works for Treatment:

Parameter	Symbol	Limit	Unit
pH	pH	5-10	
Color		Non-resistance	
BODS	BODS	1000	mg\L
COD	COD	3000	mg\L
Temperature	c	60	mg\L
Insoluble		2000	mg\L
Total Dissolved Solids	TDS	4000	mg\L
Grease and Oil		15	mg\L
Sulphide (as ions)	S^{-2}	10	mg\L
Sulphate (as ions)	SO_4^{-2}	1000	mg\L
Phenol		150	mg\L
Cyanide	CN	1	mg\L
Detergents (capable of vigorous decomposition)		100	mg\L
Total chlorinated Hydrocarbons	TCH	0.5	mg\L
Total organic carbon	TOC	1000	mg\L
Caustic Alkali (calcium carbonates)		3000	mg\L
Total toxic metals Aluminum		10	

			mg\L
Aluminum	**Al**	**30**	
Arsenic	**As**	**5**	**mg\L**
Barium	**Ba**	**10**	**mg\L**
Beryllium	**Be**	**5**	**mg\L**
Cadmium	**Cd**	**2**	**mg\L**
Total Chromium		**5**	**mg\L**
Copper	**Cu**	**5**	**mg\L**
Iron	**Fe**	**25**	**mg\L**
Lead	**Pb**	**5**	**mg\L**
Mercury	**Hg**	**0.1**	**mg\L**
Nickel	**Ni**	**5**	**mg\L**
Silver	**Ag**	**5**	**mg\L**
Zinc	**Zn**	**10**	**mg\L**

5- Standard for the Treated Effluents Sanitary Wastewater

Parameter	**Symbol**	**Limit**	**Unit**
Total Suspended Solids	**TSS**		**10 mg\L**
Biochemical oxygen demand (BOD)	**BOD**		**10 mg\L**
Chemical Oxygen Demand	**COD**		**150 mg\L**

Dissolved oxygen	**DO**		**2 mg\L minimum**
Total coliform (MPN)	**MPN**		**23**
Free Residual chlorine	**Cl_2**		**0.1 mg\L**

6- Standard for the Quality of Cooling Water

Parameter	Symbol	Limit
Difference in Temperature	**TSS**	**$3\Delta C_o$**
Daily Free Residual chlorine	**Cl_2**	**0.05 mg\L**

1. These standards are not applicable to the cooling water used in the offshore production platforms or for drilling, exploration or in the ships.

2. Once-through cooling water is to be discharged into a suitable blending area into the sea, to be determined in consultation with SCENR using a hydrodynamic form of 3D dispersal and after making an ecological study of the site.

3. The difference in the temperature is to be measured at the point where the water current enters the facility and at the edge of the point approved for water discharge and blending

4. The cooling water is to be tested for the concentration of free residual chlorine at least (4) times daily using samples collected by grab at the point of discharge into the water.

5. As an alternative to this, the facility may set out a fixed discharge limit at the site using the same dispersal form used to measure the temperature (minus 3 degrees centigrade) and the boundary of the water blending area. The effect of the chlorine in the water surrounding the facility should be limited to 0.05 mg/litre.

Annex (3/ 3rd)

The Drinking Water

Characteristics/ Properties

Annex (3/ third)

Third: The drinking water characteristics/ properties

1- The natural characteristics/ properties of the drinking water:

The properties	Measuring Unit	Maximum permissible limit
Colour	Real Colour unit (measured by Cobalt platinum measure)	15 units
Impurity	Impurity measuring unit	5 units
Taste	-	acceptable
smell	--	acceptable
temperature	--	acceptable

2- Chemical characteristics/ properties of the drinking water:

The Components	Measuring Unit	Maximum permissible limit
Aluminium	mg/ L	0.2
Ammonia	mg/ L	1.5
Chlorides	mg/ L	250
Copper	mg/ L	1
Hard water	mg/ L	500
Hydrogen sulphides	mg/ L	0.05
Iron	mg/ L	0.3

Manganese	**mg/ L**	**0. 1**
pH	**mg/ L**	**8. 5- 6. 5**
Sodium	**mg/ L**	**200**
Sulphites	**mg/ L**	**250**
Total dissolved solids	**mg/ L**	**1000**
Zinc	**mg/ L**	**3**

3-Inorganic **components** that may affect the health in **the drinking water:**

The Components	**Measuring Unit**	**Maximum permissible limit**
Arsenic	**mg/ L**	**0.01**
Barium	**mg/ L**	**0.7**
Boron	**mg/ L**	**0.5**
Cadmium	**mg/ L**	**0.003**
Chrome	**mg/ L**	**0.05**
Copper	**mg/ L**	**2**
Cyanide	**mg/ L**	**0.07**
Fluorides	**mg/ L**	**1.5**
lead	**mg/ L**	**0.01**
Silver	**mg/ L**	**0.1**

Tin	**mg/ L**	**1**
Uranium	**mg/ L**	**2**
Beryllium	**mg/ L**	**1**
Manganese	**mg/ L**	**0.5**
Mercury	**mg/ L**	**0.001**
Molybdenum	**mg/ L**	**0.07**
Nickel	**mg/ L**	**0.02**
Nitrates n 3أ	**mg/ L**	**50**
Nitrates n 3أ	**mg/ L**	**3**
Selenium	**mg/ L**	**0.01**
Antimony	**mg/ L**	**0.005**

* The concentration of Fluorides in the drinking water, subject to the daily temperature of the air, is calculated as follows:

Fluorides concentration = $\frac{0.34}{d}$

d = 0. 038 + 0. 0062] X (the daily temperature of the air)
X [$\frac{32 + 9}{5}$

The concentration of nitrates should not exceed (1)

$$\frac{\text{concentration of nitrates in the sample}}{3} + \frac{\text{concentration of nitrates in sample}}{50} \leq 1$$

4- The rate of organic components that may affect the health in the drinking water:

The Components	**Maximum permissible limit mg/L**
a.- <u>Alkane chlorides</u>	
Tetra Carbon chloride	**2**
Dichloromethane	**20**
2, 1 Dichloroethane	**30**
1, 1, 1 Trichloroethane	**2000**
Trihalomethane	**none**
Dioxin/ furan	**none**
b- <u>Ethane chlorides</u>	
Phenyl chloride	**5**
1, 1 Dichloroethane	**30**
2, 1 Dichloroethane	**50**
Trichloroethane	**70**
Tetra chloroethane	**40**
c- <u>Aromatic hydro carbonates</u>	
Benzene	**10**
Toluene	**700**
Xylene	**500**
Ethyl Benzene	**300**
Styrene	**20**
Benzo-pyrene	**0.7**
d- <u>Benzene chlorides</u>	
Monochlorobenzene	**300**
2,1 -Dichlorobenzene	**1000**
4,1 Dichlorobenzene	**300**
Trichlorobenzene (total)	**20**
e- <u>Other organic components</u>	

Biethyl hexyl idibat	**80**
Diethylhexyl phthalate	**8**
Acrylmide	**0.5**
Ebichlorohydrins	**0.4**
Hexachlorobutadiene	**0.6**
Edetic acid (EDTA)	**600**
Nitrilotriacetic acid (NTA)	**200**
Tri oxide biotelin	**2**
Microcystin- LR	**1**

4-Pesticides:

The Components	**Maximum permissible limit mg/L**
Arcolor	**20**
Aldicarb	**10**
Aldrin	**0.03**
Atrazine	**2**
pentazone	**300**
Carbo- furan	**7**
Chlordane	**0.2**
Chlorotoluron	**30**
DDT	**2**
1,2 Dibromo Chloro propane	**1**
4,2 Dichlorophenoxy Acetic acid	**30**
2,1 Dichloropropane	**40**
3,1 Dichloropropane	**20**
Heptachlor & Heptachlor epoxide	**0.03**
Hexachlor- benzene	**1**
Ezoproturan	**9**

Lindane	**2**
MCPA	**2**
Methoxychlor	**20**
Metolachlor	**10**
Molinate	**6**
Pendimethalin	**20**
Pentachlorophenol	**9**
Bermetryn	**20**
Bropanyl	**20**
Pyredat	**100**
Simazine	**2**
Trifluralin	**20**
4,2 DP	**90**
Dichlorprop	**100**
Fenoprop	**9**
Mecoprop	**10**
2,4,5 T	**9**
sinazyne	**0.6**
2,1 Dipromoethane	**15**
Diquat	**10**
Terbuthylazine	**7**

5- Disinfectants/ decontaminators of water:

The Decontaminator	**Maximum permissible limit mg/L**
Monochloramines	**3**
Chlorine	**5**
The outcome of using the decontaminator	**Maximum permissible limit mg/L**
Bromine	**25**
Chlorate	**200**

6,4,2 trichlorophenol	**200**
Formaldehyde	**900**
Bromo-form	**100**
Dibromochloromethane	**100**
Bromodichloromethane	**60**
Chloroform	**200**
Dichloro acetic acid	**50**
Trichloro acetic acid	**100**
Chloral hydrate	**10**
Dichloroacetonitrel	**90**
Dibromoacetonitrile	**100**
Trichloro- aceto nitrel	**1**
Cyanogen chloride	**70**

N.B:

The concentration of tri- halo methane (total of Halogenated compounds) should not exceed (1) as follows:

$$\frac{\text{concentration of bromo-form}}{\text{maximum limit of bromo-form}} + \frac{\text{concentration of bromo chloro methane}}{\text{maximum limit of bromo chloro methane}} + \frac{\text{concentration of bromo bi-chloro methane}}{\text{maximum limit of bromo bi- chloro methane}} \leq 1$$

6- **The concentration of radioactivity:**

a- The concentration of radioactive elements in drinking water as per the (mSv) dose (0.1ml) for the whole year:

The radioactive elements	**Dose conversion (mSv/ Bq)**	**Approximate value**

		(Bq/ L)
Hydrogen 3	**11 10 × 1. 8**	**7800**
Carbon 14	**10 10 - × 5. 6**	**250**
Cobalt 60	**9 10 - × 7. 2**	**20**
Strontium 89	**9 10 × 3. 8**	**37**
Strontium 90	**9 10 × 3. 8**	**5**
Iodine 129	**7 10 - × 1. 1**	**1**
Iodine 131	**8 10 - × 2. 2**	**6**
Cesium 134	**8 10 - × 1. 9**	**7**
Cesium 137	**8 10 - × 1. 3**	**10**
Lead	**6 10 - × 1. 3**	**0.1**
Polonium 210	**7 10 × 6. 2**	**0.2**
Radium 224	**8 10 - × 8. 0**	**2**
Radium 226	**7 10 - × 2. 2**	**1**
Radium 228	**7 10 - × 2. 7**	**1**
Thorium 232	**6 10 - × 1. 8**	**0.1**
Uranium 234	**8 10 × 3. 9**	**4**
Uranium 238	**8 10 × 3. 6**	**4**

Plutonium 239	**7 10 × 5. 6**	**0.3**

b- The concentration of radioactive components in the drinking water:

The Rays	Limit **(Bq/ L)**
Radioactivity of Alpha Rays	**0.1**
Radioactivity of Beta Rays	**1**

7- Free Residual Chlorine:

1. **The concentration of free residual chlorine in treated unpacked water should be sufficient to kill all the micro-organism in the water. When distributed to the consumer, the concentration of free residual chlorine the drinking water should be ranging from (0.2) to (0.5) microns after a contact period of 30 minutes as a minimum and the pH is less than** (8).

2. **The concentration of chlorine should be increased in cases of epidemics or in any other special case as decided by the Ministry of Public Health or any other concerned authority.**

- **If the water is treated with ozone or ultraviolet rays or any other means of treatment, it should be sufficient to kill bacteria and micro organism.**
- **The treated water should be compatible with the microbiological characteristics of treated water to be distributed to consumers.**

8. Biological characteristics/ properties:

Treated unpacked drinking water should be free from algae, fungus, parasites eggs, larva, amoeba, and other microscopic organism.

9. Microbiological characteristics/ properties:

(i) The unpacked drinking water should be free from bacteria / viruses which cause diseases and harm to the public health.

(ii) In case of distributing the treated water through a network, it should be free from colon bacteria and other bacteria in any 100 ml of the tested sample at the laboratory

a. In case of distributing the untreated water through a network, it should be free from colon bacteria and other bacteria in any 100 ml in 98% of the tested sample at the laboratory throughout the year, if the water is supplied in large quantities and sufficient number of samples are tested.

b. The untreated water should be free from colon bacteria and other bacteria in any 100 ml in the samples tested.

The number of bacteria sets should not exceed three sets in each 100 ml in the sample taken at frequent intervals and not in consecutive occasions.

c. In case the water is distributed not through a network:
The number of bacteria sets should not exceed (10) sets in each 100 ml in the sample taken at frequent intervals and not in consecutive occasions, otherwise an alternative source of water is to be found if possible.

N.B.: Bottled drinking water should comply with the standard specification for the Arabian Gulf states (No. SSG -1025).

- The standards for noise are made to protect the citizens against the adverse effects of exposure to excessive rates of noise. The standards set forth the limits of exposure to environmental nuisance.

- **The levels of nuisance / noise should be measured so as to obtain environmental authorization using active band analyzer type (1).**
- **The night time standards should start from 2200 hrs to 0400 hrs. in the morning.**
- **Levels for residential areas industrial, commercial areas.**
- **In which buildings used for accommodation exceed 50%.**

Annex (3/ 4th)

The Standards for Sea Water Quality

Annex (3/ 4th)

The Standards for Sea Water Quality

The parameter	Maximum permissible limit	Unit
pH	8.3-6.5	
Saltiness	33 – 45	
Dissolved Oxygen	More than (4)	part in one thousand
Total Suspended Solids	30	mg\L
Phosphorus	30	mg\L
Nitrates	100	mg\L
Silica	900	mg\L
Nitrates	35	mg\L
Ammonia(Nitrogen)	15	mg\L
Petroleum Hydro carbonates (total)	5	mg\L
Cadmium	0.7	mg\L
Nickel	20	mg\L
Mercury	than less 0.4	mg\L
Iron	90	mg\L
Copper	15	mg\L
Lead	12	mg\L
Vanadium	10	mg\L
Poly chlorine phenol	Not permissible	mg\L
Chlorophyll	1	mg\L

Annex (3/ 5th)

The Standards for Noise

Annex (3/ 5th)

Fifth: The standards for Noise

- **The standards for noise control have been made to protect the population against the fatigue resulting from exposure to high levels of noise. These standards cover the limits for environmental noise and provide guidelines for the proper planning of land utilization.**
- **In order to obtain the environmental authorization, the levels of noise should be measured using octave band analyzer type (1).**
- **The standards levels for night time are measured from 2200 hrs to 0400 hrs.**

The levels of noise for residential and industrial facilities:

The area	The maximum limits of noise (average 20 minutes)	
	Day time	Night time
Residential areas & public corporations	55	45
Commercial areas	65	55
Industrial facilities	75	75

The residential areas:

It is the area in which homes or buildings for residence are more than 50% of the buildings, including schools, hospitals and mosques.

Commercial areas:

It is the area, in which department stores, business offices, garages and places of work are more than 50% of the buildings.

The industrial facilities/ areas:

It is the area, in which industrial facilities are more than 50% of the buildings

Annex (3/ 6th)

Sixth: The Standards for Closed Places of Work

Annex (3/ Sixth)

Sixth: The standards for Closed Places of Work

The noise:

a. **Employees should not be exposed to more than 115 decibels (a) unless the employee exposed to noise is provided with ear plugs of the appropriate type.**
b. **Maximum permissible limit of noise is (85) decibels for (8) consecutive hours.**
c. **If the employee is exposed to various levels of noise during working hours exceeding (85) decibels for intermittent periods of time, the under mentioned equation is used:**

$$\frac{a1}{b1} + \frac{a2}{b2} + \frac{a3}{b3} \text{ the result is (1)}$$

This (1) represents the maximum permissible limit.

The duration of exposure per hour is (a)

Then (b) is **the duration of exposure allowed at that level as given in the schedule below.**

d. **The limit for noise when using heavy hammers is 140 decibels.**

The intensity of noise in Decibels (a)	Exposure per hour
85	**8**
90	**4**
95	**2**
100	**1**
105	**0.5**
110	**0.25**
115	**0.125**

No person is to be exposed to more than (85) **decibels** except in cases of necessity, taking into consideration the time of exposure as given in the schedule below

2- Heat and Humidity

The owner of the facility is to take the necessary measures to control the heat and humidity in the place of work within the permissible limits. In cases of necessity, when the employees work in excessive heat and humidity, he is to provide the necessary measures for the protection of the employees.

Classification of work load:

(a) The work load is considered slight if the energy exerted in it is equal to 200 kilo calorie / hour.

(b) The work is considered of medium hardship if the energy exerted in it 200-350 kilo calorie / hour.

(c) It is hard if the energy exerted in it (350) kilo calorie / hour.

The maximum permissible limits for heat and humidity in relation to the work load/ hardship:

Work & Rest system	Slight work	Medium work	Hard work
Continuous work	30	26.7	25.0
75 % work +	30.6	28	25.9
50 % work +	31.2	29.4	27.9
25 % work +	32.2	31.1	30

Relative Humidity should not exceed 80% in the place of work.

Precautionary measures when it is necessary for the employees to work in excessive heat and humidity:

- The labourer is first to adapt to the severe conditions of work gradually.
- Work shifts should be well organized so as to reduce the physiological load.
- The total period of work is to be distributed evenly in one day.
- The hardest works are to be scheduled so as to be done at night or at dawn to avoid exposure to the sun.
- Breaks are to be given once per hour for the employees to take water and salts. Two litres of water with 0.1% of salt dissolved in it, to be given for each labourer (do not take salt tablets). Drinking water should be within easy reach. (60 meters)

6. The suitable clothing and protection equipment are to be provided and used by the employees.
7. The place of work is to be designed in a way that properly controls the temperature.

3- Lighting

1. **The minimum limits of light necessary for work are given below.**
2. **The light is measured horizontally at a height on one meter from the ground level.**

S. No.	Type of Work	Lighting in (lux)
1	**Works that need walking in the corridors or carrying items**	**(50)**

2	**Works that need to distinguish between some materials and large products**	**200**
3	**Works that need to assemble instruments, typewriting, accounting, office work.**	**500**
4	**Works that need to on tiny parts that require accurate fitting – such as watches, jewels sewing machines / lathes**	**1000**

4- <u>The maximum permissible limit for the concentration of harmful Chemicals</u>

The Substance	**Maximum concentration (ml gram/cube meter)**
Acetic Acid	**25**
Ammonia	**18**
Ammonia Chloride	**10**
Aniline	**10**
Antimony and its' compounds	**0.5**
Arsine	**0.2**
Asphalt Vapor	**5**
Aluminium Oxide	**10**
Biotin	**1.9**
Beryllium	**0.5**
Bromine	**0.7**
Cadmium	**0.002**
Cadmium Oxide	**0.05**
Calcium Oxide	**2**
Carbon Di- sulhpide	**30**
Carbon dioxide	**9**
Carbon monoxide	**55**
Carbon quad chloride	**30**
Chloride phenyl oxide	**0.5**
Chloroform	**50**
Chromic Acid	**0.05**
Copper, its' vapor& dust	**0.2**
Cresol	**22**
Chlorine	**3**
Chlordane	**0.5**
DDT	**1**
Aldrin	**0.25**
Endrin	**0.1**
Phenol	**19**
Phosgene	**0.4**
phosfine	**0.4**
Formic acid	**9**
Naphthalene	**50**
Fluorine	**1**

Formaldehyde	**3**
Hydrazine	**0.1**
Hydrogen caynore	**10**
Hydrogen sulphate	**14**
Diethyl amine	**30**
Aldrin	**0.25**
Biphenyl	**1.5**
Biphenyl amine	**10**
Ethanol amine	**8**
Ethyl compounds	**1**
Ozone	**0.2**
Nitrogen oxides	**30**
Nitrogen dioxide	**6**
Nitric Acid	**5**
Petrol	**30**
Beirden	**15**
Parathion	**0.1**
Manganese and its' compounds	**5**
Manganese vapor	**1**
Mercury organic compounds	**0.01**
Mercury inorganic compounds	**0.1**
Malathion	**10**
Inorganic lead and its' compounds	**0.15**
lead tetra ethyl	**0.1**
leaden	**0.5**
Methyl Parathion	**0.2**
Trichloro- Naphthalene	**5**
Tri nitro-altoloin	**0.5**
Quinine	**0.4**
Methyl chloride	**105**
Nickel	**1**
Nickel carbonyl	**0.35**
Nickel compounds	**0.1**
Methyl markabtan	**١**
Iron, iron, oxide and vapor	**٥**
Selenium compounds	**0.2**
Sulphur dioxide	**٥**
Sulphuric acid	**١**
Zinc oxide vapor	**٥**
Zinc chloride vapor	**١**
Vanadium :as inhaled fine dust	**0.05**
smoke	**0.05**
Welding vapor	**٥**
Warfarien	**0.1**

N.B: the standards which are not given, is left to the judgment of the person in charge in consultation with the concerned administrative authority and the Secretariat General.

5- The standards for dust in the Places of Work

(1) Stone dust : The maximum concentration of free silica dust (silicon dioxide) in the work environment is calculated using the following equations:

(a) The maximum concentration of dust estimated as million particles for each meter^3 of air:

$$= \frac{1.059}{\%\ \text{free silica in the sample} + 10}$$

b. The maximum concentration of inhaled fine dust with particles ranging between (50) – 5) microns for each meter^3 of air:

$$= \frac{10\ \text{milligram / m2}}{\%\ \text{of inhaled fine dust in the sample} + 3}$$

(c) For other types of stone dust the maximum concentration in the places of work are as follows:

S. No.	The substance	the maximum concentration
١	Asbestos	(2) asbestos fibres for each cm ^{2} of air
٢	Portland cement dust	1.059 million particles for each meter^3 of air
٣	Berylite	For inhaled fine dust 5 mg/meters^3. For total dust 10 millgrm/meter^3, or 1.059 million particles for each meter^3
٤	talc dust not containing asbestos fibers	2 millgrm/meters^3 of inhaled fine dust

٥	**Inactive dust containing less than 1 % free silica, which is not likely to cause disease but it disturb the employees**	**1.059 million particles for each meter^3**

3- Solid wood dust 1 millgrm/meters^3
Soft wood dust 5 millgrm/meters^3
Fibreglass dust 10 millgrm/meters^3

Annex (4)

Standards for Pollutants When Discharged in the Water Environment

Annex (4)

Standards for Pollutants When Discharged in the Water Environment:

1- **Standards for some substances discharged in the water Environment.**

2- Non decaying solid and liquid Substances prohibited to be discharged in the water Environment.

1- **Standards for some substances discharged in the water Environment:**

In accordance with the provisions of Article (88-89) of this bylaw, it is prohibited to discharge pollutants in the marine environment. Sewage treated effluent can only be discharged at a distance not less than (4) nautical miles off the coast. If the sewage effluent has not been treated, the distance should not less than 12 nautical miles.

It is also prohibited to discharge pollutants in the fisheries or in places of high economical, historical and aesthetic value including the natural reserves.

Parameter	Symbol	Limit	Unit
1- Physical Tests			
Total Dissolved Solids	**TDS**	**1500**	**mg/ L**
Total Suspended Solids	**TSS**	**50**	**mg/ L**
pH	**pH**	**6-9**	
Floating Particles		**Nil**	
Temperature	**T**	**Not more than 3 degrees above average level**	**mg/ L**
Impurity	**NTU**	**50**	**mg/ L**
color		**colourless**	**mg/ L**
2- Inorganic Matters			

Ammonia	**NH4 +**	**3**	**mg/ L**
Chlorine Residual	**Cl2**	**0.05**	**mg/ L**
Cyanide	**CN**	**0.1**	**mg/ L**
Fluorides		**1**	**mg/ L**
Phosphate as P	**PO4 -3**	**2**	**mg/ L**
Sulphate	**SO4 -2**	**0.1**	**mg/ L**
Biochemical Oxygen Demand	**BOD5**	**50**	**mg/ L**
Chemical Oxygen Demand	**COD**	**100**	**mg/ L**
Urea		**2**	**mg/ L**
Nitrogen (total)	TKN	100	**mg/ L**
3-Trace Metals			
Aluminium	**Al**	**3**	**mg/ L**
Arsenal	**As**	**0.5**	**mg/ L**
Barium	**Ba**	**2**	**mg/ L**
Boron	**B**	**1.5**	**mg/ L**
Cadmium	**Cd**	**0.05**	**mg/ L**
Chrome (total)	**Cr**	**0.2**	**mg/ L**
cobalt	**Co**	**2**	**mg/ L**
Copper	**Cu**	**0.5**	**mg/ L**

Iron	**Fe**	**1**	**mg/ L**
lead	**Pb**	**0.1**	**mg/ L**
Manganese	**Mn**	**0.2**	**mg/ L**
Mercury	**Hg**	**0.001**	**mg/ L**
Nickel	**Ni**	**0.5**	**mg/ L**
Zinc	**Zn**	**2**	**mg/ L**
Silver	**Ag**	**0.005**	**mg/ L**
Selenium	**Se**	**0.02**	**mg/ L**
4- Organic Matters			
Oil & Grease	O & G	**15**	**mg/ L**
Phenol (total)		**0.5**	**mg/ L**
Halogenated Hydro carbonates & pesticides of all types		**0.1**	**mg/ L**
Dioxin		**1.34×10^{-7}**	**mg/ L**
Tri Halo methane	**THM**	**100**	**mg/ L**
5- Biological Tests			
Total Coliform in 100 cm3	**MPN**	**100**	**MPN/100ml**
Egg parasites		**Nil**	

Worm parasites		**Nil**	
Colon/ stool bacteria		**100**	**MPN/100ml**

2- Non decaying solid and liquid Substances prohibited to be discharged in the water Environment:

The non decaying substances stay in the environment for a long time depending on the quantity discharged. Some takes months others take years to disintegrate or decay depending on the formula and concentration in the environment.

Inorganic Matters

Examples:
Mercury and its' compounds
Cadmium and its' compounds
Lead and its' compounds
Cobalt, Nickel, Selenium and Vanadium.

Organic Matters

A very small amount of such organic matters takes months to disintegrate.
Examples:
Organo-phosphorus Pesticides
Dimethoate
Malathion

Organo-chlorine Pesticides
- Aldrin
- Dieldrino
- DDT
- Chloridane
- Endrine

Some cannot disintegrate and they stay for years, examples:

- Polychlorinated Biphenyls
- (PCBs)
- Aroclor 1254
- 2,3،5,6 Tetrachlorobiphenyl
- 2,3,6 Trichlorobiphenyl
- Polynuclear Aromatic Hydrocarbons (PAH)
- Benzo (a) Pyrene Naphthalene

Solid matters:

Some of the solid matters may disintegrate but they stay for years, examples:

Plastic, fishing nets, ropes and containers.

Annex (5)
The administrative authorities Concerned with licensing Hazardous Materials

Annex (5/1)

The administrative authorities concerned with licensing the hazardous materials:

The administrative authority	Responsibility in relation to the management of hazard material
The Ministry of Interior	**1. Licensing the safe transport of hazardous materials on the highways/ roads.** **2. Licensing the stores depot for the storage of the hazardous materials.** **3. Approval of the protection and prevention system.** **4. Response and dealing with all accidents pertaining to hazardous materials such as spill, leak, fire etc.**
Ministry of Municipal Affairs & Agriculture	**1. Licensing / registering of the pesticides for agricultural and home use and the fertilizers.** **2. Licensing for spraying / use of pesticides.** **3. Wastes management.**
Customs and Ports Public Department.	**Ensure that the labels are properly affixed, proper handling of hazardous materials and wastes transported trans boundary by air, sea and land.**
Ministry of Public Health	**1. Licensing / registering pharmaceutical drugs medicines and some chemicals.** **2. Issue licenses for setting up facilities for the disposal of medical wastes.**
SCENR	**1. Authorization to use pesticides and disposal thereof.** **2. Authorization to use, handle and dispose of hazardous materials.** **3. Management of hazardous materials.** **4. Grant licenses for the import, handling transportation and use of materials depleting the ozone layer.** **5. Decide whether the location / site of a project is suitable for the activities to be carried out there.** **6. The environmental authorization prior to the grant of licenses by the concerned administrative authorities in pursuance of the provisions of the law and this bylaw.**
Ministry of Energy and Industry	**1. Grant licenses for setting up facilities for treating hazardous materials.** **2. Grant licenses for the hazardous materials imported to be used in the activities pertaining to oil and gas**

	Industry.
Ministry of Economy and Commerce	**1. Registering the companies / corporations dealing in the hazardous materials in the Business Record.**

N.B:
All licenses are issued by the concerned administrative authority after obtaining the authorization / approval of SCENR pursuant to the provisions of the law and this bylaw.

Annex (6)
Record of the Activities
Carried out by the Facility

Annex (6)

Record of the activities carried out by the facility:

First: Record of the Environmental Impact of the Facility

Second: Record of the Hazardous Wastes resulting from the activities of the Facility.

Third: Record of the Hazardous Materials

Fourth: Record of using Pesticides

Annex (6/ 1st)

First: Record of the Environmental Impact of the Facility

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	

Annex (6/First)

(Record of Environmental Impact of the Facility)

Name and Address of the Facility	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
Industry		***Date & No. of the environmental authorization***	
***Date & No. of the* Operation Permit:**		***Date & No. of the authorization to store Hazardous materials:***	
Period covered by this data			
The person in charge of the Record			
Name		***Designation/ appointment:***	
Date		***Signature***	
Technical Information about the facility:			
Type of Activity		***Raw materials***	
Products			
Pollution Control			
Conditions / measures imposed by the facility:			
Details of the emissions and the rate of discharge (per hour / day / month / year)			

and the mode of disposal (gas / liquids / solid) noise and vibrations:
Rate of conducting the tests on each type of emissions discharged by the facility as prescribed in the operation permit:
The output after treatment:
The efficiency of the means of treatment:
The follow up procedures and the environmental security in the facility:
Updating the follow up:
Periodical tests / measurements and the results thereof:
Contraventions / excessive emissions contrary to the standards specifications for the emission of pollutants:
Remedial actions taken by the facility:

Annex (6/ 2nd)

Second: Record of the Hazardous Wastes Resulting from the Activities of the Facility

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	

Annex (6/ Second)

Second: Record of the Hazardous Wastes Resulting from the activities of the Facility.

Name and Address of the Facility	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
Industry		***Date & No. of the environmental authorization***	
***Date & No. of the* Operation Permit:**		***Date & No. of the authorization to store Hazardous materials:***	
Period covered by this data			
The person in charge of the Record			
Name		***Designation/ appointment:***	
Date		***Signature***	
Technical Information about the facility:			
Type of Activity		***Raw materials***	
Products			
Pollution Control			

Conditions / measures imposed by the facility:	
Detailed amounts and types of the hazardous wastes resulting from the activities of the facility.	
Mode of disposal:	
The contractors who shall to take over the hazardous wastes:	
The efficiency of the means of treatment:	

Annex (6/ 3rd)

Third: Record of the Hazardous Materials

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	

Annex (6/ Third)

Third: Record of the Hazardous Materials

Name and Address of the Facility	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
Information about the Hazardous Materials			
Trade Name		***Common* Name**	
Chemical Name			
CAS		***The purpose for Import/ use***	
The condition of the materials	***Liquid***	***solid***	***Gas***
Country of Origin			
Manufacturer		***Date of production***	
Expiry *Date*			
***Quantity Import*ed**		***Remaining Quantity***	
Quantity transported/ handled;			
The Facility Receiving the Hazardous Materials			
Name and Address of the Facility	***Name :__***	***Plot No.___***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**

The person in charge	***Storage Location***

The Quantity Received	***The purpose***
The person in charge of the Record	
Name	***Designation/ appointment:***
Date	***Signature***
Actions by the concerned Administrative authority	
Name	***Designation/ appointment:***
Date	***Signature***
Actions by the Council	
Remarks:	
Name	***Designation/ appointment:***
Date	***Signature***

Annex (6/ 4th)

Fourth: Record of using the Pesticides

	SUPREME COUNCIL FOR THE ENVIRONMENT & NATURAL RESERVES	

Annex (6/ Fourth)

Fourth: Record of using the Pesticides

Name and Address of the Facility	***Name :***	***Plot No.***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
Information about the Pesticides			
Trade Name		***Common* Name**	
Chemical Name			
CAS		**Formulating the Pesticides**	
Active ingredients			
The condition of the materials	***Liquid***	***solid***	***Gas***
Country of Origin		**Manufacturer**	
Date of production		**Expiry *Date***	
The purpose of spraying/ use		***Registration of* the Pesticides *in the State:***	
Information about the spraying/ use			
Area in which it is being sprayed/ used	***Dimensions of the Area (km)***	***Type of equipment used***	***Date of spraying/ use***

Total amount of the Pesticides		**The amount of the Pesticides used**	**Time of spraying/ use**
Name of the person spraying/ using the Pesticides		**His License**	
Particulars of the Importer			
Name and Address of the Facility	***Name :***	***Plot No.***	**Street No.**
	P. O. Box	***City*:** **Area:**	***Telephone :*** **Fax:**
The Quantity imported		***The purpose of import***	
The person in charge		***Storage Location***	
The person in charge of the Record			
Name		***Designation/ appointment:***	
Actions by the concerned Administrative authority			
Name		***Designation/ appointment:***	
Date		***Signature***	
Actions by the Council			
Remarks:			
Name		***Designation/ appointment:***	
Date		***Signature***	

<u>Attachments:</u>

1- License to import the pesticides
2-License the person spraying/ using the pesticides.
3-Site plan showing the area in which it is being sprayed/ used

Annex (7)

Rules for the Management & Trans-boundary Movement of Hazardous Wastes

Annex (7)

Rules for the Management and Trans-boundary Movement of Hazardous Wastes:

1- Chart demonstrating the procedures for shipping and Disposal of hazardous wastes.

2- Summary Report of the hazardous Wastes by the generator (WPS)- Sections (a-b).

3- Approval of the Sample of Wastes referred to in Summary Report.

4- Categories of Wastes to be controlled.

5- Wastes requiring Special Consideration.

6- The Characteristics of hazardous Wastes.

7- Treatment and Disposal Operations.

8- Notification regarding the Tran-boundary shipping of hazardous Wastes.

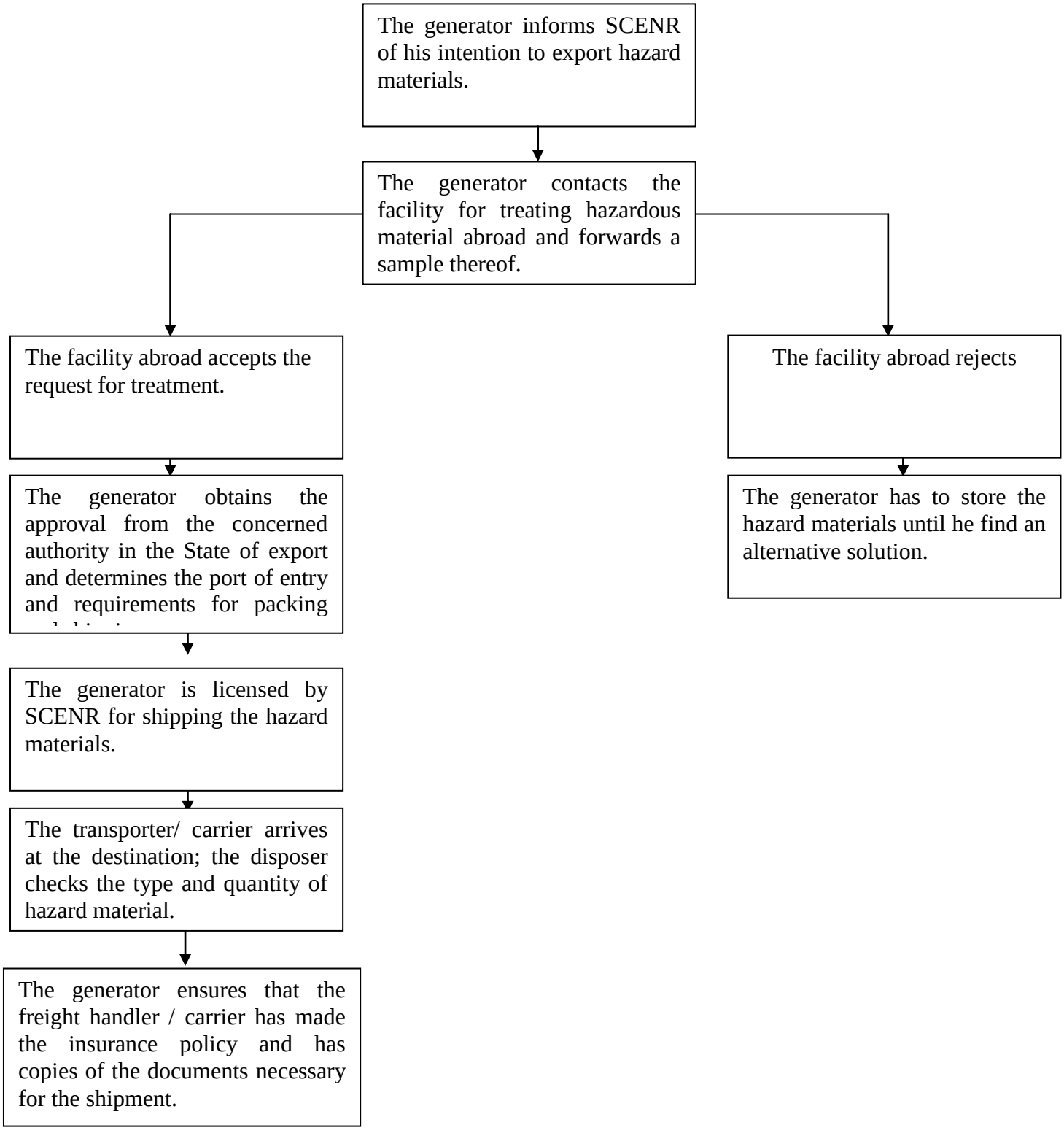
9- Documents for the Tran-boundary shipping of the Hazardous Wastes.

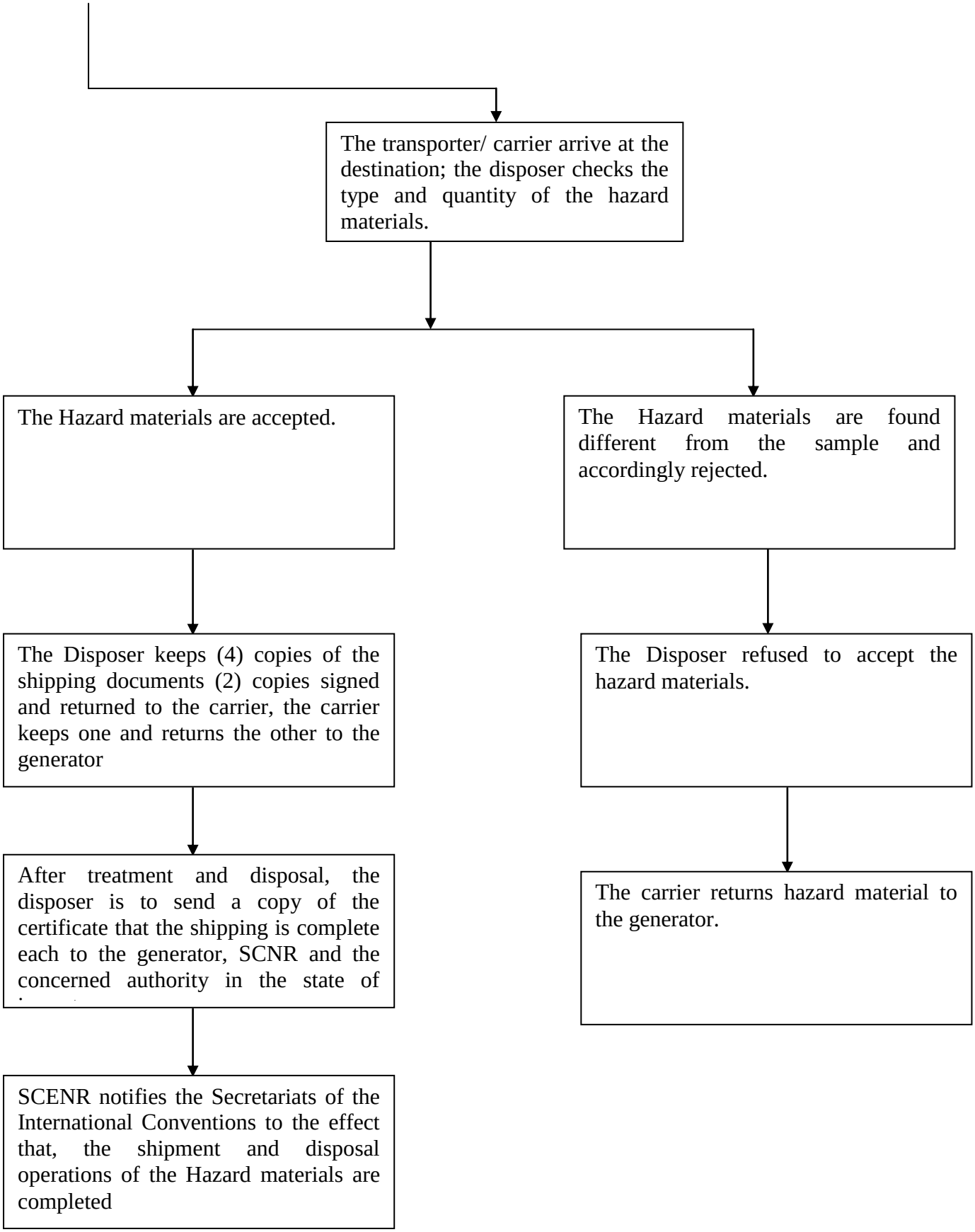
Annex 7/1

Chart demonstrating the procedures for shipping and Disposal of hazardous wastes

Annex 7/1

1- Chart demonstrating the procedures for shipping and Disposal of hazardous wastes:




The transporter/ carrier arrive at the destination; the disposer checks the type and quantity of the hazard materials.
The Hazard materials are accepted.
The Hazard materials are found different from the sample and accordingly rejected.
The Disposer keeps (4) copies of the shipping documents (2) copies signed and returned to the carrier, the carrier keeps one and returns the other to the generator
The Disposer refused to accept the hazard materials.
After treatment and disposal, the disposer is to send a copy of the certificate that the shipping is complete each to the generator, SCNR and the concerned authority in the state of
The carrier returns hazard material to the generator.
SCENR notifies the Secretariats of the International Conventions to the effect that, the shipment and disposal operations of the Hazard materials are completed

Annex 7/2

Summary Report of the Hazardous Wastes (WPS) by the generator Sections (a-b)

2- Wastes Summary Report (WPS) by the Generator

Section: (a) the Cover

The Generator	
The Factory/ plant	
Address (Wastes site)	
Address	
Data about the number of Wastes resources from Section (b)	
WPS number from:	**To WPS number:**
In case of changes in the wastes resources given above give the WPS No.	
I, in my capacity as a representative of the company referred to above, I acknowledge that the statements given in parts: (a - b) of the wastes (WPS) summary report are correct and accurate. All known and suspected risks are revealed.	

Name: **Designation**
Telephone No. **Fax**
Date

Section: (b) WPS number:

1-Wastes Generator						
2- Wastes Exporter						
3- Amount & frequency of wastes Generated:	**once**		**daily**		**weekly**	
	monthly		**annually**		**other**	
	Quantity				**Metric tons**	
4- Amount & frequency of wastes shipping	**once**		**daily**		**weekly**	
	monthly		**annually**		**other**	
	Quantity				**Metric tons**	
5-Amount of wastes& type of storage in the site (packed/ unpacked)	**unpacked**		**packed in drums**			
	heap		**in tanks**			
	In pits/pools		**in buckets**			
	other		**Quantity**		**Metric tons**	
6- Brief description of the wastes generating (include raw materials, chemicals used,						

chemical reactions, main products, secondary products.. etc
use additional sheets of paper if necessary.

7- Physical properties of the wastes:
tick as appropriate

homogenous		**Non-homogenous**		**Can be pumped**	
Can not be pumped		**powder**		**liquid**	
sediments		**granules**		**solid**	
suspension		**paste**		**sticky**	
soluble		**density**		**pH**	
color		**smell**		**appearance**	
Boiling point		**Melting point**			

8- The hazardous nature of the wastes:

flammable		**interacting**		**corrosive**	
oxidizer		**explosive**		**poisonous**	
infectious		**radioactive**		**Other (give details)**	

The chemical components of the wastes:

List the elements that affect the physical nature and make the wastes hazardous. Use the proper chemical names and if the formula is based on an analysis attach the laboratory analysis.

Annex (7/3)

Approval of the wastes sample
Referred to in the Summary Report (WPS)

Annex (7/3)

Approval of the sample of wastes
Referred to in the Summary Report (WPS)

1-Date & Time of taking the sample						
Type of the sample	**random**		**random**		**other**	
2- Source of the sample						
3- The equipment & the method of taking the sample:						
4- The amount of the sample taken:						
5-The type of the container in which the sample is taken:						
6-The equipment & the container in which the sample is taken are they decontaminated before use?						
7- At the time of taking the sample, I affixed a label containing the following information" (complete the label below and sign it)						

the Generator:	
The type of wastes	
Date & time of taking the sample	
Signature of the sample taker	

8 - Date & time of sending/ handing over the sample:

Name of the authorized person	**Signature**
Designation	**Date**

Annex (7/4)

Categories of Wastes to be Controlled

Categories of wastes to be Controlled

a- Waste Streams

Y1	**Clinical wastes from medical care in hospitals, medical centers and clinics**
Y2	**Wastes from the production and preparation of pharmaceutical products**
Y3	**Waste pharmaceuticals, drugs and medicines**
Y4	**Wastes from the production, formulation and use of biocides and phyto-pharmaceuticals**
Y5	**Wastes from the manufacture, formulation and use of wood preserving chemicals**
Y6	**Wastes from the production, formulation and use of organic solvents**
Y7	**Wastes from heat treatment and tempering operations containing cyanides**
Y8	**Waste mineral oils unfit for their originally intended use**
Y9	**Waste oils/water, hydrocarbons/water mixtures, emulsions**
Y10	**Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)**
Y11	**Waste tarry residues arising from refining, distillation and any pyrolytic treatment**
Y12	**Wastes from production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish**
Y13	**Wastes from production, formulation and use of resins, latex, plasticizers,**

	glues/adhesives
Y14	**Waste chemical substances arising from research and development or teaching activities which are not identified and/or are new and whose effects on man and/or the environment are not known**
Y15	**Wastes of an explosive nature not subject to other legislation**
Y16	**Wastes from production, formulation and use of photographic chemicals and processing materials**
Y17	**Wastes resulting from surface treatment of metals and plastics**
Y18	**Residues arising from industrial waste disposal operations**

b- Wastes having as constituents:

Y19 Metal carbonyls

Y20 Beryllium; beryllium compounds

Y21 Hexavalent chromium compounds

Y22 Copper compounds

Y23 Zinc compounds

Y24 Arsenic; arsenic compounds

Y25 Selenium; selenium compounds

Y26 Cadmium; cadmium compounds

Y27 Antimony; antimony compounds

Y28 Tellurium; tellurium compounds

Y29 Mercury; mercury compounds

Y30 Thallium; thallium compounds

Y31 Lead; lead compounds

Y32 Inorganic fluorine compounds excluding calcium fluoride

Y33 Inorganic cyanides

Y34 Acidic solutions or acids in solid form

Y35 Basic solutions or bases in solid form

Y36 Asbestos (dust and fibres)

Y37 Organic phosphorus compounds

Y38 Organic cyanides

Y39 Phenols; phenol compounds including chlorophenols

Y40 Ethers

Y41 Halogenated organic solvents

Y42 Organic solvents excluding halogenated solvents

Y43 Any congenor of polychlorinated dibenzo-furan

Y44 Any congenor of polychlorinated dibenzo-p-dioxin

Y45 Organohalogen compounds other than substances referred to in this Annex

(e.g. Y39, Y41, Y42, Y43, Y44)

Annex (7/5)

Categories of Wastes
Requiring Special Consideration

Categories of Wastes
Requiring Special Consideration

5- Categories of Wastes Requiring Special Consideration

Y46	**Wastes collected from households**
Y47	**Residues arising from the incineration of household wastes**

Annex (7/6)

List of the characteristics
Of the hazardous Wastes

6- List of the characteristics Of the hazardous Wastes

UN Class	Code	Characteristics
1	H1	**Explosive** **An explosive substance or waste is a solid or liquid substance or waste (or mixture of substances or wastes) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.**
3	H3	**Flammable liquids** **The word "flammable" has the same meaning as "inflammable". Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc., but not including substances or wastes otherwise classified on account of their dangerous characteristics) which give off a flammable vapour at temperatures of not more than 60.5ºC, closed-cup test, or not more than 65.6ºC, open-cup test. (Since the results of open-cup tests and of closed-cup tests are not strictly comparable and even individual results by the same test are often variable, regulations varying from the above figures to make allowance for such differences would be within the spirit of this definition.)**
4.1	H4.1	**Flammable solids** **Solids, or waste solids, other than those classed as explosives, which under conditions encountered in transport are readily combustible, or may cause or contribute to fire through friction.**
4.2	H4.2	**Substances or wastes liable to spontaneous combustion** **Substances or wastes which are liable to spontaneous heating under normal conditions encountered in transport, or to heating up on contact with air, and being then liable to catch fire.**
4.3	H4.3	**Substances or wastes which, in contact with water emit flammable gases:** **Substances or wastes which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.**

5.1 H5.1 Oxidizing

Substances or wastes which, while in themselves not necessarily combustible, may, generally by yielding oxygen cause, or contribute to, the combustion of other materials.

5.2 H5.2 Organic Peroxides

Organic substances or wastes which contain the bivalent-o-o-structure are thermally unstable substances which may undergo exothermic self-accelerating decomposition.

6.1 H6.1 Poisonous (Acute)

Substances or wastes liable either to cause death or serious injury or to harm health if swallowed or inhaled or by skin contact.

6.2 H6.2 Infectious substances

Substances or wastes containing viable micro organisms or their toxins which are known or suspected to cause disease in animals or humans.

8 H8 Corrosives

Substances or wastes which, by chemical action, will cause severe damage when in contact with living tissue, or, in the case of leakage, will materially damage, or even destroy, other goods or the means of transport; they may also cause other hazards.

9 H10 Liberation of toxic gases in contact with air or water

Substances or wastes which, by interaction with air or water, are liable to give off toxic gases in dangerous quantities.

9 H11 Toxic (Delayed or chronic)

Substances or wastes which, if they are inhaled or ingested or if they penetrate the skin, may involve delayed or chronic effects, including carcinogenicity.

9 H12 Ecotoxic

Substances or wastes which if released present or may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects upon biotic systems.

9 H13 Capable, by any means, after disposal, of yielding another material, e.g., leachate, which possesses any of the characteristics listed above.

Corresponds to the hazard classification system included in the United Nations Recommendations on the Transport of Dangerous Goods (ST/SG/AC.10/1Rev.5, United Nations, New York, 1988).

Annex (7/7)

Treatment and disposal Operations

7- Treatment and disposal Operations

Section -a. Operations that does not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses:

This section encompasses all such disposal operations as follows:

The Code	The Operation
D1	**Deposit into or onto land, (e.g., landfill, etc.)**
D2	**Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)**
D3	**Deep injection, (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.)**
D4	**Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)**
D5	**Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)**
D6	**Release into a water body except seas/oceans**
D7	**Release into seas/oceans including sea-bed insertion**
D8	**Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A**
D9	**Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.)**
D10	**Incineration on land**
D11	**Incineration at sea**
D12	**Permanent storage (e.g., emplacement of containers in a mine, etc.)**
D13	**Blending or mixing prior to submission to any of the operations in Section A**
D14	**Repackaging prior to submission to any of the operations in Section A**
D15	**Storage pending any of the operations in Section A**

Section -b: Operations which may lead to resource recovery, recycling reclamation, direct re-use or alternative uses:

This Section encompasses all such operations with respect to materials legally defined as or considered to be hazardous wastes and which otherwise would have been destined for operations included in Section (a).

The code	The Operation
R1	**Use as a fuel (other than in direct incineration) or other means to generate energy**
R2	**Solvent reclamation/regeneration**
R3	**Recycling/reclamation of organic substances which are not used as solvents**
R4	**Recycling/reclamation of metals and metal compounds**
R5	**Recycling/reclamation of other inorganic materials**
R6	**Regeneration of acids or bases**
R7	**Recovery of components used for pollution abatement**
R8	**Recovery of components from catalysts**
R9	**Used oil re-refining or other reuses of previously used oil**
R10	**Land treatment resulting in benefit to agriculture or ecological improvement**
R11	**Uses of residual materials obtained from any of the operations numbered R1-R10**
R12	**Exchange of wastes for submission to any of the operations numbered R1-R11**
R13	**Accumulation of material intended for any operation in Section B**

Annex (7/8)

Information to be provided in the notification of Trans-boundary movement of Hazardous Wastes

Annex (7/8)

8- Information to be provided in the notification of trans-boundary movement of the hazardous wastes:

1. **Reason for waste export**
2. **Exporter of the waste**
3. **Generator(s) of the waste and site of generation**
4. **Disposer of the waste and actual site of disposal**
5. **Intended carrier(s) of the waste or their agents, if known**
6. **Country of export of the waste**

   Competent authority
7. **Expected countries of transit**
   Competent authority
8. **Country of import of the waste**
   Competent authority
9. **General or single notification**
10. **Projected date(s) of shipment(s) and period of time over which waste is to be exported and proposed itinerary (including point of entry and exit)**
11. **Means of transport envisaged (road, rail, sea, air, inland waters)**
12. **Information relating to insurance**
13. **Designation and physical description of the waste including Y number and UN number and its composition / and information on any special handling requirements including emergency provisions in case of accidents**
14. **Type of packaging envisaged (e.g. bulk, drummed, tanker)**
15. **Estimated quantity in weight/volume**
16. **Process by which the waste is generated**
17. **For wastes listed in Annex (7/4) of this bylaw, classifications from Annex (7/6) of this bylaw regarding the hazardous characteristic, H number, and UN classification.**
18. **Method of disposal as per Annex (7/7)**

19. **Declaration by the generator and exporter that the information is correct**

20. **Information transmitted (including technical description of the plant) to the exporter or generator from the disposer of the waste upon which the latter has based his assessment that there was no reason to believe that the wastes will not be managed in an environmentally sound manner in accordance with the laws and regulations of the country of import.**

21. **Information concerning the contract between the exporter and the disposer.**

Annex (7/9)

Information to be provided on the Document of Trans-boundary movement of Hazardous Wastes

Annex (7/9)

9- Information to be provided on the document of trans-boundary movement of the hazardous wastes:

1. **Exporter of the waste**
2. **Generator(s) of the waste and site of generation**
3. **Disposer of the waste and actual site of disposal**
4. **Carrier(s) of the waste 1/ or his agent(s)**
5. **Subject of general or single notification**
6. **The date the trans-boundary movement started and date(s) and signature on receipt by each person who takes charge of the waste**
7. **Means of transport (road, rail, inland waterway, sea, air) including countries of export, transit and import, also point of entry and exit where these have been designated**
8. **General description of the waste (physical state, proper UN shipping name and class, UN number, Y number and H number as applicable)**
9. **Information on special handling requirements including emergency provision in case of accidents**
10. **Type and number of packages**
11. **Quantity in weight/volume**
12. **Declaration by the generator or exporter that the information is correct**
13. **Declaration by the generator or exporter indicating no objection from the competent authorities of all States concerned which are Parties**
14. **Certification by the disposer of receipt at designated disposal facility and indication of method of disposal and of the approximate date of disposal.**

Annex (8)

Rules for the Import, Production, Handling and Transportation of Hazardous Materials

Annex (8)

Rules for the Import, Production, Handling and Transportation of hazard materials:

First: The Categorization of the hazard materials.

Second: The labelling of the hazard materials & Secondary of the hazard Labels.

Third: Requirements for the Separation of the hazard materials.

Fourth: Packing of the Hazardous materials.

Annex (8/1st)

First : The Categorization of the hazard materials

Annex (8/1st)

First : <u>The Categorization of the hazard materials</u>

1. For the proper categorization of any hazard materials you should refer to the present UN directions and the procedures for testing such hazard materials.
2. As a guideline, the hazard materials are categorized as follows:

Category	(1)	:	Explosives
"	(2)	:	Liquefied or pressurized gasses.
"	(3)	:	Flammable liquids.
"	(4)	:	Flammable solid substances.
"	(5)	:	Oxidizers.
"	(6)	:	toxic / poisonous agents
"	(7)	:	Radioactive substances.
"	(8)	:	Corrosive substances.
"	(9)	:	Miscellaneous.

<u>Category (1)</u> Explosives:

1. Explosives with the exception of those which are too dangerous to be transported or those materials the obvious danger of them may any fit in another category.

N.B.: The substance which is not exploding by itself but can create an explosive atmosphere of gas, vapor or dust is not listed in category (1).

2. The explosives, with the exception of those devices which contain some explosive substance of a type and quantity which their spontaneous combustion or during handling will not cause any exterior effects on the device such as smoke, heat, protrusion or loud noise.

3. Substances / items not mentioned in the two preceding paragraphs which are manufactured for simulating an explosion similar to fireworks.

Category (1) is subdivided into the following:

Category 1-1: Materials/ substances which have the danger of total explosion, namely the explosion which practically affects the whole load promptly.

Category 1-2: Materials/ substances which cause the packages' surface to protrude with no danger of total explosion.

Category 1-3: Materials/ substances which cause small fire or explosion or protrusion or both, with no danger of total explosion..

This category includes substances releasing great radiating heat or burn one after another causing small explosion or protrusion or both.

Category 1-4: Materials/ substances which pose only minor hazard.

This category includes substances that pose minor hazard when burning due to vibrations during transportation. It mainly affects the packing of the product and no fragments came out. The external burning does not necessarily lead to spontaneous explosion of all the contents of the packing.

Category 1-5: Non-sensitive substances which may cause a major explosion.
This category includes the non-sensitive substances, but the possibility of their explosion in the ordinary circumstances of transport is very slim.

Category 1-6: Non sensitive substances, with no risk of total explosion. Such substances may explode but with no spontaneous expansion.

* **Category (1)** is generally unique and the packing plays an important role in the risk factor and consequently determines in what sub-division to categorize the item within this category.

Category (2) Liquefied or pressurized gasses

(i) This category include liquefied or pressurized, dissolved gasses, or a gas mixed with other gasses or with vapours of substances of other categories charged with tellurium hexafluoride and sprays with a capacity of more than one litre.

(ii) This category includes the following type of gasses:

a. The vapour pressure of the gasses at 50◦ is larger than 300 kilo Pascal.

b. It becomes totally gaseous at 20◦ and a standard pressure of 101.3 kilo Pascal.

(iii) The gas in its physical condition is described as follows:

a. Pressurized gas: pure un-dissolved gas when packed under pressure, it is totally in gaseous condition at 20◦c.
b. Liquefied gas: when packed it is partially liquid at 20◦c.
c. Liquefied cooled gas: when packed it is partially liquefied due to its low temperature.
d. Dissolved gas: Pressurized gas when packed it is dissolved in a solution.

4. Sub-divisions of category 2:

a. Category (2-1): Flammable gasses.
b. Category (2-2): Non flammable non-toxic (poisonous) gasses.
c. Category (2-3) : Toxic gasses.

Category **(2-1)** : When at 20◦c and standard pressure at 101.3 kilo Pascal it is:

- Flammable when mixed with 13% of air or less.
- It flammable when exposed to air at 12% point regardless of the minima for explosion.

The flammability is tested and calculated subject to the methods approved by ISO. When there is no sufficient data to use these methods, it can be tested using comparative methods as approved by the concerned authority.

N.B:

Packed spray with (1) litre capacity (UN 1950) and small vessels containing gas (UN 2037) fall within category (2-1).

Category **2-2-** Non flammable non-toxic (poisonous)

Gasses packed at a pressure 280 kilo Pascal and temperature 20◦c or as cooled liquids are:

- Suffocating gasses that reduce or replace the oxygen available in the air.
- Oxidizers which can lead to the burning of other substances.

Category**: (2-3)-** poisonous gasses

Very poisonous and corrosive gasses and pose a hazard to human health. An amount of (LC 50) or less is capable of killing 50% of the living organism.

Category **(3)-** flammable liquids

This category **i**ncludes the flammable liquids. Liquids with a flash point not exceeding 61◦c fall within this category with the following exceptions:

a. Liquids with a flash point not less than 23◦c and not exceeding 61◦c, but with burning point exceeding 104◦c or boil before reaching the burning point. This criterion excludes so many flammable liquids and some blends of petroleum products because their flash point does not pose a real hazard of burning.
b. Water based solutions which contain no more than 24% of ethanol.
c. Alcoholics and similar products for human consumption when packed in bottles of not more than 5 litres.
d. Substances which fall in other categories due to their hazardous properties.

Category (4). Flammable solid substances which spontaneously burn, and when in contact with water they discharge flammable gasses: This category includes the following:

a. Flammable solid substances.
b. Substances with spontaneous reaction and associated substances.
c. Neutralized explosives.

Properties / Characteristics of the Flammable solid substances

The solid substances which burn easily and also can cause fire in case of friction. These substances in powder form, granular or paste pose a hazard if ignited with spark. The hazard may result not only from fire but also from the toxic smoke of its components. Water and carbon fire extinguishers shall not extinguish the fire resulting from metal powder but may increase the fire.

b- **Properties of Spontaneous reaction substances**

A substance should not be classified in this category (4-1) unless it fulfils the following conditions:

- Explosives as per the criteria for category (1).
- Oxidizers as per the conditions for category (1-5).
- Organic ultra oxides as per the criteria for category (5-2).
- It disintegrates at a temperature less than 300 joules / kg.
- The acceleration of the temperature in which it disintegrates is more than 75◦c.

N.B.: The temperature in which the substance disintegrates can be calculated by any internationally approved method.

C: Neutralized explosives are substances which becomes cool in water or in alcohol or when other substances are added to neutralize their explosive properties.

Category (4-2) Substances with spontaneous combustion

a. Substances with spontaneous combustion.
b. Substances with spontaneous heating.

Properties of these Substances

Spontaneous heating which leads to spontaneous combustion is due to the interaction of the substance with oxygen and when heat is not relayed to the outer surface quickly.

There are (2) types of substances which spontaneously burn:

a. The type which include solid or liquid substances which burn within (5) minutes of being in contact with the air.
b. Other substances which are heated spontaneously when get in contact with the air. They burn spontaneously only if they are in large quantity (one kg or more) and after being exposed to the air for hours or days.

Category (4-3) substances when in contact with water they discharge flammable gasses:

These substances when in contact with water they discharge flammable gasses. These gasses can be ignited by a spark or if exposed to lamps. The resulting explosion may endanger the safety of human beings and the environment. An example of such substances is calcium carbide.

Category (5): Oxides and ultra Oxides

Subdivisions of this Category:

a. **Category (5-1) Oxides**

Oxides are not spontaneously burning but they release oxygen and this increase the possibility of causing fire and thereby accelerate the burning process.

b. **Category (5-2) ultra Oxides**

2. Most of organic ultra oxides are spontaneously burning and they all contain (bivalent 0-0-). These substances act as oxidizers and can easily interact with other solid or liquid substances dangerously. They are sensitive to friction or impact.
3. Due to the different properties of the substances included in category (5-1) and (5-2) therefore there is no single criteria applied to categorize the substances within any one of these two categories. The concerned authorities may lay down the criteria and tests for this purpose.
4. Category (5-1) and (5-2) are treated as separate categories for the purposes of labelling the containers and the trucks for shipment.

Category (6)- Poisonous substances

Subdivisions of this Category:

a. **Category (6-1-a)- Poisonous substances**

They are the substances which cause death or severe injury if swallowed, inhaled or if they come in contact with the skin.

b. **Category (6-1-b)- Harmful substances**

They are the substances harmful to the human health if swallowed, inhaled or if they come in contact with the skin.

c. Category (6-2)- Infectious substances

They are the substances which contain bacteria, viruses, parasites, fungus, and genetically engineered organism, known or reasonably believed to cause diseases to the humans or animals.

Criteria for Poisonous categorization

Physical condition of the substance	Oral dose LD50 (ml/kg)	In contact with the skin LD50 (ml/kg)	Inhaled LD50 (ml/kg)
Solid	200	1000	10
Liquid	500	1000	10

N.B.

LD50 is the dose capable of killing 50% of the living organism within the area in which it is discharged.

Category (7) - Radioactive Substances

This category includes the substances or a union of substances that release spontaneous radiations.

Category (8)- Corrosive Substances

They are the substances which through chemical reaction cause severe damage to the organic tissues or other substances if leaked during transportation.

Category (9)- Miscellaneous

Various types of hazardous chemicals not falling within the categories given above that pose a minor hazard to the humans and to the environment, and not covered by the criteria of the other substances given above.

Annex (8/ 2nd)

Labelling of Categories
& Secondary danger Labels

Annex (8/ Secondly)

Secondly: Labelling of Categories & Secondary Hazard Labels

Colour and Design of the Labels

Category	The Symbol	label Colour & Design
1-1 1-2 1-3		**The background is orange as per the colour given in schedule (1-1). The text and numbers if any are to be black**
1-4		**The background is orange as per the colour given in schedule (1-1). The text and numbers if any are to be black**
1-5		**The background is orange as per the colour given in schedule (1-1). The text and numbers if any are to be black**
1-6		**The background is orange as per the colour given in schedule (1-1). The text, symbols and numbers if any are to be black**
1-2		**The background is red as per the colour given in schedule (1-1). The text, symbols and numbers if any are to be black or white.**
2-2		**The background is green as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black or white.**
2-2		**The background is yellow as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black.**

2-3		**The background is white The text and numbers, symbols if any are to be black.**
3		**The background is red as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black or white.**
1-4		**The background is (7) red and (6) white vertical stripes as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black or white**
2-4		**The upper half of the background is white and the lower half red as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black**
3-4		**The background is blue as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black or white**
1-5		**The background is yellow as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black**
2-5		**The background is yellow as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black**
1-6 a		**The background is white. The text and numbers, symbols if any are to be black**
1-6 b		**The background is white. The text and numbers, symbols if any are to be black**

2-6		**The background is white. The text and numbers, symbols if any are to be black**
		**The upper half of the background is yellow and the lower half white as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black. The size of the label should not be less than 250mmx 50 mm.**
7		**The background is white. The text and numbers, symbols if any are to be black. The word radioactive is to be followed by a red vertical bar as per the colour given in schedule (1-1).**
7		**The upper half of the background is yellow and the lower half white as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black. The word radioactive is to be followed by (2) red vertical bars as per the colour given in schedule (1-1).**
7		**The upper half of the background is yellow and the lower half white as per the colour given in schedule (1-1). The text and numbers, symbols if any are to be black. The word radioactive is to be followed by red vertical bars as per the colour given in schedule (1-1).**
8		**The upper half of the background is white and the lower half is black. The text and numbers, symbols are to be white.**
9		**The upper half of the background is (7) black and (6) white stripes. The lower half is white. The text and numbers, symbols are to be black.**

N.B:

- **The text on the categories labels and the secondary hazard labels can be written on one line.**
- **On the categories labels and the secondary hazard labels there should be a border with the same colour as that of the symbol. The border is (5) mm long if the label is (100 mm x 100mm). The labels should be square placed at angle 45 like a diamond.**
- **The categories labels can be used as secondary hazard labels provided that the lower angle of the category label is to be removed. Category (6) labels only are to be affixed on the containers and packages containing hazardous materials falling within categories (6-1 a) and (6-1 b).**

Colour on the Labels

The colour of each label used on the containers and packages should be compatible with the colour scheme given in column (2) of schedule (1-1) below. The ink used for printing the label should be fast and cannot be erased easily.

Schedule (1-1)

Column (1) Colour of the Label	Column (2): the Colour sample subject to Pantone system
Orange	Pantone 151
Red	Pantone 195
Green	Pantone 361
Blue	Pantone 300
Yellow	Pantone 109

All containers and packages are to be labelled correctly subject to UN's directives and the UN's classification and identification numbers.

Annex (8/3rd)

Third: Requirements for the Separation of Hazardous Materials

Annex (8/3rd)

Third: Requirements for the Separation of hazardous materials

a. General Requirements

Category	1-1	1-2	2-2	3-2	1-3	1-4	2-4	3-4	1-5	2-5	1-6	8
1-1		C	C	C	C	C	C	C	C	C	C	C
1-2	C			C	B	B	C	B	C	C	B	B
2-2	C			C	A	A	B	A	A	B	A	A
2-3	C	C	C		C	C	C	C	C	C	C	C
3-1	C	B	A	C		B	B	B	C	C	B	A
4-1	C	B	A	C	C		B	B	C	C	B	A
4-2	C	C	B	C	C	B		B	C	C	B	A
4-3	C	B	A	C	C	B	B		C	C	B	B
5-1	C	C	A	C	C	C	C	C		B	B	B
5-2	C	C	B	C	C	C	C	C	B			B
6-1	C	B	A	C	C	B	B	B	B	C		A
8	C	B	A	C	C	A	A	B	B	B	A	

N.B:

For separating two categories of the hazardous materials use the alphabetical letter at the intersection of the vertical line representing the first category with the horizontal line representing the other category:

- **(A) Means: the distance for separation is to be at least (3) meters away from the other categories.**
- **(B) Means: the distance for separation is to be at least (5) meters away.**
- **(C) Means: they should not be stored in the same room and the distance for separation is to be at least (10) meters.**
- **The prescribed distance of separation can be reduced if there is strict compliance with the safety measures.**
- **Hazardous materials should be stored away from the place of work if possible.**
- **If hazardous materials are stored in industrial installations, the distance of separation should be at least (3) meters away from the production of non- flammable materials, and it should be at least (10) meters away from any source of hazard.**

B -Requirements for the Separation of the hazard materials

The hazard materials should be separated in an isolated place away from the public as follows:

The category	The minimum distance in meters
1	50
1-2	5
2-2	5
2-3	15
1-3	10
1-4 to 4-3	5

5-1 to 5-2	**5**
6-1 or 6-3	**5**
8	**5**

The storekeeper is to be well trained and experienced.

Annex (8/4th)

Packing of Hazardous Materials

Annex (8/4th)

Fourth: Packing of Hazard materials

a. General Requirements for Packing

(i) **Hazard materials should be packed in a good quality packing and capped and sealed properly to avoid any spill or leak during loading/ unloading and shipping. These provisions are applicable to new and re-used packing materials. No considerable amount of any hazardous material is to be attached outside the packing (e.g. as a sample).**

(ii) **The new or re-used packing should comply with the approved quality of packing and pass the quality control test to the satisfaction of the concerned administrative authority.**

(iii) **The coating of the packing in direct contact with the elements or compounds of the hazardous substance is to be resistant to the chemical or any other effects of the substance so as to avoid interaction and corrosion and consequently result in leak or spill or reaction. The packing should not be made of plastic or material that may be affected by the heat or chemical reaction with the contents of the substance or use a cooling substance. The packing material should cater for the nature of the substance to be packed.**

(iv) **The exterior body of the packing and the interior coating or surface should be resistant to vibrations. The corks or caps are to be tightly fixed by air vacuum means. It is to be designed in a way that makes it easy to inspect/ check the packing.**

b. Interior Packing of the items

(i) Coating / lining material

The proper coating / lining of the items inside the packing should be made to absorb any shock /friction and this helps to avoid damage or leak. Buffer material/ sponge fitted tightly will also prevent the movement of the items inside the packing.

2. <u>Absorbing elements</u>

Unless otherwise provided, the liquids falling within the category (3), (4) or (8) and in section (1-5) or (1-6) which are categorized as substances posing severe or moderate danger are to be filled in glassware or ceramic jars / containers and the packing is to be made of the proper material which can absorb any leakage of liquids. The outer surface of the packing should be waterproof.

c. <u>Other Packing Requirements</u>

(i) The nature and thickness of the outer surface of the packing material should prevent any friction, and consequent heat which may cause chemical reaction of the contents.

(ii) Homogenous items containing dangerous liquids (except flammable liquids in bottles of 120 ml or less or infectious substances) are to be packed with the top of the bottles or jars facing upward. A label is to be affixed on the package /cartoon showing the upward direction (This side up).

(iii) The volume of the cartoon or packing is to be sufficient for affixing labels or stickers containing information required as per the provisions of this bylaw or any other national laws.

(iv) The packing specifications and UN's classification / identification are to be used as per the present bylaws based on the recommendations of UN's committee of Experts regarding the transfer of hazardous materials.

d. The labels: The types, the quality and specifications of the labels to be affixed on the packages should be as follows :

(i) The labels are to be of good adhesive type that cannot be easily removed and the data written on the labels cannot be erased in the ordinary shipping conditions.

(ii) There are two types of labels:

a. Danger / hazard warning labels it is for hazard materials of all categories.

b. Handling labels: required in all cases.

(iii) The handling and danger warning labels affixed on the packages of hazardous materials should be designed in pursuance of the design samples given in this bylaw, namely compliance with the colour, text and symbols used. The dimensions of the danger warning labels should be at least (100 ml x 100) mm unless otherwise provided. The symbol is to be placed in the upper part of the label whereas the text is in the bottom with the category number except the labels in categories (1 – 4), (1 – 5), (1 – 6).

(iv) The text indicating the hazardous nature of the material should be in English unless otherwise provided. This is applicable also in relation to the handling labels. The label may contain brief information about the manufacturer, but this should be in the margin in small font.

(v) The Hazard warning labels:

a. It identifies the category of substance. There is a label which identifies the secondary hazards as per the UN's recommendations.

b. The label which identifies the major danger/ hazard of the substance should include the category number in the bottom corner of the label. The category number should not be written on the secondary hazard label.

(vi) Prohibited labels:

a. The diameter of cylinder bottles or other small containers should not be so small as not to be sufficient to affix the complete label clearly without being folded.

b. It is prohibited to affix labels containing arrows other than the arrows showing the direction of the packing (this side up) if it contains hazardous liquids.

(vii) Sticking the labels :

a. To be affixed on the package properly so as to be clearly seen.

b. To be affixed on the package in a background making contrast.

c. Not to be folded on many sides of the packing.

d. If the label cannot stick on the surface of the package it should be tightly tied to it.

e. Secondary hazard/ danger labels when used, they can be affixed beside the major danger / hazard labels.

f. At least two labels showing the right direction (this side up) are to be affixed on opposite sides of the packing.

g. <u>Other Requirements</u>

No objection to affix other labels prescribed by other bylaws as deemed fit provided that the labels are not contradictory to these provisions.

h. All packages are to be marked with the proper shipping details as per the UN directives, UN identification number followed by the UN unique number.

Date: 14/12/2022

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