

EXECUTIVE REGULATION

OF

LAW NUMBER 4 of 1994

EGYPT

PRIME MINISTER'S DECREE

**Prime Minister's Decree No. 338 of 1995
Issuing the Executive Regulations of the
Environment Law promulgated by
Law No. 4 of 1994⁽¹⁾**

The Prime Minister,
After reviewing Law No. 4 of 1994 promulgating
the Environment Law, and
The presentation made by the
Minister of Environmental Affairs after
consulting the Board of Directors of the
Environmental Affairs Agency, and
Pursuant to the opinion of the Council of State,

Decrees:

Article 1:

The provisions of the attached Executive Regulations of the Environment Law promulgated by Law No. 4 of 1994 shall come into force.

Article 2:

Without prejudice to the provisions of Article 1 of the aforementioned Law No. 4 of 1994, establishments wishing to extend the prescribed time limit for making the required adjustments are to submit their applications to the EEAA six months before the expiration of the three year period prescribed in the above-mentioned article. The applications shall include justifications for such an extension and the procedures taken for the implementation of the provisions of the attached Executive Regulations.

The EEAA shall be held to verify the submitted data and to ascertain how far the establishment is willing to implement the provisions of these Executive Regulations. The EEAA shall submit a detailed report, substantiated with documents, to the Minister for Environmental Affairs for presentation to the Cabinet.

The EEAA may, in preparing the report, resort to experts nominated for this purpose, in which case the applicant requesting the extension shall bear the costs estimated by the EEAA for these experts.

¹ Official Gazette, *el-WakaE el-Masreya*, Issue No. 51, 28 February 1995.

Article 3:

This Decree shall be published in the Official Gazette *el-Wakaé el-Masreya* and shall come into force on the day following the date of publication.

Issued in the Cabinet on the 18th of Ramadan 1415 Hejra Year
corresponding to the 18th of February 1995 A.D.

Prime Minister

Dr. Atef Sidki

Executive Regulation

OF

LAW NUMBER 4 of 1994

EGYPT

Table of Contents

| | |
|---|---|
| PRELIMINARY PART | |
| CHAPTER I: | General Provisions (ARTICLE 1) 1 |
| CHAPTER II: | Environmental Affairs Agency (ARTICLES 2 to 6) 3 |
| CHAPTER III: | Environmental Protection Fund (ARTICLES 7 to 8) ... 6 |
| CHAPTER IV : | Incentives (ARTICLE 9) 7 |
| | |
| PART ONE: | PROTECTION OF LAND ENVIRONMENT FROM POLLUTION |
| CHAPTER I: | Development and Environment 8 (ARTICLES 10 to 24) |
| CHAPTER II: | Hazardous Material and Waste 14 (ARTICLES 25 to 33) |
| | |
| PART TWO: | PROTECTION OF AIR ENVIRONMENT FROM POLLUTION (ARTICLES 34 to 49) 26 |
| | |
| PART THREE: | PROTECTION OF WATER ENVIRONMENT FROM POLLUTION |
| CHAPTER I: | POLLUTION FROM SHIPS 37 |
| SECTION I: | OIL POLLUTION(ARTICLES 50 TO 53)..... 37 |
| SECTION II: | POLLUTION FROM SEWAGE AND GARBAGE 40 (ARTICLES 54 TO 56) |
| | |
| CHAPTER II: | POLLUTION FROM LAND BASED SOURCES 41 (ARTICLES 57 to 60)..... |
| CHAPTER III: | ADMINISTRATIVE AND JUDICIAL PROCEDURES 44 (ARTICLES 61 to 63) |
| | |
| PART FOUR: | FINAL PROVISIONS (ARTICLES 64 to 65)..... 45 |
| | |
| ANNEXES TO THE EXECUTIVE REGULATIONS | 46 |

Table of Contents (cont'd)

| | | |
|-----------------|---|-----------|
| ANNEX 1 | Criteria and specifications for certain substances when discharged into the marine environment. | 47 |
| ANNEX 2 | Establishments subject to environmental assessment..... | 49 |
| ANNEX 3 | Model register of impact of an establishment activities on the environment [Environmental Condition Register | 51 |
| ANNEX 4 | Wild birds and animals prohibited from being hunted, killed or captured..... | 52 |
| ANNEX 5 | Maximum limits of outdoor air pollutants..... | 53 |
| ANNEX 6 | Permissible limits of air pollutants in emissions | 54 |
| ANNEX 7 | Permissible limits of sound intensity and periods of safe exposure thereto | 57 |
| ANNEX 8 | Maximum limits of air pollutants inside the work place according to type of industry | 60 |
| ANNEX 9 | Maximum and minimum limits of temperature and humidity, period of exposure thereto, and means of protection therefrom | 79 |
| ANNEX 10 | Non-degradable polluting substances which industrial establishments are prohibited from discharging into the marine environment | 82 |

**Executive Regulations of
the Environment Law**

PRELIMINARY PART

**Chapter I
General Provisions**

Article (1)

In the application of the provisions of these Executive Regulations, the following terms and expressions shall have the meanings hereby assigned to them:

1. Water Polluting Substances:

Any substance whose discharge into the water environment, intentionally or unintentionally, leads to a change in its properties, or contributes to such change directly or indirectly to an extent that can harm man, natural resources, sea water or marine tourist areas, or which interferes with other legitimate uses of the sea. These substances include:

- A- Oil or oily mixtures.
- B- Harmful and dangerous waste as determined in the international conventions to which the Arab Republic of Egypt adheres.
- C- Any other substances (solid-liquid-gas) designated in a decree issued by the Minister for Environmental Affairs.
- D- Untreated industrial waste or effluents from industrial establishments.
- E- Toxic military containers.
- F- Substances listed in the Convention and its annexes.

2- Discharges:

Any leakage, spillage, emission, drainage or disposal of any kind of polluting substances into the water of the territorial sea, the exclusive economic zone, the sea, the River Nile and the waterways, taking into consideration the levels determined for certain substances in Annex (1) of these Executive Regulations.

3. Compensation:

Means compensation for the damage resulting from pollution accidents in accordance with the application of the provisions of the Civil Code and the provisions of the International Convention on Civil Liability to which the Arab Republic of Egypt adheres or to which it will adhere in future, including the International Convention on Civil Liability for Damage resulting by Oil Pollution Accidents signed in Brussels in 1969, or from pollution accidents involving toxic or any other harmful substances as well as damage resulting from ships operated by nuclear power, from air pollution, from the pollution caused by the collision and keeling of ships or arising during their loading or unloading.

4. The Coastline:

The maximum extent on the land reached by sea water during the highest tide occurring within a period of not less than eleven years.

5. Territorial Sea:

It is the sea water extended seaward for 12 nautical miles from the coast of the Arab Republic of Egypt. It is measured from the baseline from which the width of territorial waters is measured in accordance with the provisions of the 1982 United Nations Convention on the Law of the Sea.

6. Exclusive Economic Zone:

The expanses of sea water extending beyond the territorial sea for a distance of two hundred nautical miles measured from the baseline.

7. The Sea:

The expanse of sea water lying beyond the Exclusive Economic Zone.

8. The Private Sea Zone:

Includes the Mediterranean and Red Sea areas according to the geographical and natural boundaries as determined in Rule (10) of Annex (1) of the (Maripool) Convention for 1973-1978.

Chapter II

The Environmental Affairs Agency

Article (2)

The Environmental Affairs Agency (EEAA) established by Law No. 4 of 1994 shall replace the agency established by Presidential Decree No. 631 of 1982 in all its rights and obligations, and the employees of the said agency shall be transferred with their grades and seniority to the EEAA and assigned in such capacity to the administrative sectors of the EEAA by a decree issued by its CEO.

Article (3)

The Board of Directors of the Environmental Affairs Agency shall be constituted pursuant to a decree issued by the Prime Minister. The Board shall be chaired by the Minister for Environmental Affairs and shall include the following members:

- * The CEO of the Agency, who shall be the deputy chairman of the Board.
- * At least one high-ranking representative, to be designated by the competent minister, from each of the following six ministries: Agriculture, Animal and Fish Resources and Agrarian Reform; Public Works and Water Resources; Transport and Communications; Industry; Interior and Health.
- * Two experts in the field of environmental affairs selected by the Minister for Environmental Affairs on the basis of a proposal from the CEO of the Agency.
- * Three non-governmental organizations concerned with the environment to be selected from among the candidates of these organizations to represent them on the Board of Directors, in agreement with the Minister for Environmental Affairs.
- * A senior employee of the EEAA selected by the Minister for Environmental Affairs on the basis of a proposal by the CEO of the Agency.
- * The director of the Legal Opinions Department concerned at the Council of State.
- * Three representatives from among the candidates put forward by the public business sector selected by the Minister for Environmental Affairs, on the basis of the nomination of the CEO of the Agency.

- * Two representatives from universities and scientific research centers selected by the Minister for Environmental Affairs from among the candidates put forward by the said bodies.

The representatives of the ministries concerned must be invited to attend Board meetings whenever subjects related to the sectors under their supervision are tabled for discussion. The Board may solicit the assistance of experts when considering specific issues, with no right for such experts to have a counted vote in the deliberations. The Board of Directors may form advisory committees of experts to study certain subjects and entrust one or more of the members of such committees with a specific task.

The secretariat of the Board of Directors shall be held by the Secretary General of the EEAA who shall not have a counted vote in the deliberations unless he was selected as a member of the Board of Directors. The Board of Directors shall be reconstituted every three years.

Article (4)

The EEAA Board of Directors is the supreme authority governing its affairs, running its business and drawing up the general policy it will follow. The Board may adopt whatever resolutions it deems necessary for the fulfillment of the objects for which the EEAA was established, within the framework of the national plan. It shall in particular have the authority to:

- * Approve national plans for the protection of the environment.
- * Approve contingency plans to deal with environmental disasters.
- * Prepare draft laws concerning the environment.
- * Approve experimental projects undertaken by the EEAA.
- * Approve environmental training policies and plans.
- * Approve the levels and ratios necessary to ensure the non pollution of the environment.
- * Approve standards and procedures for assessing the environmental impact of projects.
- * Supervise the Fund for the Protection and Development of the Environment.
- * Approve the organizational structure of the EEAA and its branches in the governorates.
- * Approve the by-laws and personnel regulations of the EEAA.
- * Approve the EEAA draft annual budget.

- * Consider all matters which the Chairman of the Board deems worthy to be presented to it and which lie within the EEAA scope of competence.
- * Determine which of its resolutions should be submitted to the Cabinet for a decision. In all cases, the Board of Directors shall be held to include with its resolutions, particularly those it decides to submit to the Cabinet, a study on the costs of implementing such resolutions and the expected results ensued.

Article (5)

The CEO of the Agency shall be responsible for implementing the general policy adopted to fulfill its objects and the resolutions of the Board of Directors. His responsibilities include:

- Exercising ministerial powers as prescribed in laws and regulations in respect of EEAA staff.
- Exercising ministerial powers as prescribed in various laws and regulations related to the management of the EEAA business, the running of its technical, financial and administrative affairs and the fulfillment of its objects.
- Exercising ministerial powers in the area of applying the provisions of Law No. 9 of 1983 promulgating the Law on Tenders and Auctions and its Executive Regulations.
- Developing the system of work in the EEAA, consolidating its departments and issuing the necessary resolutions to that end.
- Obtaining data and information related to the Agency objectives from various governmental and non-governmental bodies concerned both inside and outside the country.
- Ensuring the application of the provisions of the Environment Law and these Executive Regulations in agreement, coordination and cooperation with other legally competent establishments.

Article (6)

The EEAA shall have an organizational structure issued by a decision from its CEO with the approval of the Board of Directors and in agreement with the Central Agency for Organization and Administration and the Ministry of Finance.

Chapter III

The Environment Protection Fund

Article (7)

A special fund shall be established in the EEAA under the name "the Environment Protection Fund" to which shall devolve:

- a. Amounts allocated in the state budget to subsidize the fund.
- b. Grants and donations presented by national and foreign organizations for the purpose of protecting and promoting the environment and which are accepted by the Board of Directors of the EEAA.
- c. Fines levied and damages awarded or agreed upon for any harm caused to the environment.
- d. The financial resources of the Nature Reserves Fund provided for in Law 102 of 1983.
- e. The EEAA share in the 25% of the proceeds of duties imposed on travel tickets issued in Egypt in Egyptian currency, pursuant to Article 1 of Law 5 of 1986 and to the Prime Minister's Decree No. 697 of 1986, to a minimum of 12.5% of the total proceeds of the abovementioned duties.
- f. The returns from experimental projects undertaken by the EEAA.
- g. Amounts collected by the EEAA for services rendered to third parties.
- h. Fees for licenses issued by the EEAA.

Amounts collected on a temporary basis on account of fines and compensation for damage caused to the environment shall be deposited in the Fund and held in trust.

The Fund shall have a special balance sheet and its fiscal year shall commence and end with that of the state. Any surplus shall be carried over from one year to the next. The money in the Fund is deemed to be public money.

Article (8)

The resources of the Fund shall be allocated to the fulfillment of its objects, in particular to:

- * Confronting environmental disasters.
- * Experimental and pioneering projects in the field of protecting natural wealth and the environment from pollution.
- * Transfer of low cost technologies whose application has proved to be successful.
- * Financing the manufacture of model equipment, machinery and plants for the treatment of environmental pollutants.
- * Establishing and operating Environmental Monitoring Networks.
- * Establishing and administering Nature Reserves in order to preserve natural wealth and resources.
- * Confronting pollution from unknown sources.
- * Financing the studies required to prepare environmental programmes, assessing environmental impact and determining the standards and criteria that must be observed in order to protect the environment.
- * Participating in financing environmental protection projects undertaken by local administrative agencies and grass-roots organizations which are partly financed through popular participation.
- * Projects to combat pollution.
- * Disbursing bonuses for outstanding achievements in the area of protecting the environment.
- * Consolidating the EEAA basic structure and developing its activities.
- * Other objects aimed at protecting and developing the environment which are approved by the EEAA Board of Directors.

Chapter IV **Incentives**

Article (9)

Within six months from the date these Executive Regulations come into force, the EEAA shall, in collaboration with the Ministry of Finance, lay down a system of incentives which the EEAA and competent administrative bodies may offer to agencies, establishments, individuals and others who undertake activities or projects that protect the environment, provided due consideration is given when laying down such system to the privileges and conditions prescribed in laws and

decrees, particularly to those related to investments, customs, industry, cooperatives and others.

PART ONE

PROTECTING LAND ENVIRONMENT FROM POLLUTION

Chapter I

Development and the Environment

Article (10)

The competent administrative body or the licensing authority shall assess the environmental impact of the establishment applying for a license in accordance with the elements, designs, specifications and conditions issued by the EEAA in agreement with the competent administrative body. The EEAA shall revise its assessment whenever necessary.

Article (11)

The provisions of Article (10) of these Executive Regulations shall apply to the establishments listed in Annex (2) of these Executive Regulations.

Article (12)

The applicant for a license shall be held to attach to the application a detailed description of the establishment containing the data included in the model form prepared by the EEAA in agreement with the competent administrative body. The EEAA shall prepare a register comprising copies of this model form and the assessment results, as well as the requests made by the EEAA to the owner of the establishment.

Article (13)

The EEAA may resort to any experts whose names are included in a list to be issued by the EEAA in accordance with the criteria set by the EEAA Board of Directors, in order to get their opinion on the assessment of the environmental impact of the establishment intended to be constructed and for which a license is being sought.

Article (14)

The competent administrative body shall notify the establishment owner of the assessment result by registered letter with return receipt requested. The owner is entitled to object to such result in writing within a period of thirty days from the date of his notification before the Permanent Review Committee to be formed by a decree of the Minister for Environmental Affairs. The said Committee shall be chaired by a counselor from the Council of State and shall include the following members:

- A representative from the EEAA nominated by its CEO.
- The owner of the or whoever represents him by virtue of an official power of attorney.
- A representative of the competent body or of the licensing authority when it is not the competent body.
- Three experts to be selected as members of the Committee for a term of three years on the basis of their nomination by the Agency CEO.

The Committee may form sub-committees from among its members and others to study the objections referred to them and present reports thereon to the Committee. In performing its tasks, the Committee may solicit assistance from any quarter at its discretion, and shall be held to issue its decision within sixty days from the date of receiving the completed objection documents.

Article (15)

The Permanent Review Committee referred to in Article (14) above shall be competent to look into the objections submitted or referred to it in connection with assessment results or with the proposals which the EEAA requires to be executed, and shall formulate its opinion on such objections by reference to the standards prescribed in Article (10) of these Executive Regulations. Objections shall be submitted in writing to the EEAA and shall include the reasons for the objection and the legal and scientific grounds on which the project owner substantiates his objection. The latter shall also attach thereto such documents as it deems necessary to support the reasons for his objection.

Article (16)

The Committee shall convene at the invitation of the Agency CEO within fifteen days from the date the Agency receives the written objection. A representative from the Agency, delegated by the CEO, shall take minutes of the meeting without having a counted vote in the discussions. The Committee decision shall be issued by a simple majority of votes, and the minutes shall be signed by all attending members.

Article (17)

The establishment owner shall, pursuant to the provisions of these Executive Regulations, keep a register indicating the environmental impact of the establishment activities in which the following data shall be recorded:

- Emissions put out thereby or discharged therefrom.
- Specifications of discharges after the treatment process, and the efficiency of the treatment units used.
- Follow-up and environmental safety procedures applied in the establishment.
- Periodical tests and measures and their results.
- The name of the person in charge of follow-up.

The said register shall be prepared in accordance with the model form shown in Annex (3) hereto.

The establishment owner or his representative shall be held to notify the EEAA immediately, by means of registered letter with return receipt requested, of any deviation in the criteria and specifications of emitted or discharged pollutants and the procedures taken to rectify such deviations.

Article (18)

The EEAA shall be competent to follow-up the data recorded in the register to ascertain its conformity with the facts, as well as to take the necessary samples and conduct the appropriate tests to determine the environmental impact of the establishment activity and the extent of its adherence to the criteria laid down for the protection of the environment.

Such follow-up shall be regularly conducted every year and a report thereon deposited with the competent department in the EEAA. The report shall be signed by the officer in charge of follow-up and tests and shall indicate the date on which the follow-up was conducted. If any violations are discovered, the EEAA shall notify the competent administrative body which shall instruct the establishment owner, by means of a registered letter with return receipt requested, to rectify such violations forthwith in accordance with the proper rules of trade. If he fails to do so within 60 days, the CEO, in co-ordination with the competent administrative body, shall be entitled to take the following procedures:

1. Close down the establishment.
2. Suspend the contravening activity.
3. Claim adequate compensation through the courts to remedy the damage resulting from the violation.

Establishments shall permanently keep the registers duly completed according to the model form referred to in Article (17) hereof, . When entries are updated, the establishment shall be held to maintain the register for a period of ten years calculated from the date of the EEAA representative's signature thereon attesting to its review.

Article (19)

Expansions or renovations of an existing establishment are subject to the same provisions prescribed in Articles (19), (20), (21) and (22) of the Environment Law.

Any change in the production patterns of the operating machines or increase in the size of the manpower beyond the capacity of the work place or any essential modifications to the establishment buildings, particularly those related to the ventilation system or the relocation of the work premises or other similar modifications which may have a harmful effect on the environment or on the employees of the establishment, are considered expansions and renovations.

Article (20)

The existing Environmental Monitoring Networks, including the stations, shall be considered as work units administratively subordinate to their competent bodies and shall, within the scope of their competence, undertake to periodically monitor environmental components and pollutants and furnish the relevant data to the bodies concerned. To that end, they may resort to the help of research centers and competent bodies and agencies which shall be held to provide the Networks with the requested data and studies. The EEAA shall supervise the establishment and operation of the Environmental Monitoring Networks preliminary to setting up a national programme for environmental monitoring.

Article (21)

The EEAA shall, in cooperation with ministries, governorates, general authorities and other bodies concerned, lay down an emergency plan to confront environmental disasters which shall be approved by the Cabinet. The plan shall be based in particular on the factors indicated in the following phases:

(A) Phase prior to the occurrence of the disaster:

- Determining the types of environmental disasters and the areas most affected by them and identifying the expected impact of each type.
- Collecting information available locally and internationally on how to deal with environmental disasters and on the means of alleviating the damage resulting therefrom.
- Compiling a list of the resources available at the local, national and international levels and determining the optimal manner in which they can be deployed to deal promptly with the disaster.
- Determining the bodies responsible for reporting actual or impending disasters.
- Laying down the procedures appropriate for each type of disaster.
- Establishing a central operations room to receive reports on environmental disasters and follow-up the receipt and dispatch of accurate information thereon to mobilize the necessary resources so as to confront such disasters.
- Supervising, training and following up disaster-management teams at all levels.
- Facilitating the system and means of exchanging information between the various bodies on matters relating to disasters, and ensuring the efficiency of the system.
- Determining the means of exchange of and requests for assistance between the various bodies when managing a crisis and establishing the appropriate data bases.

(B) Phase when disaster is at its peak:

- Forming a task group to follow-up the confrontation of the environmental disaster upon its occurrence.
- Implementing the plans set for coordination and cooperation at the local, regional and central levels to ensure the uninterrupted flow of equipment and supplies to the disaster area.
- Realizing the optimum utilization of actual resources available to various organizations in dealing with the disaster.
- Specifying what each organization needs from the other organizations in the light of the evolution of the disaster.
- Determining the means of informing citizens of the disaster, its evolution and the means of dealing with its effects.

(C) Phase of removing the effects of the disaster

- Determining the manner of participation by various organizations in removing the effects of the disaster.
- Developing plans aimed at enhancing performance.
- Raising public awareness of the means for dealing with disasters.

(D) Phase of recording the results of the disaster and the lessons drawn therefrom:

- Recording the economic and social effects resulting from the occurrence of the disaster.
- Recording the lessons drawn from dealing with each disaster.
- Advancing proposals for the avoidance in future of shortcomings and deficiencies discovered during the confrontation.

Article (22)

The operation room referred to in Article (21) of these Executive Regulations shall form a work group to confront an environmental disaster upon its occurrence or at the time it is expected to occur. The work group shall include representatives from the various bodies concerned, and its head shall have all the powers necessary to confront the environmental disaster, in cooperation with the competent bodies.

Article (23)

All methods of hunting, killing or catching the birds and wild animals referred to in Annex (4) of these Executive Regulations are prohibited. It is also forbidden to possess, transport, circulate with, sell or offer to sell such birds and animals, either dead or alive, or to destroy the nests or eggs of the birds. The provisions of this Article shall apply to all Nature Reserves as well as to areas where animals and birds are threatened with extinction, as designated in a decree to be issued by the Minister of Agricultural or the governors in coordination with the EEAA.

Article (24)

It is forbidden to issue licenses for the hunting of the birds and wild animals referred to in Annex (4) hereof except for purposes of scientific research, overcoming an epidemic or for such other purposes as are approved by the EEAA. The application for a license shall be submitted in writing to the Ministry of Interior, indicating the species and number of birds or wild animals for which the hunting license is required, the purpose for which they will be hunted, the hunting period, the names of the person or persons to be licensed, and the method and weapons to be used in hunting. The said Ministry shall refer the application to the EEAA in order to ascertain its seriousness and importance.

Chapter II**Hazardous Substances and Waste****Article (25)**

It is forbidden to displace and use hazardous substances and waste without a license from the competent authority indicated for each as hereinbelow:

1. Hazardous agricultural substances and waste, including pesticides and fertilizers - Ministry of Agriculture.
2. Hazardous industrial substances and waste - Ministry of Industry.
3. Hazardous pharmaceutical, hospital and laboratory substances and waste and domestic insecticides - Ministry of Health.
4. Hazardous petroleum substances and waste - Ministry of Petroleum.
5. Hazardous substances and waste from which ionizing radiation is emitted - Ministry of Electricity - Nuclear Energy Authority.
6. Hazardous inflammable and explosive substances and waste - Ministry of Interior.
7. In respect of other hazardous substances and waste, the respective bodies competent to issue a license for their displacement shall be designated by a decree of the Minister for Environmental Affairs on the basis of a proposal by the CEO of the EEAS

The ministers heading the ministries mentioned in this Article shall, each within his scope of competence and in coordination with the Minister of Health and the EEAA, issue a table of hazardous substances and waste specifying:

- A. The types of hazardous substances and waste falling within his ministry scope of competence and their respective degrees of danger.

- B. The constraints to be observed in the displacement of each.
- C. The means of disposing of the empty containers of such substances after their displacement.
- D. Any other constraints or conditions the minister deems important to add.

Article (26)

The applicant for a license shall submit his application in writing to the competent authority as defined in Article (25) of these Executive Regulations in accordance with the following procedures and conditions:

Procedures for granting a license:

The license to handle hazardous substances and waste shall have a maximum validity period of five years unless an event entailing its review occurs. The competent administrative authority may, pursuant to the provisions of Article (40) hereof, grant temporary licenses for short periods as necessity dictates.

The body or individual wishing to obtain a license for the displacement of hazardous substances or waste shall submit an application containing the following data:

- 1- Handler of hazardous substances and waste:
 - Name of establishment
 - Address and telephone No.
 - Site and area of establishment
 - Contour maps of the site
 - Level of underground water
 - Safety equipment in the establishment
 - Information concerning insurance
 - Programme for monitoring the environment in the area surrounding the establishment
- 2- Producer of hazardous substances and waste (full name, address, telephone and fax numbers).
- 3- A complete description of the hazardous substances and waste intended to be handled and the nature and concentration of the dangerous elements contained therein.
- 4- The amount of hazardous substances and waste intended to be handled annually and a description of the method of packing to be used (barrels - tanks - loose).

- 5- The means to be used in storing hazardous substances and waste and the storage period for each, as well as an undertaking to place a clear written description on the container indicating its contents, the degree of danger thereof and how to act in an emergency.
- 6- The available means of transport (by land - rail - sea - air - internal waterways), their routings and schedules.
- 7- A complete statement of the method intended to be used for the treatment and disposal of the hazardous substances and waste for the displacement of which a license is sought.
- 8- A commitment not to mix hazardous substances and waste with any other type of waste produced by social and production activities.
- 9- A commitment to keep registers containing detailed accounts of the sources, quantities and types of hazardous substances and waste, the rates and periods of their collection and storage and the means of their transport and treatment, to furnish such data on request, and not to destroy the registers for a period of five years running from the date they are first opened.
- 10- A commitment to take all procedures as are necessary to ensure the proper packing of hazardous substances and waste during the collection, transportation and storage phases.
- 11- A detailed description of the emergency plan for confronting all unforeseen circumstances which guarantees the protection of human beings and the environment.
- 12- A certificate of previous experience in the field of handling hazardous substances and waste.
- 13- A declaration of the veracity of data stated in such document.

Conditions for granting a license:

- 1- Completion of all required data.
- 2- Availability of personnel trained in the handling of hazardous substances and waste.
- 3- Availability of means, resources and systems required for the safe handling of these substances.
- 4- Availability of requirements to confront the risks which may result from accidents occurring during the handling of these substances.

- 5- That no harmful effects to the environment and public health shall result from the activity for which a license is sought.

Article (27)

The license to handle hazardous substances and waste shall be issued in consideration of a cash payment to be determined by a decree from the competent minister. The license shall be valid for a maximum period of five years subject to renewal.

The licensing authority may revoke the license or suspend the activity by a reasoned decision in the following cases:

- 1- If the license was issued as a result (of the submission) of incorrect data.
- 2- If the license violates the conditions of the license.
- 3- If the performance of the activity results in dangerous environmental effects which were unforeseen at the time the license was issued.
- 4- The emergence of sophisticated technology which may, with minor modifications, be applied, and the use of which would lead to a marked improvement in the environment and the health of the workers.
- 5- If the EEAA concludes that it is unsafe to handle any of the substances and wastes.

The licensing authority in coordination with the EEAA and the Ministry of Health may request the applicant to fulfill such other conditions as it deems necessary to ensure the safe handling of these substances,. In all cases, the applicant for a license may not handle hazardous substances and waste before obtaining the license made out on the relevant form which must be kept by the person in charge of the handling to be presented on request.

Article (28)

The management of hazardous wastes shall be subject to the following rules and procedures:

1- Engendering Hazardous Waste:

The establishment which engenders hazardous waste shall be held to do the following:

- A- Try hard to reduce the rate at which such waste is produced, both quantitatively and qualitatively, by developing the technology used, employing clean technology and selecting alternatives for the primary product or the raw material which are less harmful to the environment and public health.
- B- Categorize the waste produced, in terms of both quantity and quality, and register same.
- C- Establish and operate units to treat waste at source, provided the EEAA approves the treatment system as well as the technical specifications of these units and their operational programmes. In case of difficulty of treatment or disposal of hazardous waste at source, the establishment producing such waste shall be held to collect and transport it to the disposal sites determined by the local authorities and the competent administrative and environmental bodies. The displacement of such waste shall be subject to all the conditions and provisions prescribed in this respect by these Executive Regulations.

2- Stage of Collecting and Storing Hazardous Waste:

- A- Determine specific locations for the storage of hazardous waste meeting safety conditions to prevent the occurrence of any harm to the public or to those persons exposed to such waste.
- B- Store hazardous waste in special containers made of a solid, non-porous, leak-proof material. These containers are to be hermetically sealed and their capacity must be commensurate with the quantity of hazardous waste stored therein or conform to the standards set for the storage of such waste according to type.
- C- Place a clear sign on the hazardous waste containers indicating their contents and warning of the dangers which may result from handling them imprudently.
- D- Lay down a schedule for the collection of hazardous waste so that it is not left for long periods in the storage containers.
- E- Producers of hazardous waste shall be held to provide the above-mentioned containers, wash them after each use and not place them in public places.

3- Stage of Transporting Hazardous Waste:

- A- It is prohibited to transport hazardous waste by other than the means of transport run by the establishments licensed to manage hazardous waste. Those means of transport must meet the following conditions:
 - 1- Transport trucks shall be fitted with all safety equipment and shall be in good working condition.
 - 2- The capacity of such trucks and their shift schedule shall be commensurate with the quantities of hazardous waste.
 - 3- They shall be driven by trained drivers capable of taking independent initiatives, particularly in emergencies.
 - 4- They shall bear clear signs indicating the dangerous nature of their cargo and the best manner of dealing with emergencies.

- B- Routing of trucks transporting hazardous waste shall be determined and civil defense bodies shall be immediately notified of any changes therein, so as to enable them to act rapidly and decisively in emergencies.

- C- Trucks transporting hazardous waste shall be prohibited from passing through residential and other populated areas and through the city centre during daytime.

- D- The address of the garages where hazardous waste trucks are parked, as well as the number and date of their license, must be notified to the competent authority.

- E- Trucks transporting hazardous waste must be washed and sterilized after each use in accordance with the directives issued by the Ministry of Health in coordination with the competent administrative body designated in Article (40) of these Executive Regulations.

- 4- The following must be observed when authorizing the passage of ships carrying hazardous waste:
 - A- Prior notification is a requisite. The competent administrative body shall be entitled to withhold authorization if there is a risk of environmental pollution.

 - B- In case of authorization, all necessary precautions as prescribed in international conventions must be taken, and the ship must have the guarantee certificate referred to in Law No. 4 of 1994.

5- Stage of Treatment and Disposal of Hazardous Waste:

- A- The sites selected to house utilities for the treatment and disposal of hazardous waste shall lie at a distance of at least three kilometres from populated and residential areas, and shall be held to meet the conditions and provide the equipment and installations set forth below:
- 1- The area of the site must be proportionate to the quantity of hazardous waste so that such waste does not remain in storage for extended periods.
 - 2- The site shall be encircled with a brick wall standing at least 2.5 meters high.
 - 3- The site shall be provided with more than one gate of suitable width, allowing the easy entry of trucks transporting hazardous waste.
 - 4- The site shall be provided with a water source and W.C. facilities.
 - 5- The site shall be provided with all the protection and safety requirements prescribed in labour and vocational health laws, as well as with a telephone line.
 - 6- The site shall be provided with all the mechanical equipment which can facilitate the work process.
 - 7- The site shall be provided with warehouses equipped to preserve hazardous waste pending its treatment and disposal. Equipment shall differ according to the type of hazardous waste received by each utility.
 - 8- The utility shall be provided with an incinerator for burning certain type of hazardous waste.
 - 9- The utility shall be provided with the necessary equipment and installations for sorting and classifying certain types of hazardous waste with the intention of reutilizing and recycling them.
 - 10- The site shall have a sanitary ditch of an adequate capacity for burying the incinerated remains.
- B- Processes for the treatment of hazardous waste which may be reused and recycled shall be carried out within the following framework:
- 1- Reutilization of some hazardous waste as fuel to generate energy.

- 2- Recovery of organic solvents and their reutilization in extraction processes.
 - 3- Recycling and reusing some organic substances from hazardous waste.
 - 4- Reusing ferrous and non-ferrous metals and their compounds.
 - 5- Recycling and reusing certain non-organic substances from hazardous waste.
 - 6- Recovery and recycling of acids or alkalines.
 - 7- Recovery of substances used in reducing pollution.
 - 8- Recovery of certain components of ancillary elements.
 - 9- Recovery of used oil and reutilizing it after its refinement, with due consideration to the relationship between environmental and economic returns.
- C- Processes for the treatment of hazardous waste which cannot be reutilized and recycled shall be carried out within the following framework:
- 1- Injecting hazardous waste amenable to pumping into salt mines, wells and natural reservoirs in areas far from residential and populated areas.
 - 2- Burying hazardous waste in pits specially prepared for this purpose and isolated from the other components of the environmental system.
 - 3- Treating hazardous waste biologically by using certain types of living micro-organisms to bring about its decomposition.
 - 4- Treating hazardous waste physically or chemically by evaporation, dilution, calcification, assimilation, sedimentation, etc.
 - 5- Incineration in special incinerators designed to prevent the emission of gases and fumes into the surrounding environment.
 - 6- Permanent storage (such as placing hazardous waste containers inside a mine).

- D- Taking all procedures which guarantee limiting and reducing the production of hazardous waste through:
 - 1- Developing and generalizing the use of clean technology.
 - 2- Developing suitable systems for the management of hazardous waste.
 - 3- Expanding the reutilization and recycling of hazardous waste after treatment whenever possible.

- E- Setting a periodic programme to monitor the various components of the environmental system (organic and non-organic) in the sites of utilities and their surroundings for the treatment and disposal of hazardous waste. Licenses shall be withdrawn and work in the utility suspended upon the appearance of any indications of damage to the eco-systems surrounding the utility.

- F- Establishments licensed to handle and manage hazardous substances and waste shall be responsible for any damage caused to third parties as a result of non-compliance with the provisions of these Executive Regulations.

The EEAA shall be competent to review the hazardous waste schedules, which are subject to the provisions of the Law, with the cooperation of the ministries concerned in regard to the schedules issued by them in this connection.

Article (29)

It is prohibited to construct any establishment for the purpose of treating hazardous waste except with a license issued by the competent governorate after consulting the EEAA, the Ministry of Health, the Ministry of Labour and Manpower, and the ministry concerned with the type of waste according to the provisions of Article (25) of these Executive Regulations, after ensuring that such establishment satisfies all the conditions which guarantee the safety of the environment and the staff employed thereat.

Disposal of hazardous waste shall be effected in accordance with the conditions and criteria prescribed in Article (28) of these Executive Regulations.

The Minister of Housing, after consulting the ministries of Health and Industry and the EEAA, shall determine the locations and conditions for the disposal of hazardous waste.

Article (30)

It is prohibited to import hazardous waste or to allow its entry into or passage through the territory of the Arab Republic of Egypt.

It is prohibited, without a license from the competent administrative department in the Ministry of Maritime Transport or in the Suez Canal Authority, each within the scope of its competence, to allow the passage of ships carrying hazardous waste, in the Territorial Sea or the Exclusive Economic Zone of the Arab Republic of Egypt, provided the EEAA is notified withal.

Article (31)

Those in charge of the production or displacement of hazardous substances, whether in their gaseous, liquid or solid states, shall take all due precautions to ensure the non occurrence of any environmental damage, and shall be held in particular to observe the following:

- (A) That the site on which such substances are to be produced or stored is selected with due regard to the conditions prescribed according to the type and quantity of those substances.
- (B) That the design of the buildings inside which hazardous substances are to be produced or stored conforms to the engineering standards to be observed for each type of such substances, as determined by a decree to be issued by the Minister of Housing after consulting the EEAA. The said buildings shall be subject to periodic inspections by the licensing administrative body.
- (C) That the conditions prescribed in respect of the means of transport or the storage sites of such substances are provided so as to guarantee that no harm shall come to the environment or to the health of employees or citizens.
- (D) That the technology and equipment used in the production of such substances shall not result in damage to the establishment, the environment or harm to the staff.
- (E) That buildings shall be adequately fitted out with safety, alarm, protection, combat, fire-fighting and first aid systems and equipment, in the numbers and quantities determined by the Minister of Labour and Manpower after consulting the EEAA, the Ministry of Health and the Civil Defense Department in coordination with the competent administrative authority.
- (F) That an emergency plan is in place to confront any potential accidents which may occur during the production, storage, transportation or handling of such substances, provided the plan is reviewed and approved by the licensing authority after consulting the EEAA and the Civil Defense Department.
- (G) That staff in these establishments are subjected to periodic medical checkups and that they are treated for any vocational diseases at the expense of the establishment by which they are employed.

- (H) That establishments producing hazardous substances insure their workers for the amounts to be determined by a decree from the Minister of Manpower in coordination with the Ministry of Insurance and Social Affairs, after consulting the EEAA and the Ministry of Health, provided the amounts of the insurance take into account the degree of danger to which each category of workers is exposed inside each productive unit.
- (I) That workers handling such substances are informed of the dangers involved and of the necessary precautions to be taken when handling them, that they are fully aware of all this information and that they have received adequate training in this regard.
- (J) That the inhabitants of the regions surrounding the sites where hazardous substances are produced or handled are informed of the possible dangers of these substances and the method of facing such dangers, and that they are familiar with the alarm systems to be used in case of an accident and with the procedures to be followed on its occurrence.
- (K) Establishments producing and handling hazardous substances are held to compensate citizens injured in the locations surrounding the production or storage sites for injuries caused by accidents resulting from these activities or from harmful emissions or leakages therefrom. Those assigned to the production and handling of hazardous substances shall submit an annual report on the extent of their commitment in implementing the necessary precautions.

Article (32)

Establishments engaged in the production or importation of hazardous substances shall, when producing or importing such substances, observe the following conditions:

Firstly: Container specifications:

- (A) The type of container in which these substances are placed must be suitable for the type of substance therein, tightly closed and difficult to damage.
- (B) The capacity of the container must be easy to lift or transportation without exposing it to damage or harm.
- (C) The inner lining of the container must be made of a material that is not affected by storage throughout the period when the substances contained therein are active.

Secondly: Container information:

- (A) Contents of container, their active substance, and the degree of its concentration.
- (B) Total and net weight.
- (C) Name of producer, date of production and production number.
- (D) Nature of danger and symptoms of toxicity.
- (E) First aid procedures to be taken in case of exposure.
- (F) Safe method of opening, emptying and using container.
- (G) Safe storage method.
- (H) Methods of disposal of empty containers.

All the information shall be written in Arabic in a style that is easy for an ordinary person to read and understand, and the words must be legible and prominently displayed on the container. They must be accompanied by diagrams indicating the method of opening, emptying, storing and disposing of the containers as well as by the international symbols for danger and toxicity.

Article (33)

The owner of an establishment whose activity results in hazardous waste pursuant to the provisions of these Executive Regulations shall be held to keep a register of such waste and the method of its disposal, as well as of the names of the parties contracted with to receive the said waste, as follows:

- 1) Name and address of the establishment.
- 2) Name and job title of the person responsible for filling in the register.
- 3) The period covered by the current data.

- 4) The special conditions issued for the establishment by the EEAA.
- 5) A list of the types and quantities of hazardous waste resulting from the establishment activity.
- 6) Method of disposal thereof.
- 7) The parties contracted with to receive the hazardous waste.
- 8) Date on which the form is filled.
- 9) Signature of the officer in charge.

The EEAA shall follow up the information in the register to ensure its conformity with reality.

PART TWO

PROTECTION OF AIR ENVIRONMENT FROM POLLUTION

Article (34)

Without prejudice to the provisions of Articles (10) and (11) of these Executive Regulations, the site on which a project is established must be suitable for the establishment activity in regard to its conformity with the zoning requirements of the area and its compliance with the plan set for the use of the land by the Ministry of New Urban Communities, and the total amount of pollution emitted by all the establishments in any one area must be within the permissible levels as indicated in Annex (5) of these Executive Regulations.

In all cases, due consideration shall be given when determining the suitability of the site to the prevailing wind direction and its distance from habitation, whether in the area of the project or the surrounding areas.

Article (35)

All the establishments listed in Annex (2) of these Executive Regulations for which an assessment of environmental impact is required prior to their being licensed to exercise their activity shall be subject to the provisions of the preceding Article. The license confirming the suitability of the site shall be issued by the body competent to assess the environmental impact of such activity after referring to the EEAA in this regard.

Article (36)

In carrying out their activities, establishments subject to the provisions of this Law are held to ensure that emissions or leakages of air pollutants do not exceed the maximum limits permitted by laws and decrees in force and determined in Annex (6) of these Executive Regulations, and that no changes are introduced to the properties and specifications of natural air that can result in endangering human health and the environment.

Article (37)

It is prohibited to use machines, engines or vehicles which emit exhaust whose contents exceed the following maximum limits:

1. Vehicles currently in service:

| | |
|------------------------|---|
| CARBON MONOXIDE: | 7% in volume at the speed of (600-900 R.P.M.) |
| UNBURNED HYDROCARBONS: | 1000 parts in a million, at the speed of (600-900 R.P.M.) |
| SMOKES | 65% degree of opacity or the equivalent in other units, at minimum acceleration |

2. New vehicles licensed as of 1995:

| | |
|------------------------|--|
| CARBON MONOXIDE: | 4.5% in volume at the speed of (600-900 R.P.M.) |
| UNBURNED HYDROCARBONS: | 900 parts in a million, at the speed of (600-900 R.P.M.) |
| SMOKES | 50% degree of opacity or the equivalent in other units, at maximum acceleration. |

The provisions of this Article shall apply in the governorates to be determined by a decree of the Minister of Interior, provided the decree shall allow a period not exceeding one year for commencement of implementation to enable the owners of these machines, engines, and vehicles to adjust them in accordance with the provisions of this Article.

The EEAA, in coordination with the Ministry of Interior, the Ministry of Industry, the Ministry of Health and the Ministry of Petroleum, may reconsider the maximum limits prescribed in this Article three years after the publication date of these Executive Regulations.

Article (38)

It is prohibited to dump, treat or burn garbage and solid waste - other than infectious waste left over from medical care in hospitals and health centers - except in special sites, designated for such purpose, far from inhabited, industrial or agricultural areas as well as from waterways, in accordance with the specifications, conditions and minimum permissible distances from such areas as indicated hereunder:

- (1) It is strictly forbidden to burn any waste other than the infectious waste referred to in para 1 of this Article in residential or industrial areas and such waste shall be incinerated in special incinerators having the following specifications:
 - (A) They shall be downwind in the populated areas.
 - (B) They shall be at a distance of at least 1500 meters from the nearest residential area.
 - (C) The capacity of the incinerator or incinerators shall be adequate to burn the garbage transported thereto within 24 hours.
 - (D) The incinerator shall be sited in a place with an adequate space to receive the expected garbage according to the nature of activities in the urban area and the number of its inhabitants.

- (2) In case of extreme necessity, and within a transition period not exceeding three years from the date of publication of these Executive Regulations, garbage shall be allowed to be burned uncovered, subject to the following conditions:
 - (A) With a prior permit from the EEAA and the Civil Defense Department, incineration shall be carried out under the supervision of both the municipal authority units and the Civil Defense Department.
 - (B) That the place where the garbage is incinerated stands at a minimum distance of 1.5 kilometers from populated, industrial and downwind areas.
 - (C) The municipal authorities shall allocate a site to receive the garbage after carrying out an integrated study on the topography and nature of the area, and the quantity of waste requiring to be disposed of every 24 hours, which site shall be:
 - At a lower contour level than the surrounding area.
 - Of an area adequate for storing the garbage intended to be transported and for carrying out other operations normally effected on the site, such as sorting and any other related operations.
 - Supplied with a water source for emergency cases and other necessary uses.

- Supplied with the necessary equipment for storing, sifting and disposing of ashes by burying them so that they will not be dispersed in the air or leak into the underground water.
- (3) Infectious waste from hospitals and health centres shall be burned on site in incinerators especially designed for that purpose and capable of absorbing the collected quantities without congestion or storing near the incinerator. In case of necessity, and with the approval of the competent municipal authorities and the EEAA, the waste of such units may be transported to the nearest hospital equipped with one or more incinerators, provided they can absorb the waste transported thereto. Such waste is transported in sealed containers which do not allow the dispersal of their contents in the air and the containers are incinerated together with their contents.
 - (4) In all cases, the incinerators shall be fitted with adequate technical methods to prevent the dispersal of ashes or the emission of gases except within the permissible limits as prescribed in Annex (6) of these Executive Regulations.
 - (5) Municipal authorities shall, in agreement with the EEAA, allocate sites where solid garbage shall be dumped, treated or incinerated according to the provisions of this Article.

Article (39)

Collectors of garbage and solid waste shall be held to maintain the cleanliness of garbage bins and vehicles, the continual cleanliness of which shall be one of the conditions set to ensure the safety and solidity of garbage transport means.

Garbage collection bins shall be tightly covered to prevent them from giving off offensive odours or from becoming a source for the proliferation of flies and other insects or a focus of attraction for stray animals. The garbage they contain shall be collected and transported at suitable intervals in keeping with the conditions of each area, provided the quantity of garbage at any one time in any of these bins shall not exceed its capacity. The competent municipal department shall control the implementation of the provisions of this Article.

Article (40)

It is prohibited to spray or use pesticides or any other chemical compounds for purposes of agriculture, public health or otherwise except after observing the conditions, regulations and guarantees set by the Ministry of Agriculture, the Ministry of Health and the EEAA, particularly the following:

- (A) Before spraying pesticides by any method, notify the health and veterinary units of the types of pesticides used and their antidotes.
- (B) Provide first aid facilities.

- (C) Provide protective clothing and material for the workers involved in spraying.
- (D) Warn citizens against approaching the sprayed areas.
- (E) Have the spraying carried out by workers trained in that type of work.
- (F) Refrain from spraying by planes except in cases of extreme necessity as assessed by the Minister of Agriculture. In such event, the areas requiring spraying shall be delineated and highlighted by a special colour on maps which shall indicate the main obstacles to aviation and the regions in which spraying is prohibited. Regions in the vicinity of residential areas, apiaries, fish farms, poultry farms and cattle sheds shall be kept off to guarantee that humans, animals, plants, waterways and other components of the environment shall not be exposed, directly or indirectly, now or in future, to the harmful effects of such pesticides or chemical compounds.

Article (41)

All organizations and individuals shall be held, when carrying out exploration, excavation, construction or demolition works, or when transporting the resultant waste or debris, to take necessary precautions to secure the safe storage or transportation thereof. The authority granting the building or demolition license shall indicate these requirements in the license in the manner set forth below:

- 1- That on-site storage of waste or debris be effected with due regard to the requirements of safety and the unobstructed movement of traffic and people. Waste liable to dispersal shall be covered to avoid air pollution.
- 2- That waste or debris resulting from excavation, demolition and construction works be transported in special containers or receptacles on trucks equipped and licensed for this purpose and meeting the following conditions:
 - < Fitted with a special box or an air-tight cover to prevent loose particles of waste and debris from escaping into the air or dropping on the road.
 - < Provided with special loading and unloading equipment.
 - < In good condition according to the rules of safety, solidity and lights and fitted with all safety equipment.
- 3- That the sites assigned to receive the transported waste be located at a minimum distance of 1.5 kilometers from residential areas, that they are at a lower contour level, and that they are levelled after being filled in with the waste.
- 4- That the municipal authorities designate the sites to which the waste shall be transported. Such waste may not be transported to or disposed

of in other than the sites designated and licensed for that purpose by the municipal authorities concerned.

Article (42)

Due consideration shall be given by the competent bodies, according to their activities, when burning any type of fuel or other substance, whether for industrial, energy production, construction or other commercial purpose, that the harmful smoke, gases, and fumes resulting from the combustion process are within the permissible limits. Persons responsible for such activity shall be held to take all precautions to minimize the pollutants in the combustion products according to the following criteria:

Precautions, Permissible limits, and Specification of Chimneys

- (A) The necessary precautions to minimize the pollutants resulting from the combustion process in order to prevent or reduce the emission of pollutants from the fuel-burning source, entail selecting the appropriate fuel, ensuring the proper design of furnaces, fire-boxes, and chimneys and using high-efficiency control means according to the following criteria:
- 1- It is prohibited to carry out uncovered burning when the requirements of sound design to guarantee full combustion and disposal of exhaust through the chimneys according to proper engineering specifications are not adequate.
 - 2- Furnaces and fire-boxes shall be designed to allow the circulation of a sufficient quantity of air for oxidization and full combustion and to ensure the even distribution of temperature. They shall be operated for a sufficient length of time, and their contents constantly stirred and mixed, to guarantee total combustion, minimize the emission of resultants of incomplete burning and ensure that the pollutants emitted are within the maximum permissible limits pursuant to Annex (6) of these Executive Regulations.
 - 3- The use of coal shall be prohibited in populated regions and near residential areas.
 - 4- The use of Mazout and other heavy oil products, as well as of crude oil, shall be prohibited in residential areas.
 - 5- The percentage of sulphur in fuel used in urban areas close to residential districts shall not exceed 1.5%.
 - 6- Gases containing carbon dioxide shall be emitted through chimneys that are high enough to ensure that the gases are diluted before reaching ground level. When using fuel containing high percentages of sulphur in power stations, industrial plants

and other establishments in remote areas, due consideration shall be given to atmospheric factors and to maintaining sufficient distances to prevent the sulphur from reaching residential or agricultural areas and waterways.

(B) Chimney heights:

- 1- The heights of chimneys from which a total emission of waste reaches 7000 - 15000 kg/hour shall be between 18 and 36 metres.
- 2- The heights of chimneys from which a total emission of waste exceeds 15000 kg/hour shall be at least two and a half times the height of surrounding buildings, including the building served by the chimney.
- 3- The height of chimneys serving public places such as offices, restaurants, hotels and other commercial activities shall be at least 3 metres higher than the edge of the building (top of the building), and measures shall be taken to accelerate the speed at which gas is emitted from the chimney.

(C) Maximum Limits of Emission from Fuel-Burning Sources:

| Pollutant | Maximum Permissible Limit |
|-----------------|--|
| SMOKE | - 1 (Using Ringlemann Card) |
| DISPERSED ASHES | - 1 Ringlemann - sources existing in urban regions, or close to residential areas. - 2 Ringlemann - sources far from habitation. - 2 Ringlemann - burning of wastes. |
| SULPHUR DIOXIDE | Existing 4000 mgms/m ³ New 2500 mgms/m ³ |
| ALDEHYDES | Burning of waste 20 mgms/m ³ |
| CARBON MONOXIDE | Existing 4000 mgms/m ³ New 2500 mgms/m ³ |

* (1) Ringlemann = 250 milligrams/cubic metre

* (2) Ringlemann = 500 milligrams/cubic metre

The competent administrative body is held to observe the provisions of this Article.

Article (43)

All organizations undertaking activities in the field of exploration, drilling, extraction, production, refining and processing of crude oil shall be held to observe the principles and standards derived from the international oil industry and furnished by the competent administrative authority as well as those indicated hereunder:

- (1) Organizations engaging in exploration, drilling, extraction and production of crude oil for petroleum and petrochemical products, as well as in the production, refining, storage and transportation of gas, shall observe the conditions, procedures, and precautions necessary for the protection of the environment, as derived from international oil industry principles and approved for application by the Egyptian General Petroleum Corporation, according to the nature of each project, establishment, or operation.
- (2) Executives responsible for petroleum activities shall follow the instructions of the Egyptian General Petroleum Corporation concerning the permissible international standard specifications with regard to methods and ways of safe operation in all matters related to the storage and transportation of petroleum, petrochemicals and gas, as well as to the disposal of water and other dispensable substances while avoiding loss of petroleum or gas. They shall also take necessary precautions with regard to protection from fire, the protection of machines, wells, workers, homes, oil stores and establishments, and all other measures which the Egyptian General Petroleum Corporation considers necessary to regulate and guarantee the proper conduct of work and to preserve the environment and the neighbouring inhabitants. These measures shall include in particular:
 - A- Ensuring that exploratory or productive wells are at a safe distance from assembly and production stations and any other industrial establishment, workshops, the main or subsidiary pipelines, houses, religious and social establishments and cemeteries.
 - B- Observing the conditions of distance when using explosives, whether in seismic survey operations or pipeline laying operations.
 - C- Providing the wells with the necessary substances, equipment and valves to prevent explosions and oil or gas leakage.
 - D- Installing the separating and flare equipment necessary for carrying out the processes of producing, transporting, operating and refining petroleum and petrochemical substances and gas.
 - E- Taking necessary precautions to prevent the leakage of uncollectable oil and gas extracted in tests conducted during the drilling and completion of wells, as well as any other oil or gas that must be burned either in open pits or in flares. Due care shall be taken to make the optimum selection as regards the number and size of the nozzles and flares for the burning process, the use of the sprinkling process or additional air, or the possibility of using diesel fuel to complete the burning of heavy crude oil.
 - F- Installing the chimneys, flares and vents required for the production, operation, refining and storage processes conducted

at the power stations belonging to the establishment, whether for the cold or hot gases emitted.

- G- Laying down the necessary plans, preparing the machines and equipment and appointing and training personnel to confront any leakages or fires which occur at wellheads, pipelines, maritime or industrial establishments, storage tanks, warehouses, workshops, houses or any other similar establishment within the scope of the organization business.
- H- With regard to storage tanks, the following shall be observed:
 - 1- They shall be situated no closer than the minimum prescribed distance from the edge of main roads, railways, other storage facilities, buildings and places exposed to fire.
 - 2- They shall be tightly closed and the leakage of excess fumes shall be regulated in accordance with international standard specifications.
 - 3- They shall be painted white or any other light colour.
 - 4- Each tank shall be surrounded with walls to contain the leakage of oil, if any, and the walls shall be provided with outlets to drain rain water, provided the volume of the substance that can be contained is equivalent to the size of the tank or conforms to international specifications used in designing petrochemical storage tanks.

Compressed air shall be used in measuring and operating equipment, instead of compressed dry gas, whenever possible.

- (3) All operational machinery and equipment shall be in good working order and shall satisfy all the necessary conditions for their efficient use. Their capacity must be adequate for the work they are designed for and they shall undergo the necessary maintenance, servicing, and inspection operations on a regular basis.
- (4) The gases which accompany oil and which cannot be used or exploited safely in accordance with international standard specifications shall be disposed of.
- (5) Mechanical and chemical means shall be used to extract the highest proportion of residual waste from wells or tanks. Pits or reservoirs shall be made available to receive what remains of such residues after their treatment in a suitable location meeting safety requirements of distance from wells, petroleum and industrial establishments and dwellings.

It is strictly prohibited to allow such residues to debouch onto land surfaces, public roads, waterways, seas and shores.

Article (44)

All organizations and individuals shall be held, when carrying out production, service or other activities, particularly when operating machinery and equipment and using horns or loudspeakers, to keep the volume below the permissible sound intensity levels inside the work place and in the closed public places indicated in table (1) of Annex (7) of these Executive Regulations.

Licensing authorities shall ensure that the total sounds emanating from fixed sources in one area shall be within the permissible levels and shall ascertain that the establishment has selected the appropriate machinery and equipment to guarantee this in accordance with the permissible levels of sound intensity and the time limits for exposure thereto as prescribed in Table (2) of Annex (7) of these Executive Regulation

Article (45)

The owner of an establishment is held to take the necessary precautions and procedures laid down by the Ministry of Manpower and Employment to prevent the leakage or emission of air pollutants inside the work place except within the permissible limits indicated in Annex (8) of these Executive Regulations, whether such pollutants result from the nature of the establishment activities or from malfunctioning equipment. He is also held to provide the necessary protective measures for workers in accordance with the conditions of occupational safety and health, including choosing the appropriate machinery, equipment, material and types of fuel, taking into account the period of exposure to these pollutants. He must also ensure adequate ventilation and install chimneys and other air purification devices.

Article (46)

The owner of an establishment shall take the necessary measures to maintain temperature and humidity inside the work place within the permissible limits. In cases where it is necessary to work beyond these limits, he shall be held to secure appropriate protective measures for the workers, whether by providing them with special clothing or otherwise. Annex (9) of these Executive Regulations sets the maximum and minimum limits of temperature and humidity and the duration of exposure thereto, as well as the protective measures.

Article (47)

Closed and semi-closed public places shall have adequate ventilation systems consistent with the size of the place and its assimilative capacity, as well as with the type of activity exercised therein, to ensure renewal and purity of air and maintain it at a suitable temperature.

The following table shall indicate the quantities of air necessary for ventilating public places:

| Quantity of External Air*** Cubic Decimetre/ Minute/Person | Type of Place and Activity |
|--|---|
| 140 - 280 | Places with a high ceiling, banks, lecture halls, places of worship, large public places, theatres, non-smoking rooms |
| 280 - 420 | Apartments, hairdresser salons, beauty parlours, hotel rooms, or rooms with limited smoking. |
| 420 - 560 | Cafeterias, shops containing a small restaurant, work places, hospital rooms, restaurants or rooms with medium smoking. |
| 560 - 850 | Private work places, office, clinics or rooms with heavy smoking. |
| 850 - 1700 | Lecture halls, night clubs or crowded rooms with heavy smoking. |

*** without use of air conditioners.

- The space allocated for each person shall not be less than 4.25 cubic metres
- The floor area allocated for each person shall not be less than 1.4 square metres.

Article (48)

The director in charge of the establishment shall take adequate measures to ban smoking in closed public places except within the designated smoking area. Smoking in other than such area shall be considered an administrative infraction and shall render its perpetrator liable to the disciplinary penalty in force in the establishment.

Article (49)

The level of radioactivity or concentrations of radioactive substances in the air shall not exceed the permissible limits as defined in a decree to be issued by the Minister of Electricity and Energy responsible for nuclear safety after referring to the Ministry Health and the EEAA within the period prescribed in Article 2 of Law No. 4 of 1994.

PART THREE

PROTECTION OF WATER ENVIRONMENT FROM POLLUTION

Chapter I **Pollution from Ships**

Section 1 **Oil Pollution**

Article (50)

The owner of the ship, its master or any person responsible therefor and those responsible for means of oil transport within the port areas or the territorial sea or the exclusive economic zone of the ARE and the companies working in the field of oil extraction are held to notify the competent administrative authorities of any oil spill immediately on its occurrence, with a description of the circumstances of the accident, the type and quantity of oil involved and the measures taken to stop or reduce the spill. The notification must include the following information:

- 1- The procedures taken to deal with the spill.
- 2- The quantity and type of dispersants used.
- 3- The probable source of the spill and whether a fire broke out or not.
- 4- The direction of the formed oil spill.
- 5- The rate of leakage, if continuing.
- 6- The dimensions of the oil spill.
- 7- The wind velocity, the air temperature and the extent of visibility.
- 8- The direction and speed of the current and the water temperature.
- 9- The condition of the sea.
- 10- The condition of the tide (strong, high, medium, weak).
- 11- The threatened coastal areas.
- 12- The nature of the area - coral reef - marine organisms.
- 13- The reporting source: name - telephone number - address.

In all cases, the competent administrative authorities are held to notify the EEAA of all particulars concerning the accident promptly on its occurrence, in order to enable it to follow up the measures taken in this regard in accordance with its responsibilities as prescribed in Article (5) of the Environment Law.

Article (51)

All loading ports and ports equipped to receive oil tankers and dockyards must be fitted out with the necessary equipment to receive unclean ballast water and the bilge water from cleaning the tanks of oil tankers and other ships.

Ports must be equipped with enough barges and containers to receive the deposits, residues, and waste of oil and oily mixtures from ships docked in port.

The competent administrative authority shall receive any ship or tanker and direct it to the locations designated for the disposal of waste and unclean ballast water.

No ship or tanker may be licensed to carry out loading and unloading works except after referring to the competent administrative authority that will receive and direct it to the locations for the disposal of waste and unclean ballast water.

Article (52)

Owners or masters of ships registered in the ARE as well as of ships pertaining to the states adhering to the Convention are held to keep on board a register of the oil in which shall be entered all operations relating to oil in the manner determined in the Convention, and in particular the following operations:

- a- Loading, delivery or other oil cargo transport operations, while designating the type of oil.
- b- Discharge of oil or oily mixtures to secure the safety of the ship or its cargo or to save lives, while designating the type of oil so discharged.
- c- Oil or oily mixture spills as a result of a collision or accident, while indicating the size of the spill.
- d- Discharge of unclean ballast water or of bilge water from cleaning the tanks.
- e. Disposal of polluting waste.
- f. Discharge of the bilge containing the oil, collected within the machinery space, outside the ship while in port.

The process of discharging oil or oily mixtures in respect of offshore platforms installed in the water environment shall be recorded in a special register corresponding to the oil register provided for in this Article, in which the following information shall be entered:

- (1) The name and location of the platform.
- (2) The license issued therefor.
- (3) The name of the platform owner.
- (4) The activity carried out by the platform.

- (5) A statement of the systems, equipment, instruments and units for the treatment of oil and oily mixtures before their discharge and the system for controlling and monitoring them.
- (6) The quantity and type of substances and liquids authorized to be discharged in the course of the year, and the rate of discharge.
- (7) The actual quantity of substances and liquids discharged.
- (8) A statement of breakdowns in the system, equipment, instruments and units for the treatment of oil and oily mixtures, indicating the date and duration of the breakdown and the results of the analysis carried out immediately following repairs.
- (9) The name and signature of the person in charge of filling in the register.
- (10) Date on which the information is entered in the register.

Article (53)

In application of the provisions of Article 59 of the Environment Law, a guarantee certificate must be presented when the tanker enters the territorial sea. It must be valid and cover all damages and compensation as assessed by the competent administrative authority in agreement with the EEAA.

Section 2 **Pollution from Sewage and Garbage**

Article (54)

Ships and offshore platforms are prohibited from discharging polluted wastewater in the territorial sea or the exclusive economic zone of the Arab Republic of Egypt. It must be disposed of according to the criteria and procedures indicated hereinbelow:

Procedures for the discharge of polluted waste water from ships and offshore platforms:

Ships and offshore platforms of all nationalities shall be held to observe the following conditions and criteria when discharging their waste water:

- 1- That the ship or offshore platform holds the international certificate for the prevention of pollution by waste water drainage and that such certificate is valid.
- 2- That the ship is fitted with a unit for the treatment of waste water.
- 3- No ship is permitted to discharge treated waste water at a distance of less than four nautical miles from the shore.
- 4- Ships discharging such waste before treating it may only do so at a distance of 12 nautical miles from the shore.

In all cases, no ship may discharge the waste water retained in the retention tanks all at once but at moderate rates while the ship is sailing at a speed of not less than 4 knots/hour.

Sewage disposal processes of whatever kind must neither lead to the appearance of solid bodies, visible to the naked eye, floating in the territorial waters nor to any change in the colour of such waters.

If the waste water is mixed with residual water which requires treatment, such treatment must be carried out before the waste water is discharged.

The foregoing provisions shall not apply if discharge is effected to secure the safety of the ship and the people on board, to save lives at sea, or as a result of damage to the ship or its equipment, provided all reasonable precautions were taken to prevent or drastically reduce such discharge before and after the occurrence of the damage.

Article (55)

The competent bodies shall provide the necessary facilities for receiving waste, polluted waste water and refuse from ships and ensure that such facilities are in good working order, well maintained and regularly cleaned and sterilized.

Article (56)

The competent bodies in coordination with the competent bodies and the municipal authorities shall, when transporting the waste gathered in the facilities referred to in the preceding Article, ensure that such waste is not dispersed, that no offensive odours emanate therefrom and that it is disposed of in the locations and according to rules prescribed in Public Hygiene Law No. 38 for 1967.

Chapter II

Pollution from Land Based Sources

Article (57)

No building permit shall be granted for the construction of any establishments or public places on or near the seashore which would result in the discharge of polluting substances in violation of the provisions of the Law, of these Executive Regulations and of the decrees issued in implementation thereof unless the provisions of Chapter I of Part One of these Executive Regulations relating to development and the environment are duly observed. The permit holder shall provide suitable and adequate units for the treatment of waste which he shall begin operating promptly when the establishment commences operations. He is held to secure the safety and maintenance of these units on a regular basis.

Article (58)

Without prejudice to Article 2 of the Decree issuing these Executive Regulations, industrial establishments authorized to discharge degradable polluting substances into the water environment and on the beaches adjacent thereto are forbidden to discharge such substances except after they are treated and rendered compatible with the specifications and criteria prescribed in Annex (1) of these Executive Regulations.

The Ministry of Health shall conduct periodic analyses of samples of the treated liquid waste in its laboratories and notify the results to the competent administrative bodies.

If the results of any analysis do not conform to the specifications and criteria prescribed in Annex (1), the EEAA shall be notified accordingly and shall take administrative procedures, jointly with the competent administrative authority, in order to consider granting the party concerned licensed to perform his activities pursuant to the provisions of these Executive Regulations a grace period of one month to treat the waste so as to render it compatible with the prescribed specifications and criteria. This shall be without derogation to the periods prescribed in Article 2 of the Decree issuing these Executive Regulations for establishments existing at the time of their issuance. If treatment is not effected within the period prescribed above, or if it is proved from the analysis during such period that the continuation of discharge is likely to harm the water environment, discharge shall be halted by administrative means and the establishment license withdrawn, without prejudice to the penalties prescribed in the Environment Law. Industrial establishments are prohibited from discharging the non-degradable polluting substances referred to in Annex (10) of these Executive Regulations into the water environment.

Article (59)

It is prohibited to issue building permits for the construction of any establishment on the seashores of the Arab Republic of Egypt at a distance of

two hundred metres inwards from the shoreline, except after obtaining the approval of the Egyptian General Authority for the Protection of Beaches, in coordination with the EEAA.

The following procedures shall be followed in respect of permits for the construction of these establishments:

A- The application shall be submitted in writing to the coastal governorate concerned (the licensing authority), indicating the type of establishment to be constructed within the prohibited zone, together with an attached study assessing the environmental impact of the project or of new works requiring to be carried out, including their effect on the environmental balance of the coastal area, and on the shore line, and in particular on the following factors:

- 1- Erosion
- 2- Sedimentation
- 3- Coastal currents
- 4- Pollution resulting from the project or works

The application shall include a detailed statement of precautions proposed to avoid or treat these effects, if any.

B- The coastal governorate shall forward the application to the Egyptian Authority for the Protection of Beaches to express its technical opinion on the project, in coordination with the EEAA. The coastal governorate shall also forward the study assessing the environmental impact of the project to the EEAA to review same and render its opinion thereon within sixty days from the date of receiving the said study.

C- The Egyptian Authority for the Protection of Beaches may charge the applicant with the costs of the surveys and studies it carries out.

The Minister for Environmental Affairs, after consulting the competent administrative authorities and the governorates concerned, shall issue the conditions for granting a building permit to construct the establishment within the prohibited zone, or to modify the shoreline.

Article (60)

It is prohibited to authorize the carrying out of any works which may affect the natural shoreline of the beach or alter its configuration either inwards or outwards, except after obtaining the approval of the Egyptian Authority for the Protection of Beaches in coordination with the EEAA. With regard to applications which may affect the natural shoreline of the beach or modify same, the procedures and conditions prescribed in the preceding Article shall be applied.

Chapter III

Administrative and Judicial Procedures

Article (61)

The judicial officers vested with the power to effect seizures referred to in Article 78 of the Environment Law are authorized, in cases of violations for which the penalty does not exceed payment of a fine or compensation, to allow the master of the ship or an officer in charge to leave the port immediately, if he so wishes, against payment of a temporary amount pending execution of the fine or compensation penalty to be later adjudged, within the limits prescribed in Part Four of the Environment Law, provided such temporary amount shall not be less than the minimum prescribed for the violation plus all costs and compensation to be determined by the competent administrative authority for the removal of the effects of the violation. These amounts shall be deposited, no later than the day after their collection, in the Environmental Protection Fund pursuant to the provisions of Article (7) of these Executive Regulations.

A financial guarantee covering the value of such amounts and acceptable to the competent administrative authority may be presented subject to the provisions of the International Convention on Civil Liability for Oil Pollution signed in Brussels in 1969.

Article (62)

The Minister in charge of Environmental Affairs shall issue a decree establishing an appeals committee having its headquarters within the working area of the ports or on the premises of a nearby administrative authority. It shall be constituted as follows:

- | | |
|--|----------|
| - Counselor from the State Council selected by the president of the Council | Chairman |
| - Representative of the EEAA | Member |
| - Representative of the Ports and Lighthouses Department | Member |
| - Representative of the Ministry of Defence | Member |
| - Representative of the Ministry of Petroleum | Member |
| - Representative of the competent administrative authority within the scope of the activities of which the dispute arose | Member |

The committee may solicit the advice of one or more experts in the field of water environment.

The function of this committee shall be to settle administrative disputes arising from the application of the provisions of Part Three of these Executive

Regulations. The committee shall issue its decision, after hearing both parties, by a majority of votes of members present and, in case of a tie, the chairman shall have the casting vote.

Parties concerned may challenge the committee's decision before the administrative courts of the State Council.

Article (63)

The competent administrative authorities may request assistance from the ministries of defense, interior, petroleum, maritime transport, from the Suez Canal Authority or from any other competent body, in implementing the provisions of Part Three of these Executive Regulations according to the conditions laid down in the decree to be issued by the Minister for Environmental Affairs.

Part Four **FINAL PROVISIONS**

Article (64)

The costs of removing the effects of the violation referred to in Article 91 of the Environment Law shall be determined according to the following criteria:

- (A) The proximity or distance of unloading from the shore, in particular the areas of economic or touristic importance or the nature reserves.
- (B) Degree of toxicity of unloaded substances.
- (C) Volume and type of pollutant, and its detrimental effect on the environment.

Article (65)

Every citizen or association concerned with environmental protection may resort to the competent administrative or judicial agencies for the purpose of applying the provisions of the Environment Law and of these Executive Regulations. The Ministry of Interior, in coordination with the EEAA, shall form a police force specialized in environmental protection within the ministry and security departments in the governorates, whose function shall be to enforce the provisions of laws and decrees related to environmental protection as well as to receive complaints and reports submitted in this connection and take legal procedures in respect thereof.

ANNEXES TO THE EXECUTIVE REGULATIONS OF ENVIRONMENT LAW
NO. 4 OF 1994,

| ANNEX NO. | SUBJECT |
|------------------|--|
| 1 | Criteria and specifications for certain substances when discharged into the marine environment. |
| 2 | Establishments subject to environmental assessment. |
| 3 | Model register of impact of an establishment activities on the environment [Environmental Condition Register]. |
| 4 | Wild birds and animals prohibited from being hunted, killed or captured. |
| 5 | Maximum limits of outdoor air pollutants. |
| 6 | Permissible limits of air pollutants in emissions. |
| 7 | Permissible limits of sound intensity and periods of safe exposure thereto. |
| 8 | Maximum limits of air pollutants inside the work place according to type of industry. |
| 9 | Maximum and minimum limits of temperature and humidity, period of exposure thereto, and means of protection therefrom. |
| 10 | Non-degradable polluting substances which industrial establishments are prohibited from discharging into the marine environment. |

ANNEX (1)**CRITERIA AND SPECIFICATIONS FOR CERTAIN SUBSTANCES WHEN DISCHARGED INTO THE MARINE ENVIRONMENT**

Without prejudice to the provisions of Law No. 48 of 1982 concerning the Protection of the River Nile and its Executive Regulations, the discharge of the substances indicated hereunder shall not exceed the levels indicated opposite each.

In all cases, discharge into the marine environment is not permitted except at a minimum distance of 500 meters from the shoreline and may not be effected in fishing zones, bathing zones or nature reserves in order to preserve the economic or aesthetic value of the area.

| Item | Maximum limits of Criteria and Specifications (mg/Ltr-unless otherwise indicated.) |
|----------------------------------|---|
| Temperature | Not to exceed 10 degrees over the prevailing rate. |
| PH | 6 - 9 |
| Colour | Free of colouring materials |
| Biochemical Oxygen Demand (BOD) | 60 |
| Chemical Oxygen Demand (COD) | 100 |
| Total Dissolved Solids | 2000 |
| Volatile Solids | 1800 |
| Suspended materials | 60 |
| Turbidity | NTU 50 |
| Sulphides | 1 |
| Oil and Greases | 15 |
| Hydrocarbons of oil origin | 0.5 |
| Phosphates | 5 |
| Nitrates | 40 |
| Phenolates | 1 |
| Fluoride | 1 |
| Aluminium | 3 |
| Ammonia (nitrogen) | 3 |
| Mercury | 0.005 |

| | |
|--|------|
| Lead | 0.5 |
| Cadmium | 0.05 |
| Arsenic | 0.05 |
| Chromium | 1 |
| Copper | 1.5 |
| Nickel | 0.1 |
| Iron | 1.5 |
| Manganese | 1 |
| Zinc | 5 |
| Silver | 0.1 |
| Barium | 2 |
| Cobalt | 2 |
| Pesticides | 0.2 |
| Cyanide | 0.1 |
| Estimated Fecal Coliform Count in 100 cm ³ | 5000 |

ANNEX (2)**ESTABLISHMENTS SUBJECT TO THE ENVIRONMENTAL
IMPACT ASSESSMENT**

These establishments are classified according to the following criteria:

- First: Type of activity.
- Second: Extent of depletion of natural resources, especially water, agricultural land and mineral wealth.
- Third: Location
- Fourth: Type of energy used in operating the establishment.

FIRST: TYPE OF ACTIVITY:

1. Industrial establishments subject to the provisions of Law No. 21 of 1985 concerning the Organization and Encouragement of Industry and Law No. 55 of 1977 concerning the Establishment and Operation of Thermal Machines and Steam Boilers.
2. Tourist Establishments subject to the provisions of:
 - * Law No. 1 of 1973 concerning Hotel Establishments.
 - * Law No. 38 of 1977 concerning the Organization of Tourist Companies.
 - * Law No. 117 of 1983 concerning the Protection of Monuments.
 - * Law No. 1 of 1992 concerning Tourist Establishments
3. Companies operating in the field of oil exploration, extraction, refining, storage, and transport and subject to the provisions of:
 - * Law No. 6 of 1974 authorizing the Minister of Petroleum to sign Petroleum Concession Agreements.
 - * Law No. 4 of 1988 concerning Petroleum Pipelines.
4. Electricity production and generation establishments subject to the provisions of:
 - * Law No. 145 of 1948 establishing the Cairo Electricity and Gas Department.
 - * Law No. 63 of 1974 concerning Establishments of the Electricity Sector.
 - * Law No. 12 of 1976 establishing the Egyptian Electricity Authority.
 - * Law No. 13 of 1976 establishing the Nuclear Electricity Generating Plants Authority.
 - * Law No. 27 of 1976 establishing the Rural Electricity Authority.
 - * Law No. 102 of 1986 establishing the Authority for the Development and Utilization of New and Renewable Energy.

5. Companies operating in mines and quarries, and in the production of building materials, which are subject to the provisions of:
 - * Law No. 66 of 1953 concerning Mines and Quarries.
 - * Law No. 86 of 1956 concerning Mines and Quarries.
6. All infrastructure projects, including plants for the treatment and recycling of waste water or agricultural drainage water, irrigation projects, roads, bridges, barrages, tunnels, airports, sea ports, railway stations, and others.
7. Any other establishment, activity or project liable to have a noticeable impact on the environment and for which a decree shall be issued by the EEAA with the agreement of the competent administrative body.

SECOND: LOCATION:

These include establishments set up on the banks of the Nile, its branches or the main canals, as well as those operating in touristic areas and antiquities sites, in densely-populated areas, on the shores of seas and lakes or in the nature reserves.

THIRD: EXTENT OF DEPLETION OF NATURAL RESOURCES

These include establishments which cause the denudation of agricultural land, desertification, destruction of trees and palm trees, or the pollution of water resources, especially the River Nile, its branches, the lakes, or underground water.

FOURTH: TYPE OF ENERGY USED

1. Fixed establishments which use thermal fuel and whose emissions exceed the permissible levels.
2. Establishments using nuclear fuel for their operation.

ANNEX (3)**MODEL REGISTER OF IMPACT OF ESTABLISHMENT
ACTIVITIES ON THE ENVIRONMENT (ENVIRONMENTAL CONDITION
REGISTER)**

1. Name and address of establishment
2. Name and job title of person in charge of filling in the Register.
3. Period covered by the current data.
4. Type of activity and nature of raw materials and production during the corresponding time period.
5. Laws governing the establishment.
6. Special conditions set by the EEAA for the establishment.
7. Statement of the types of emissions, the rates of discharge (per hour/ day/ month/ year), and method of disposal thereof.

| | | |
|-----|---|---------|
| 7/1 | - | Gaseous |
| 7/2 | - | Liquid |
| 7/3 | - | Solid |
| 7/4 | - | Others |
8. Rates at which tests are conducted on each type of emission emanating from the establishment.

| | |
|------------|---|
| <u>8/1</u> | <u>Random samples [experimental]</u> |
| * | Date, time and place of each sample. |
| * | Rate of sample collection. |
| * | Indicators requiring to be measured (daily/ weekly/ monthly). |
| <u>8/2</u> | <u>Samples of compound wastes</u> |
| * | Date and time of sample collection. |
| * | Places of mixing and percentages of mixture in the compound sample. |
| * | Indicators requiring to be measured (daily/ weekly/ monthly). |
9. Extracted materials after treatment processes.
10. Extent of efficiency of treatment method.
11. Date and signature of officer in charge.

ANNEX (4)**WILD BIRDS AND ANIMALS, PROHIBITED FROM BEING HUNTED,
KILLED OR CAPTURED****FIRST:**

- A. The birds and animals listed in the table attached to the Minister of Agricultural Decree No. 28 of 1967, issued in implementation of the provisions of article 117 of Agriculture Law No. 53 of 1966.
- B. Any other birds or animals determined in the international conventions to which the Arab Republic of Egypt adheres.
- C. Any other birds or animals designated in a decree to be issued by the Minister of Agriculture in agreement with the EEAA.

SECOND: REGIONS IN WHICH HUNTING OF SUCH BIRDS AND ANIMALS IS PROHIBITED:

- A. The regions designated in the Minister of Agriculture Decree No. 472 of 1982: It is prohibited to hunt any species of birds and animals in the following areas in the two governorates in Sinai:
 - El Zalaniq, Sabkhet El Bardaweel, and El Tinah.
 - St. Catherine and Mount Serial.
 - Tiran Island.

Bird hunting, fishing or removing sea shells, coral reefs, oysters and other marine creatures, whether by trawling or hacking, are prohibited in the area lying between Taba and Ras Mohamed on the Gulf of Aqaba.
- B. Nature Reserves as defined in prime ministerial decrees issued in implementation of Law No. 102 of 1983.
- C. Rules of hunting in North Sinai issued by the Governor's Decree No. 442 of 1980.
- D. Rules of hunting in South Sinai issued by the Governor's Decrees No. 15 of 1980 and No. 16 of 1980.
- E. Regions designated in the international conventions to which the Arab Republic of Egypt adheres.
- F. Any other regions determined in a decree of the competent authority in coordination with the EEAA.

ANNEX (5)**MAXIMUM LIMITS OF OUTDOOR AIR POLLUTANTS**
(MICROGRAM PER CUBIC METER)

| POLLUTANT | MAXIMUM LIMIT | EXPOSURE PERIOD |
|---|---------------------------|------------------------|
| Sulphur Dioxide | 350 | 1 hr |
| | 150 | 24 hrs |
| | 60 | 1 year |
| Carbon Monoxide | 30 Milligrams/cubic meter | 1 hr |
| | 10 Milligrams/cubic meter | 8 hr |
| Nitrogen Dioxide | 400 | 1 hr |
| | 150 | 24 hrs |
| Ozone | 200 | 1 hr |
| | 120 | 8 hr |
| Suspended Particles Measured as Black Smokes | 150 | 24 hrs |
| | 60 | 1 year |
| Total Suspended Particles (TSP) | 230 | 24 hrs |
| | 90 | 1 year |
| Respirable Particles (Pm 10) | 70 | 24 hrs |
| Lead | 1 | 1 year |

ANNEX (6)**PERMISSIBLE LIMITS OF AIR POLLUTANTS IN EMISSIONS**

Air pollutants in this context are gaseous, solid, liquid or steam pollutants emitted by various establishments within given periods and likely to impact adversely on public health, animals, plants, material, or property, or to interfere with person's exercise of his daily life. Accordingly, if the emission of these pollutants results in the presence of concentrations thereof in excess of the maximum permissible limits for outdoor air, they shall be considered air pollutants.

TABLE (1)
OVERALL PARTICLES

| S. No. | Kind of Activity | Maximum Limit for Emissions (mg/m ³ from Exhaust) |
|--------|---|--|
| 1. | Carbon Industry | 50 |
| 2. | Coke Industry | 50 |
| 3. | Phosphates Industry | 50 |
| 4. | Casting and extraction of lead, zinc, copper, and other non-ferrous metallurgical industries. | 100 |
| 5. | Ferrous Industries | 200 Existing 100 New |
| 6. | Cement Industry | 500 Existing 200 New |
| 7. | Synthetic woods and fibers | 150 |
| 8. | Petroleum and Oil Refining Industries. | 100 |
| 9. | Other Industries | 200 |

TABLE (2)
MAXIMUM LIMITS OF GAS AND FUME
EMISSIONS FROM INDUSTRIAL ESTABLISHMENTS

| | Pollutant | Maximum Limit for Emissions (mg/m³ from exhaust) |
|---|--|--|
| * | Aldehydes (measured as Formaldehyde) | 20 |
| * | Antimony | 20 |
| * | Carbon Monoxide | 500 Existing 250 New |
| * | Sulphur Dioxide | |
| | Burning Coke and Petroleum | 4000 Existing 2500 New |
| | Non-ferrous Industries | 3000 |
| | Sulphuric Acid Industry & other sources | 1500 |
| * | Sulphur trioxide in addition to sulphuric acid | 150 |
| * | Nitric Acid | |
| * | Nitric Acid Industry | 2000 |
| * | Hydrochloric Acid (Hydrogen Chloride) | 100 |
| * | Hydrofluoric Acid (Hydrogen Fluoride) | 15 |
| * | Lead | 20 |
| * | Mercury | 15 |
| * | Arsenic | 20 |
| * | Heavy elements (total) | 25 |
| * | Silicon Fluoride | 10 |
| * | Fluorine | 20 |

| | Pollutant | Maximum Limit for Emissions (mg/m³ from exhaust) |
|---|------------------------------|--|
| * | Tar | |
| | Graphite Electrodes Industry | 50 |
| * | Cadmium | 10 |
| * | Hydrogen Sulphide | 10 |
| * | Chlorine | 20 |
| * | Carbon | |
| | Garbage Burning | 50 |
| | Electrodes Industry | 250 |
| * | Organic Compounds | |
| | Burning of organic liquids | 50 0.04% of crude (oil refining) |
| * | Copper | 20 |
| * | Nickel | 20 |
| | Nitrogen Oxides | |
| | Nitric Acid Industry | 3000 Existing 400 New |
| | Other sources | 300 |

ANNEX (7)
PERMISSIBLE LIMITS OF SOUND INTENSITY
AND PERIODS OF SAFE EXPOSURE THERETO

TABLE (1)

Intensity of sound inside the work place
and closed places: *

Maximum permissible noise levels inside places
of productive activities:

| No. | TYPE OF PLACE AND ACTIVITY | MAXIMUM PERMISSIBLE NOISE [level equivalent to decibel (A)] |
|-----|---|--|
| 1. | Work place with up to 8 hour shifts and aiming to limit noise hazards on sense of hearing | 90 |
| 2. | Work place where acoustic signals and good audibility are required | 80 |
| 3. | Work rooms for the follow up, measurement and adjustment of high performance operations | 65 |
| 4. | Work rooms for computers, typwriters or similar equipment | 70 |
| 5. | Work rooms for activities requiring routine mental concentration | 60 |

Maximum permissible period for exposure to noise in the work place (factories and workshops):

- * The value given hereafter is indicated on the basis of not affecting the sense of hearing.
- Intensity of noise shall not exceed 90 decibels (A) during a daily 8-hour work shift.
 - In case of increasing noise level intensity over 90 dB (A), the period of exposure must be reduced according to the following table:

| | | | | | |
|-----------------------------------|----|-----|-----|-----|-----|
| Noise intensity level decibel (a) | 95 | 100 | 105 | 110 | 115 |
|-----------------------------------|----|-----|-----|-----|-----|

| | | | | | |
|-------------------------------|---|---|---|-----|-----|
| | | | | | |
| Period of exposure (one hour) | 4 | 2 | 1 | 1/2 | 1/4 |

- The instantaneous noise intensity level during the working hours shall not exceed 135 decibels.
- In case of exposure to different noise intensity levels of over 90 decibels:
 - (1) For intermittent periods during a shift, the result must not exceed:

$$\left(\frac{A_1}{B_1} + \frac{A_2}{B_2} + \dots \right)$$
 over the integer one

whereas:

A the period of exposure to a specific level of noise (hour).

B the permissible period of exposure at the same noise level (hour)

- In case of exposure to intermittent noise emanating from sledgehammers:

Depends on the exposure period (number of impacts during the daily shift) according to noise intensity as per the following table:

| Noise intensity (Decibel) | Number of permissible impacts during the daily working hours |
|---------------------------|--|
| 135 | 300 |
| 130 | 1000 |
| 125 | 3000 |
| 120 | 10000 |
| 115 | 30000 |

Noise issuing from sledgehammers shall be considered intermittent if the period between impacts is one second or more. If the period is less, the noise shall be considered continuous and subject to the preceding four items.

TABLE (2)

The maximum permissible limit for noise intensity in the different areas:

| TYPE OF AREA | PERMISSIBLE LIMIT FOR NOISE INTENSITY DECIBEL (a) | | | | | |
|---|--|----|---------|----|-------|----|
| | DAY | | EVENING | | NIGHT | |
| | From | To | From | To | From | To |
| Commercial, administrative and downtown areas | 55 | 65 | 50 | 60 | 45 | 55 |
| Residential areas in which can be found some workshops or commercial establishments or which are located on a main road | 50 | 60 | 45 | 55 | 40 | 50 |
| Residential areas in the city | 45 | 55 | 40 | 50 | 35 | 45 |
| Residential suburbs with low traffic | 40 | 50 | 35 | 45 | 30 | 40 |
| Residential rural areas, hospitals and gardens | 35 | 45 | 30 | 40 | 25 | 35 |
| Industrial areas (heavy industries) | 60 | 70 | 55 | 65 | 50 | 60 |

Day from 7 a.m. to 6 p.m.

Evening from 6 p.m. to 10 p.m.

Night from 10 p.m. to 7 a.m.

ANNEX (8)
MAXIMUM LIMITS OF AIR POLLUTANTS INSIDE
THE WORK PLACE ACCORDING TO TYPE OF INDUSTRY

Threshold Limits are the concentrations of airborne chemical substances to which workers can be exposed day after day without adverse effects to their health and are divided into three kinds:

1- Threshold Limits – Mean time

Is the average time of an ordinary working day (8 hours) to which the worker may be exposed for 5 days a week throughout the period of his employment without suffering any damage to his health.

2- Threshold Limits - Limits of exposure for a short period

They are the limits to which the workers may be continuously exposed for a short period.

The threshold limits for short periods, are the limits of exposure for an average period of 15 minutes and which may not be exceeded under any circumstances during the working period. The period of exposure may not exceed 15 minutes nor be repeated more than four times during the same day. The period between each short exposure and the next must be at least sixty minutes.

3- The ceiling limit which may not be exceeded even for a moment. When absorption through the skin is a factor in increasing exposure, the sign "+ skin" shall be placed before the critical threshold. With respect to dust that merely causes annoyance without having tangible harmful health effects, the threshold limits shall be 10 milligrams/cubic metre for inhalable particles.

Concerning simple asphyxiate gases which have no significant physiological effects, the decisive factor shall be the concentration of oxygen in the atmosphere which may not be less than 18%.

| Substance | Threshold Limits | | | | Remarks |
|---|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Acetaldehyde | 100 | 180 | 150 | 270 | |
| Acetic Acid | 10 | 25 | 15 | 37 | |
| Acetic Anhydride | 5 | 20 | | | + SKIN |
| Acetone | 750 | 1780 | 1000 | 2375 | |
| Acetonitrile | 40 | 70 | 60 | 105 | + SKIN |
| Tetrabromide Acetylene | 1 | 15 | 1.5 | 20 | |
| Acetyl Salicylic Acid (Aspirin) | | 5 | | | |
| Acrolein | 0.1 | 0.25 | 0.3 | 0.8 | |
| Acrylamide | | 0.3 | | 0.6 | + SKIN |
| Acrylic Acid | 10 | 30 | | | |
| Acrylonitrile | 2 | | | | + SKIN |
| Alderine | | 0.25 | | 0.75 | + SKIN |
| Allyl Alcohol | 2 | 5 | 4 | 10 | + SKIN |
| Allyl Chloride | 1 | 3 | 2 | 6 | |
| Aluminium Metal and Oxides | 10 | | 20 | | |
| Pyro Powders | 5 | | | | |
| Soldering Smoke Fumes | 5 | | | | |
| Soluble Salts | 2 | | | | |
| Alkylates | 2 | | | | |
| Aminopyridine | 5.5 | 2 | 2 | 4 | |
| Ammonia | 25 | 18 | 35 | 27 | |
| Ammonium Chloride (Fume) | | | | | |
| n-Amyl Acetate | 100 | 530 | 150 | 800 | |
| sec-Amyl Acetate | 125 | 670 | 150 | 800 | |
| Aniline and Similar | 2 | 10 | 5 | 20 | + SKIN |
| Antimony and Its Compounds (Counted as antimone) | | 0.5 | | | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|-----------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| ANTU (Alpha Naphtyl Thiourea) | | 0.3 | | 0.9 | |
| Arsenic and Its Soluble Compounds (Counted as Arsenic) | | 0.2 | | | |
| Arsine Gas | 0.05 | 0.2 | | | |
| Petroleum asphalt Fumes | | 5 | | 10 | |
| Atrazine | | 5 | | | |
| Methyl Azynphos | | 0.2 | | 0.6 | + SKIN |
| Barium and Its Soluble Compounds (Counted as Barium) | | 0.5 | | | |
| Benzene (Petrol) | 10 | 30 | 25 | 75 | |
| Benzyl Chloride | 1 | 5 | | | |
| Beryllium | | 0.002 | | | |
| Diphenyl | 0.2 | 1.5 | 0.6 | 4 | |
| Bismuth Telluride | 10 | | 20 | | |
| Sodium tetra borate (Anhydrous) | | 1 | | | |
| Sodium tetra borate (Decahydrate) | | 5 | | | |
| Sodium tetra borate (Pentahydrate) | | 1 | | | |
| Boron Oxide | | 10 | | 20 | |
| Boron Tribromide | 1 | 10 | 3 | 30 | |
| Boron Trifluoride | 1 | 3 | | | + CEILING |
| Bromine | 0.1 | 0.7 | 0.3 | 2 | |
| Bromine pentafluoride | 0.1 | 0.7 | 0.3 | 2 | |
| Bromoform | 0.5 | 5 | | | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|-------------------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Butadiene | 1000 | 2200 | 1250 | 2750 | |
| Butane | 800 | 1100 | | | |
| n-Butyl Acetate | 150 | 710 | 200 | 150 | |
| sec- Butyl Acetate | 200 | 950 | 250 | 1190 | |
| tert-Butyl Acetate | 200 | 950 | 250 | 1190 | |
| Butyl Acrylate | 10 | 55 | | | |
| n-Butyl Alcohol | 50 | 150 | | | + SKIN |
| sec- Butyl Alcohol | 100 | 305 | 150 | 450 | |
| tert- Butyl Alcohol | 100 | 300 | 150 | 450 | |
| Butyl Amines | 5 | 15 | | | + SKIN |
| Tetra Butyl Chromate Counted as Chromium Oxide(CrO ₃) | | 0.1 | | | + SKIN CEILING |
| Butyl Lactate | 5 | 25 | | | |
| Butyl Mercaptan | 0.5 | 1.5 | | | |
| Cadmium Dusts and Salts (Counted As Cadmium) | 0.05 | | 0.2 | | |
| Cadmium Smokes | 0.05 | | | | CEILING |
| Calcium Carbonate | | | | 20 | |
| Calcium Hydroxide | | 5 | | | |
| Calcium Oxide | | 2 | | 10 | |
| Carbaryl | | 5 | | 10 | |
| Carbofuran | | 0.1 | | | |
| Carbon Black | | 3.5 | | 7 | |
| Carbon Dioxide | 5000 | 9000 | 15000 | 27000 | |
| Carbon Disulphide | 10 | 30 | | | + SKIN |
| Carbon Monoxide | 50 | 55 | 400 | 440 | |
| Carbon Tetra Chloride | 5 | 30 | 20 | 125 | |

| Substance | Threshold Limits | | | | Remarks |
|---|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Carbon Tetra Bromide | 0.1 | 1.4 | 0.3 | 4 | |
| Chlordane | | 0.5 | | 2 | + SKIN |
| Chlorinated Camphene | | 0.5 | | 1 | + SKIN |
| Chlorinated Diphenyl Oxide | | 0.5 | | 2 | |
| Chlorine | 1 | 3 | 3 | 9 | |
| Chlorine Dioxide | 0.1 | 0.3 | 0.3 | 0.9 | |
| Chloro Acetaldehyde | 1 | 3 | | | CEILING |
| Chlorobenzene | 75 | 350 | | | |
| Chlorodiphenyl (42%) | | 1 | | 2 | |
| Chlorodiphenyl (45%) | | 0.5 | | 1 | |
| Chloroform | 10 | 50 | 50 | 225 | |
| Di (chloromethyl) Ether | 0.001 | 0.005 | | | |
| Chloropicrin | 10 | 45 | | | |
| Chlorpyrifos | | 0.2 | | 0.6 | + SKIN |
| Chromium and Its Compounds (Counted on The Basis of Chromium) | | 0.5 | | | |
| Hexavalent Chromium Compounds (Counted on The Basis of Chromium) | | 0.05 | | | |
| Volatile Coal Tar Products Which Are Soluble In Benzene | | 0.2 | | | |
| Cobalt and its Dust and Smokes | | 0.1 | | | |
| Copper Smokes | | 0.2 | | | |
| Copper Dust and Sprinkles (Counted as Copper) | | 1 | | 2 | |
| Raw Cotton Fluff | | 0.2 | | 0.6 | |
| Cresoles | 5 | 22 | | | + SKIN |

| Substance | Threshold Limits | | | | Remarks |
|-----------------------------------|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Cyanide Salts, Counted as Cyanide | | 5 | | | SKIN |
| Cyanogen | 10 | 20 | | | |
| Cyanogen Chloride | 0.3 | 0.6 | | | CEILING |
| Cyclohexane | 300 | 1050 | 375 | 1300 | |
| Cyclopentadiene | 75 | 200 | 150 | 400 | |
| Cyclopentane | 600 | 1720 | 900 | 2580 | |
| D.D.T | | 1 | | 3 | |
| Decaborane | 0.05 | 0.3 | 0.15 | 0.9 | SKIN |
| Diazinon | | 0.1 | | 0.3 | + SKIN |
| Diazomethane | 0.2 | 0.4 | | | |
| Diborane | 0.1 | 0.1 | | | |
| Dichloro acetylene | 0.1 | 04 | | | CEILING |
| o-Dichlorobenzene | 50 | 300 | | | CEILING |
| para - Dichlorobenzene | 75 | 450 | 110 | 675 | |
| 1, 2 - Dichloro ethylene | 200 | 790 | 250 | 1000 | |
| Dichloroethyl ether | 5 | 30 | 10 | 60 | + SKIN |
| Dichlorvos | 0.1 | 1 | 0.3 | 3 | + SKIN |
| Dichrotofos | | 0.25 | | | + SKIN |
| Dieldrin | | 0.25 | | 0.75 | + SKIN |
| Diethanolamine | 3 | 15 | | | |
| Dimethylaniline | 5 | 25 | 10 | 50 | + SKIN |
| Dinitrobenzene | 0.15 | 1 | 0.5 | 3 | + SKIN |
| Dinitro- O - Cresol | | 0.2 | | 0.6 | + SKIN |
| Dinitrotoluene | | 1.5 | | 5 | + SKIN |
| Dioxin | 25 | 90 | 100 | 360 | + SKIN |

| Substance | Threshold Limits | | | | Remarks |
|---|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Dipropylene Glycol Methyl Ether | 100 | 600 | 150 | 900 | + SKIN |
| Diquat | | 0.5 | | 1 | |
| Disulfiram | | 2 | | 5 | |
| Endosulfan | | 0.1 | | 0.3 | + SKIN |
| Endrin | | 0.1 | | 0.3 | + SKIN |
| Epichlorohydrin | 2 | 10 | 5 | 20 | + SKIN |
| Ethyl Acetate | 400 | 1400 | | | |
| Ethanol | 1000 | 1900 | | | |
| Ethanolamine | 3 | 8 | 6 | 15 | |
| Ethylbenzene | 100 | 435 | 125 | 545 | |
| Ethyl butyl ketone | 50 | 230 | 75 | 345 | |
| Ethyl chloride | 1000 | 2600 | 1250 | 3250 | |
| Ethylene diamine | 10 | 25 | | | |
| Ethylene oxide | 10 | 20 | | | |
| Ethylene dichloride | 10 | 40 | 15 | 60 | |
| Ethylene glycol (particles) | | 10 | | 20 | |
| Ethylene glycol (Vapour) | 50 | 125 | | | Ceiling |
| Ethyl mercaptan | 0.5 | 1 | 2 | 3 | |
| Ferro vanadium Dust | | 1 | | 0.3 | |
| fibrous Glass Dust | | 10 | | | |
| Fluorides (Counted on The Basis of Fluorine) | | 2.5 | | | |
| Fluorine | | 2 | 2 | 4 | CEILING |
| Formaldehyde | 2 | 3 | | | CEILING |
| Formic Acid | 5 | 9 | | | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Gasoline | 300 | 900 | 500 | 1500 | |
| Heptachlor | | 0.5 | | 2 | + SKIN |
| Heptane | 400 | 1600 | 500 | 2000 | |
| Hexachloro Cyclopentadiene | 0.01 | 0.1 | 0.03 | 0.3 | |
| Hexachloro-Naphthalene | | 0.20 | | 0.60 | + SKIN |
| n- Hexane | 50 | 180 | 1000 | 3600 | |
| Hexane Isomers | 500 | 1800 | 1000 | 3600 | |
| Hydrogen Bromide | 3 | 10 | | | |
| Hydrogen Cyanide | 10 | 10 | | | CEILING |
| Hydrogen Fluoride | 3 | 2.5 | 6 | 5 | |
| Hydrogen Sulphide | 10 | 14 | 14 | 21 | |
| Iodine | 0.1 | 1 | | | CEILING |
| Iron Oxide Smokes | 3 | 5 | | 10 | |
| Iron Pentacarbonyl | 0.1 | 0.8 | 0.2 | 0.16 | |
| Isobutyl Alcohol | 50 | 150 | 75 | 225 | |
| Isopropyl Alcohol | 400 | 980 | 500 | 1225 | |
| Lead Dust and Smokes Non Organic (as Lead) | | 0.15 | | 0.45 | |
| Lead Arsenate | | 0.15 | | 045 | |
| Lead Chromate | | 0.05 | | | |
| Lindane | | 0.5 | | 0.5 | + SKIN |
| Liquified Petroleum Gases | 1000 | 1800 | 1250 | 2250 | |
| Magnesium Oxides Smokes | | 10 | | | |
| Malathion | | 10 | | | + SKIN |
| Manganese Dusts and Compounds (as Manganese) | | 5 | | | CEILING |
| Manganese Smokes | | 1 | | 3 | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Mangnese Tetra Oxide | | 1 | | | |
| Mercury (as Mercury) | | | | | + SKIN |
| Alkyl Compounds | | 0.01 | | 0.03 | |
| Smokes Of All Other Compounds Except Alkyl | | 0.05 | | | |
| Aryl Compounds and Inorganic Compounds | | 0.1 | | | |
| Methomyl | | 2.5 | | | + SKIN |
| Methoxychlor | | 10 | | | |
| Methyl Alcohol | 200 | 260 | 250 | 310 | + SKIN |
| Methyl Bromide | 5 | 20 | 15 | 60 | |
| Methyl butyl ketone | 5 | 20 | | | |
| Methyl chloride | 50 | 105 | 100 | 205 | |
| Methyl chloroform | 350 | 1900 | 450 | 2450 | |
| Diphenylmethane Diisocyanate (MDI) | 0.02 | 0.2 | | | CEILING |
| Methylene Chloride | 100 | 360 | 500 | 1700 | |
| Methyl Ethyl Ketone | 200 | 590 | 300 | 885 | |
| Methyl Hydrazine | 0.02 | 0.35 | | | + SKIN |
| Methyl Isocyanate | 0.02 | 0.05 | | | + SKIN |
| Methyl Mercaptan | 0.5 | 1 | | | |
| Methyl Parathion | | 0.2 | | 0.6 | + SKIN |
| Mevinphos | 0.01 | 0.1 | 0.03 | 0.3 | + SKIN |
| Monocrotophos | | | | | |
| Naphthalene | 10 | 50 | 15 | 75 | |
| Nickel Carbonyl (as Nickel) | 0.05 | 0.53 | | | |
| Nickel Metal | | 1 | | | |
| Soluble Compounds (as Nickel) | | 0.1 | | 0.3 | |
| Nicotine | | 0.5 | | 1.5 | + SKIN |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Nitric Acid | 2 | 5 | 4 | 10 | |
| Nitric Oxide | 25 | 30 | 35 | 45 | |
| Para Nitroaniline | | 3 | | | + SKIN |
| Nitrobenzene | 1 | 5 | 2 | 10 | + SKIN |
| Nitro Chlorobenzene | | 1 | | 2 | + SKIN |
| Nitrogen Dioxide | 3 | 6 | 5 | 10 | |
| Nitrogen Trifluoride | 10 | 30 | 15 | 45 | |
| Nitroglycerin | 0.02 | 0.2 | 0.05 | 0.5 | + SKIN |
| Nitrotoluene | 2 | 11 | | | + SKIN |
| Octachloronaphthalene | | 0.1 | | 0.3 | + SKIN |
| Mineral Oil Sprinkles | | 5 | | 10 | |
| Osmium Tetraoxide (as Osmium) | 0.0002 | 0.002 | 0.0006 | 0.006 | |
| Oxalic Acid | | 1 | | 2 | |
| Oxygen Difluoride | 0.05 | 0.1 | 0.15 | 0.3 | |
| Ozone | 0.1 | 0.2 | 0.3 | 0.6 | |
| Paraffin Wax Vapours | | 2 | | 6 | |
| Paraquat (Size of Inhalable Particles) | | 0.1 | | | |
| Parathion | | 0.1 | | 0.3 | + SKIN |
| Pentachloronaphthalene | | 0.5 | | 2 | |
| Pentachlorophenol | | 0.5 | | 1.5 | + SKIN |
| Ethylene Dichloride | 50 | 325 | | | |
| Phenol | 5 | 19 | 10 | 38 | + SKIN |
| Phenothiazine | | 5 | | 10 | + SKIN |
| Para-Phenylene Diamine | | 0.1 | | | + SKIN |
| Phenylhydrazine | 5 | 20 | 1 | 45 | + SKIN |

| Substance | Threshold Limits | | | | Remarks |
|--------------------------------------|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Phenyl Mercaptan | 0.5 | 2 | | | |
| Phosgene | 0.1 | 0.4 | | | |
| Phosphine | 0.3 | 0.4 | 1 | 1 | |
| Phosphoric Acid | | 1 | | 3 | |
| Yellow Phosphorus | | 0.1 | | 0.3 | |
| Picric Acid | | 0.1 | | 0.3 | + SKIN |
| Platinum Metal | | 1 | | | |
| Soluble Platinum Salts (as Platinum) | | 0.002 | | | |
| Potassium Hydroxide | | 2 | | | CEILING |
| Propionic Acid | 10 | 30 | 15 | 45 | |
| Propyl Alcohol | 200 | 500 | 250 | 625 | + SKIN |
| Pyrethrum | | 5 | | 10 | |
| Pyridine | 5 | 15 | 10 | 30 | |
| Rotenone | | 5 | | 10 | |
| Selenium Salts (as Selenium) | | 0.2 | | | |
| Selenium Hexafluoride | 0.05 | 0.2 | | | |
| Silicon | | | | 20 | |
| Silicon Carbide | | | | 20 | |
| Silver Metal | | 0.1 | | | |
| Soluble Silver Salts | | 0.01 | | | |
| Sodium Azide | 0.1 | 0.3 | | | CEILING |
| Sodium Bisulfite | | 5 | | | |
| Sodium Fluoroacetate | | 0.05 | | 0.15 | + SKIN |
| Sodium Hydroxide | | 2 | | | CEILING |
| Sodium Metabisulfite | | 5 | | | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Stibine | 0.1 | 0.5 | 0.3 | 1.5 | |
| Protein Decomposing Enzymes (100% Pure Crystalline Enzyme) | | 0.00006 | | | CEILING |
| Sulphur Dioxide | 2 | 5 | 5 | 10 | |
| Sulphuric Acid | | 1 | | | |
| Sulphur Hexafluoride | 1000 | 6000 | 1250 | 7500 | |
| Sulphur Monochloride | 1 | 6 | 3 | 18 | |
| Sulphur Pentafluoride | 0.025 | 0.25 | 0.075 | 0.75 | |
| 2,4,5 – Trichlorophenoxy- Acetic Acid | | 10 | | 20 | |
| TEPP (Tetra ethyl pyrophosphate) | 0.004 | 0.05 | 0.01 | 0.02 | + SKIN |
| 1,1,2,2, Tetrachloroethane | 5 | 35 | 10 | 70 | + SKIN |
| Tetra Ethyl Lead (as Lead) | | 0.1 | | 0.3 | + SKIN |
| Tetryl | | 1.5 | | 3 | + SKIN |
| Soluble Thallium salts (as Thallium) | | 0.1 | | | + SKIN |
| Thiram | | 5 | | 10 | |
| Tin & Its Inorganic Compounds (Except Tin Tetra Oxide Counted as Tin) | | 2 | | 4 | |
| Tin Organic Compounds (as Tin) | | 0.1 | | 0.2 | + SKIN |
| Titanium Dioxide | | | | 20 | |
| Toluene | 100 | 375 | 150 | 560 | + SKIN |
| Toluene Di-isocyanate | 0.02 | 0.14 | | | CEILING |
| o-toluidine | 2 | 9 | | | + SKIN |
| Trichloroacetic Acid | 1 | 5 | | | |
| 1,2,4, Trichlorobenzene | 5 | 40 | | | |

| Substance | Threshold Limits | | | | Remarks |
|--|------------------------|-------------------|---------------------------------------|-------------------|---------|
| | Mean time | | Limits of exposure for a short period | | |
| | Part per million P.P.M | mg/m ³ | Part per million P.P.M | mg/m ³ | |
| Trichloroethylene | 50 | 270 | 150 | 805 | |
| Trichloronaphthalene | | 5 | | 10 | |
| 2,4,6 – Trinitrotoluene | | 0.5 | | 3 | + SKIN |
| Trimethylbenzene | 25 | 125 | 35 | 170 | |
| Triorthocresyl Phosphate | | 0.1 | | 0.3 | |
| Natural Uranium & Its soluble & insoluble Compounds (Counted as Uranium) | | 0.2 | | 0.6 | |
| Inhalable Vanadium Dusts & Smokes (Counted as Vanadium PentaOxide) | | 0.5 | | | |
| Vinyl Chloride | 5 | 10 | | | |
| Warfarin | | 0.1 | | 0.3 | |
| Soldering Smokes | | 5 | | | |
| Solid Timber Dusts | | 1 | | | |
| Soft Timber Dusts | | 5 | | 10 | |
| Xylene | 100 | 435 | 150 | 655 | + SKIN |
| Zinc Chloride Smokes | | 1 | | 2 | |
| Zinc Oxide Smokes | | 5 | | 10 | |
| Zirconium Compounds (Counted as Zirconium) | | 5 | | 10 | |

**THRESHOLD LIMITS OF
EXPOSURE TO MINERAL DUSTS**

1- SILICA - SILICON DIOXIDE:

A- CRYSTALLIZED:

Quartz: Threshold limits (million particles per cubic foot)

$$= \frac{300}{\text{Percentage of Quartz Concentration in dust} + 10}$$

Threshold limits of Inhalable dusts (LESS THAN 5 MICRONS)
(mg/m³)

$$= \frac{10 \text{ mg/m}^3}{\text{Percentage of Quartz Concentration in dust} + 2}$$

Threshold limits of total dust (mg/m³)

$$= \frac{30 \text{ mg/m}^3}{\text{Percentage of Quartz Concentration in dust} + 3}$$

CRISTOBALITE AND TRIDYMITE : Half the value calculated for
Quartz shall be used.

B- UNCRYSTALLIZED SILICA

Threshold limits 20 Million particles per cubic foot

2- ASBESTOS: Asbestos dusts with fibers lengths of more than 5 micrions.

AMOSITE 0.5 of fibers per cm³ of air
CROCIDOLITE 0.2 of fibers per cm³ of air
OTHER KINDS 2 of the fibers per cm³ of air

3- TALC:

FIBROUS TYPE: 2 fibers per cm³ of air
NON FIBROUS TYPE: 20 million particles per cubic foot of air

4- MICA: 20 million particles per cubic foot of air

5- NATURAL GRAPHITE: 15 million particles per cubic foot of air

- 6- **COAL: Inhalable Dusts:**
(provided that percentage of silica is less than 5%)

$$= 20 \text{ million particles per cubic foot of air}^{(2)}$$

If the percentage of SILICA is more than 5%

$$= \frac{10 \text{ mg/m}^3}{\text{Percentage of Silica in Inhalable dust} + 2}$$

Threshold limits for dust which only cause annoyance

(Less than 1% quartz) Threshold limits for total dust

$$= 30 \text{ million particles /cubic foot}$$

$$= 10 \text{ mg/m}^3$$

$$\begin{array}{l} \text{Threshold limits} \\ \text{for inhalable dusts} \end{array} = 5 \text{ mg/m}^3$$

If the percentage of quartz exceeds 1%, the Threshold limits for quartz is applicable.

EXAMPLES:

Among the dust that only causes annoyance:

- ALUMINA
- CALCIUM CARBONATE
- MARBLE/LIMESTONE
- CALCIUM SILICATE
- PORTLAND CEMENT
- SYNTHETIC GRAPHITE
- GYPSUM - CALCIUM SULPHATE
- MAGNESIUM SULPHATE
- KAOLINE
- METALLURGICAL WOOL FIBERS
- ZINC OXIDE
- CELLULOSE FIBRES
- SPRINKLES OF VEGETABLE OILS - EXCEPT IRRITATING OILS

Threshold limits for raw cotton fluff:

$$\text{Threshold limits- mean time} = 0.2 \text{ mg/m}^3$$

⁽²⁾ Million particles in a cubic foot x 35.5 = a Million particles per cubic metre = One particle per cubic centimeter

Threshold limits - for short exposure = 0.6 mg/m³

**THRESHOLD LIMITS FOR CARCINOGENS
AND SUSPECTED CARCINOGENS**

| Substance | Threshold Limits | Remarks |
|---|---|---------------------|
| Acrylonitrile | 2 ppm | + Skin |
| Asbestos | See mineral dusts | |
| Perchloro Methyl Ether | 0.001 ppm | |
| Chromate (Clearing Chromate Ore) | 0.05 mg/m ³ (as Chromium) | |
| Hexavalent Chromium -Some Compounds Which Are Non-Soluble In Water | 0.05 mg/m ³ (as Chromium) | |
| Volatile Materials In Coal Tar | 0.2 mg/m ³ (As Materials soluble in benzene) | |
| Nickel Dusts and Fumes (Nickel Sulphide Roasting) | 0.1 mg/m ³ (As Nickel) | |
| Vinyl Chloride | 5 ppm | |
| Benzene | 10 ppm | |
| Beryllium | 2 Microgrammes/ m ³ | |
| Carbon Tetrachloride | 5 ppm | + Skin |
| Chloroform | 10 ppm | |
| Hydrazine | 0.1 ppm | + Skin |
| Phenyl Hydrazine | 5 ppm | + Skin |
| 1,1-Dimethyl Hydrazine | 0.5 ppm | + Skin |
| Methyl Hydrazine | 0.2 ppm | + Skin - Ceiling |
| Dimethyl Sulphate | 0.1 ppm | + Skin |
| Ethylene Oxide | 1 ppm | |
| Formaldehyde | 1 ppm | Ceiling |
| Hexa Chlorobutadiene | 0.02 ppm | |
| Methyl Iodide | 2 ppm | + Skin |
| 2-Nitropropane | 10 ppm | |
| Beta Propio Lactone | 0.5 ppm | |
| Propyl Amine | 2 ppm | + Skin |
| Orthotoluidine | 2 ppm | + Skin |
| Vinyl Bromide | 5 ppm | |
| Vinyl Cyclohexene Dioxide | 10 ppm | |

CARCINOGENIC SUBSTANCES WITH NO KNOWN THRESHOLD LIMITS WHICH WORKERS ARE NOT ALLOWED TO TOUCH OR BECOME EXPOSED TO IN ANY WAY

4- Octapheneyl Amino (Paraseny Amino)

Benzidine
Chloromethyl Ether
Beta Naphthyl Amine

5- Nitro Diphenyl

INDUSTRIAL MATERIALS OR PROCESSES SUSPECTED OF BEING CARCINOGENIC:

AMETRYN

PRODUCTION OF ANTIMONY TRIOXIDE

PRODUCTION OF ARSENIC TRIOXIDE

BENZO (A) PYRENE

PRODUCTION OF CADMIUM OXIDE

3,3 - DICHLORO BENZEDINE

DIMETHYL CARBAYMYL CHORIDE

ETHYLENE DIBROMIDE

HEXAMETHYL PHOSPHORIC TRI AMIDE

N- NITROSO DIMETHYL AMINE

N- PHENYL –BETA- NAPHTHYLAMINE

VENTILATION IN WORK PREMISES:

Aims at maintaining the concentration of pollutants below maximum permissible limits. The provision of adequate ventilation inside work premises shall be effected in one of two ways:

- 1- General ventilation
- 2- Local ventilation

1- GENERAL VENTILATION:

It is a suitable method for treatment of low toxicity solvent fumes. It is not suitable for high toxicity substances, nor pollutants which are irregularly emitted or in large quantities. It is not generally suitable for dealing with dust and fumes.

The general ventilation system shall be computed after identifying the volume of evaporated substances and computing the required volume of

the air that needs to be moved in order to cause the change of air sufficient for maintaining the concentration of the pollutant substance below the maximum permissible limits.

The technical engineering aspects shall be taken into consideration when establishing the ventilation system. A specialized engineer shall supervise the execution of this system guided by the recommendations set forth in the following reference book: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, COMMITTEE ON VENTILATION, INDUSTRIAL VENTILATION. A MANUAL OF RECOMMENDED PRACTICE, 13TH ED. AACGIH, Lansing, MI, 1974.

2- LOCAL VENTILATION:

It is more effective for controlling the different types of pollutants. It consists of a hood, a set of pipes, a purifying apparatus to clear the air before its emission outside the location, and a fan to circulate the air.

Whatever the design of the hood, the speed of air at the pollution point source must be enough to remove it before it is dispersed in the work premises.

Technical and engineering aspects should be taken in consideration in designing the local ventilation system. Execution of the system must be supervised by a specialized engineer making use of the above mentioned reference for general ventilation.

Whenever general and local ventilation systems are used, maintenance should be supervised periodically by a specialized engineer and efficiency should be assessed out during periodic maintenance.

ANNEX (9)
UPPER AND LOWER LIMITS FOR DEGREES OF TEMPERATURE AND HUMIDITY, THE PERIOD OF EXPOSURE THERETO AND THE MEANS OF PROTECTION THEREFROM

- 1- Workers shall not be exposed during two working hours on any one full working day to conditions of severely high temperature, as indicated in the table and as measured with a moistened black thermometer:

| TYPE OF WORK | LOW AIR VELOCITY | HIGH AIR VELOCITY |
|---------------------|-------------------------|--------------------------|
| Light work | 30.8 centigrade | 32.28 centigrade |
| Medium work | 27.88 centigrade | 30.58 centigrade |
| Hard work | 26.18 centigrade | 28.98 centigrade |

- 2- A worker may not be made to work wprecautionary supervision when exposed to high temperature levels.
- 3- If any worker is exposed for a period of one continuous or intermittent hour during two working hours to working conditions of extreme temperature in excess of 26.18 centigrade for men and 24.58 centigrade for women, one or more of the following methods shall be used to ensure that the worker's internal temperature does not rise above 38.8 centigrade.
- (A) Acclimatizing the worker to the temperature over a period of six days by exposing him/her to 5% of the daily exposure period on the first working day then increasing the period of exposure by 10% a day until it reaches 100% on the sixth day.
- (B) A worker who absents himself for a period of nine days or more after the acclimatization process or who falls ill for a period of four consecutive days must be re-acclimatized over a period of four days by being exposed to 50% of the daily exposure period on the first day and an additional 20% a day thereafter so as to reach 100% exposure on the fourth day.
- 4- Organizing working hours to reduce the physiological stress on the worker and enable him to get adequate rest between the working hours.
- 5- Distributing the total period of work evenly on the same day.
- 6- Scheduling work so that jobs exposed to high temperatures are slotted into the coolest periods of the day.
- 7- Scheduling short rest breaks at least once every hour to enable workers to drink a saline solution. Each worker shall be given a minimum of 2 litres of potable

water in which 0.1% salt is dissolved (without giving salt pills), and the water supply must not be further than 60 metres from the workers.

- 8- Providing and using suitable protective clothing and equipment.
- 9- Adopting all engineering precautions and designs, and applying engineering control and execution methods to reduce air temperature.

MEDICALLY:

- Conducting medical examinations on workers exposed to high temperatures to ascertain their tolerance levels, checking in particular their cardio -vascular, respiratory and urinary systems, [liver, endocrine glands, skin and medical history, especially in regard to heat-related diseases.
- Conducting periodic check-ups every two years for workers under the age of 46 who are exposed to high temperature and every year for older workers.
- Presence of a trained health worker to observe and confront cases and diseases resulting from heat during work, in addition to the availability of first aid facilities.

TRAINING:

Workers who are exposed to high temperatures must be informed of the following:

- 1- Importance of drinking water during work.
- 2- Importance of taking salts.
- 3- Importance of daily weighing of the body before starting work and at the end of duty.
- 4- The symptoms of the main diseases connected with heat exposure, e.g. dehydration, drowsiness, exhaustion and cramps resulting from heat.
- 5- Dangers of any toxic substances or other physical hazards to which the worker is exposed.
- 6- The importance of heat acclimatization (while recording the data concerning each worker in a special file easily accessible to the worker).

Monitoring:

- 1- Placing a wet bulb thermometer (ordinary mercury thermometer with the mercury reservoir wrapped in moistened gauze) in hot work places.
- 2- Using the black GLOB thermometer (mercury thermometer with the mercury reservoir wrapped in black metal) in addition to the wet thermometer.
- 3- Waiting for half an hour before taking the reading of each thermometer.
- 4- Determining the black wet temperature degree from the equation:

Black wet thermometer temperature degree = $0.7 \times$ reading of wet thermometer
 + $0.3 \times$ reading of GLOB thermometer

The following table may also be used, provided it is applied separately for each hour of work and that the aforementioned conditions are satisfied.

**SAFE STANDARDS OF TEMPERATURE DEGREES IN THE WORK
 ENVIRONMENT FOR EACH WORKING HOUR**

| System of work and hourly rest break | Light work | Medium work | Hard work |
|---|-------------------|--------------------|------------------|
| Continuous work | 308 C | 278C | 258C |
| 75% work, 25% rest | 30.58C | 288C | 268C |
| 50% work, 50% rest | 31.58 C | 29.58C | 288C |
| 25% work, 75% rest | 328 C | 318 C | 308C |

In case of work under conditions of low temperature:

In case it is necessary to work in conditions of low temperature suitable occupational safety measures must be taken, in terms of wearing respiration equipment to warm the inhaled air and using protective insulated clothing to maintain the workers' internal body temperature.

ANNEX (10)
NON-DEGRADABLE POLLUTING SUBSTANCES WHICH INDUSTRIAL ESTABLISHMENTS ARE PROHIBITED FROM DISCHARGING INTO THE MARINE ENVIRONMENT

Non-degradable substances are those found in the environment for a long period depending basically on the quantities discharged into the marine environment, since some of them disintegrate after long periods ranging between a number of months and several years, according to the composition of these substances and their concentration in the environment.

Non-Organic Substances:

Examples:

MERCURY and its compounds
LEAD and its compounds
CADMIUM and its compounds
COBALT - VANADIUM - NICKEL - SELENIUM - ZINC AND its compounds

Organic Substances:

Examples:

- Organophosphorus Pesticides
- Dimethoate
- Malathion

Very Small Quantities Which Disintegrate Within Some Months:

- Organochlorine Pesticides
- Aldrin, Dieldrin, DDT
- Chloridane, Endrin

Non-Degradable With Traces Continuing For Several Years:

- Polychlorinated Biphenyls (PCBs)
- Aroclor 1254
- 2,3,6-Tri chlorobiphenyl

These substances are not completely degradable and are considered highly toxic in very low concentrations:

- Polynuclear Aromatic Hydrocarbons (PAH)
- Benzo (a) Pyrene
- Naphthalene

Degradable, With Very Small Quantity Decomposed Over Years

Solid Substances:

Examples:

Plastic - Fishing Nets - Ropes - Containers.