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## THE MEXICAN ENVIRONMENTAL AUDIT AS A VOLUNTARY NORM

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### SUMMARY

In 1992, the position and organization of the Federal Attorney for Environmental Protection was created. One of its objectives is the implementation of the Environmental Audit Program. The Environmental Audit in México is being used as an “autorregulation,” or voluntary norms with the following objective — to minimize industrial risks through pollution prevention and control.

### 1 INTRODUCTION

Several aspects make enforcement of environmental laws an especially difficult affair in Latin America.

The international division of work has condemned developing countries to an increasing dependance on exploitation of their natural resources in a non-sustainable way, in order to relieve the extreme poverty that currently exists.

Although the relationship between debt vs. natural resources or world trade vs. environment still remains unclear, there is no doubt that the developing countries have had to reconcile their population’s increasing demand for basic goods with the exhausting repayment of debt. Furthermore, we have had to promote industrial activity and provide the necessary framework for foreign trade while simultaneously protecting our environment, which includes our more valuable belonging: human life.

Within a globalization framework at the international level, we have committed ourselves to comply with international agreements around global issues requiring immediate attention. Those commitments have highlighted the limitations of our environmental sector, but also have fostered efforts to face a reality that cannot be postponed.

Taking into account increasing awareness about the environmental risks that the world faces, we must notice that the solutions given to those problems more often are corrective than preventive. In this point of view the last ones are useful tools to avoid ecological imbalance.

### 2 BACKGROUND

The main results of this approach have been:

- deterioration of world population’s quality of life, very fast in some cases;
- perceptible change in atmospheric composition, especially CO<sub>2</sub> concentrations (the main greenhouse gas);
- damage to the stratospheric ozone layer;
- harmful accidents related to industrial plants; and
- improper management and final disposal of hazardous wastes in general and toxic wastes in particular.

This situation has become sharper in industrializing countries for several reasons:

- their traditional lack of control;
- the vicinity of industries and populated areas;
- the constant population pressure over free spaces;
- the recurrent financial and market crises; and
- the lack of operational programs for emergency response.

The population and environmental components are exposed to unnecessary risks by all of these factors.

Those risks have become real by lamentable accidents. Perhaps the most well known of them occurred in 1984 when a toxic puff from a Union Carbide pesticide plant near Bhopal, India, was inhaled by 300,000 people. Nobody was aware that methyl isocyanate, the gas released, could be so noxious. Everybody knew that methyl isocyanate is toxic, but it was supposed that no one would have contact with it because it is an intermediate product. Consequently, the proper measures were not taken. Later in the same year, some liquid propane gas storage tanks exploded in San Juan Ixhuatepec, México, killing more than 400 people, according to official reports.

These kinds of accidents, however, are not only present in developing countries. In 1976, an uncontrolled chemical reaction in an Hoffman-LaRoche produced a puff of one of the most toxic substances known: dioxin. This cloud was carried by the wind towards Seveso, Italy, provoking one of the most harmful accidents of the chemical industry in this century.

The common aspect of these accidents is the absence of an opportune diagnostic of their possible risks. They point out the need to review systematically industry operations in order to detect the likelihood of facing similar problems in the near future. That is the origin of the environmental audit, the proactive device by nature, the autorregulation tool par excellence.

### **3 THE ENVIRONMENTAL AUDIT**

The development of auditing skills as environmental management tools started in the mid-1970s when several companies, working independently and by their own initiative, developed internal management tools to help in the assessment and review the status of their operations.

Since then, environmental auditing programs have evolved until reaching a high grade of specialization in pioneering countries, which have allowed the government authorities not to have a key role. Let me get back to this issue later.

The creation of PROFEPA was led by the explosions which took place in Guadalajara 1992; the tragedy is still present in national awareness. Among PROFEPA'S functions is to implement both enforcement of environmental laws and the environmental auditing program as a proactive mechanism to avoid risks.

The PROFEPA's main function is enforcement of the law in order to protect the environment. This goal is achieved basically in two ways: inspection (with its related enforcement authority to shut down operations) and the environmental audit. The first one is a powerful legal action with a big limitation. The Federal Government can only demand the compliance with such items that have already been regulated.

Since the environmental audit is voluntary, it can involve all those aspects that have not been regulated yet, which however, must be solved immediately.

The Federal Government decided to use the non-punitive environmental audit approach due to the current situation in México. This situation can be outlined as follows:

- almost no environmental legislation compliance during 21 years;

- enormous amounts of hazardous wastes improperly stored and disposed;
- almost total absence of environmental consciousness;
- unfinished and dislocated legal framework;
- lax mechanisms of compliance;
- incipient environmental sector;
- incipient ecological and territory planification;
- obsolete production technology; and
- scarcity of fiscal and credit politics.

All of these features promoted an industrial sector which was reluctant to analyze its environmental reality, so the Federal Government had to convince the industrial sector by explaining the environmental audit's real goal. In addition, to foster the environmental audit program, if an enterprise decided to enter the environmental audit program, PROFEPA would exclude it from normal inspection activities. Nevertheless, the industry would be inspected if a public law complaint were presented or a contingency occurred.

Environmental auditing is therefore the way that an industry can choose to comply with its environmental obligations. It basically consists of a methodological review of its production process in order to know the pollution and risk conditions under which it is operating. The degree of compliance is also defined. Likewise the environmental audit includes items not regulated yet but controlled internationally through good engineering practices. It defines and compels the application of preventive and corrective measures needed to protect the environment. All this is done confidentially, as the legal framework demands.

The essence of the environmental audit is to verify, analyze and assess the adequacy and application of risk minimization and pollution control to the enterprise.

#### **4 MÉXICO'S CASE**

Let me show you some data about one of our main worries, México City metropolitan zone.

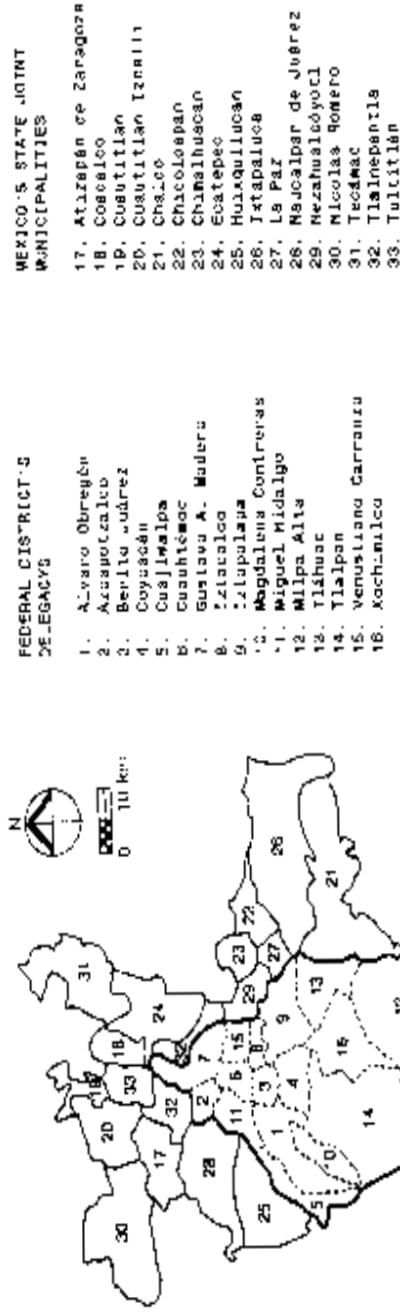
México City metropolitan zone embraces 16 delegated Federal Districts and 17 State municipalities, and its inhabitants have grown 2.54% annually in the last two decades. Such a big city offers cheap labor, services and great market opportunities. This is why it has strongly attracted every kind of industry (see Figure 1).

The ultimate result is that within a 2,000 square kilometers city there are about 30,000 industries of all sizes and classes of industries besides 18 million people. Moreover, in some parts of this crowded city, risks are high; almost 44 million tons of hydrocarbon fossil fuels are burned and nearly 600 metric tons of solvents are used day in and day out.

To a smaller degree, a similar situation is presented in the metropolitan zone of Monterrey and Guadalajara Cities. Of special concern are the northern border region and the industrial corridors of Coatzacoalcos-Minatitlán, Tula-Vito-Apasco, Tampico-Madero-Altamira, and Irapuato-Celaya-Salamanca (see Figure 2).

The federal government decided to start the auditing activities in dangerous enterprises located in those areas. As we expected, the bigger industries were selected in this step. Lately PROFEPA has been inviting the other industries to join the environmental audit program.

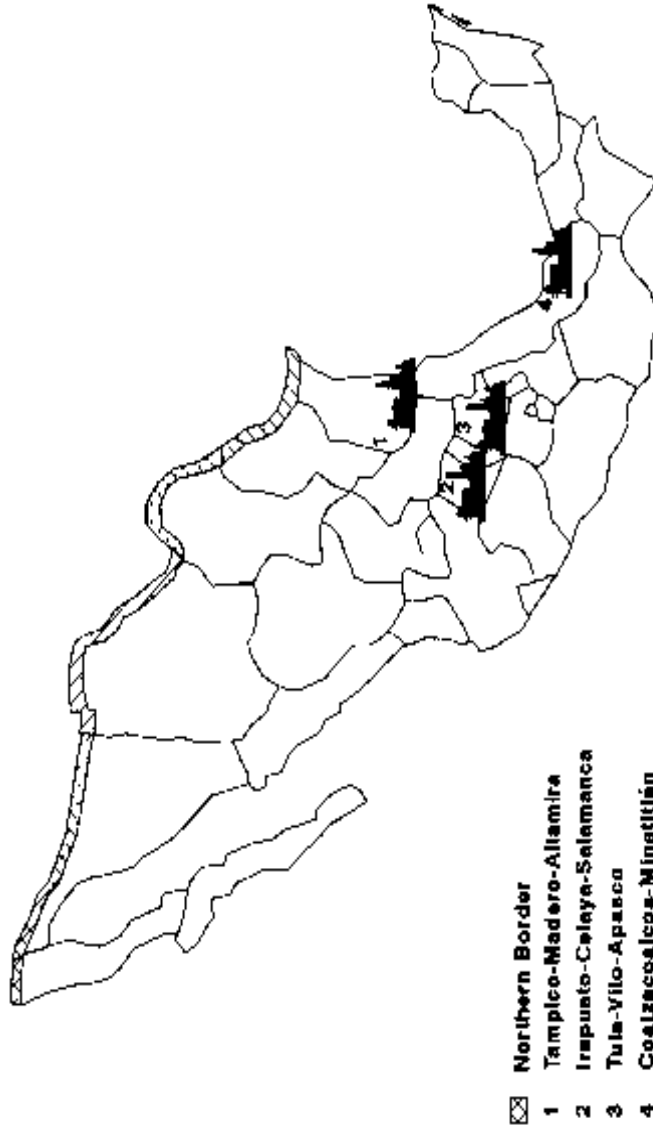
**MEXICO'S CITY METROPOLITAN ZONE**



Source: Integral Program VS Atmospheric Pollution. Inter-governmental Technical Manager, 1990

**FIG. 1**

**COUNTRY'S PRIORITY ENVIRONMENTAL ATTENTION ZONES**



**FIG. 2**

Reviewing the 1994 economic census from the National Institute of Statistics, Geography and Data Processing, the micro, small and medium industry comprise 99.2% of the total manufacturing establishments. They hire 55% of the total personnel and generate 38% of total income. On the other hand, the big industries comprises 0.8% of the total industrial plants, hire 45% of the personnel and receive 62% of total income.

In México, like most countries, the smaller enterprises constitute the manufacturing activity bases. Moreover, they offer most of the employment. However, given the scarcity of governmental human and financing resources, the starting actions have been directed to the bigger industries for which control is easier because of its small number. They represent the highest risk situations, therefore their control is imperative.

Indeed, the Environmental Audit Program does not ignore the micro, small and medium industries. However, it is assumed that these enterprises are facing serious financial problems and have more urgent concerns than environmental activities. Aware of that, PROFEPA is looking for their participation in the program through a World Bank fund. In that case, the government would pay part of the audit expenses.

## **5 THE INDUSTRIAL RESPONSE**

The Mexican environmental sector is evolving quickly, the government is enforcing the law, citizen participation is rising and the industries are making considerable efforts to comply. In this sense, in the near future, "declaration audits" will be implemented. In this kind of audit, the auditors will be certified by the governmental authority and their reports will be accepted without review, unlike the present scheme which demands that reports to be supervised by PROFEPA.

Industries in México, especially those with corporate environmental policies, have echoed the official efforts to support proactive mechanisms for environmental management.

As a result, the "Environmental Protection and Industrial Competitiveness Covenant" between the Trade and Industrial Promotion Secretary (SECOFI), Environment, Natural Resources and Fishing Secretary and Industrialist Confederation Chamber was signed in September 1995. In this covenant, autorregulation was defined as intersectorial policies to develop and foster voluntary industrial environmental protection programs through mechanisms like raw material substitution, technological modernization, energy efficiency, recycling and, of course, environmental audits.

## **6 PRACTICAL RESULTS**

Environmental audits represent a preventive approach to pollution control and risk minimization. Its collateral results are: updating an industry in terms of environmental compliance and the processes's continuous improvement. This goal demanded enormous effort because of the fact that the country, jointly with its industrial plants, is facing severe financial problems.

Environmental Audit Voluntary Program results by August 1995 are as follows: 303 audits completely finished, 150 in progress, and 135 in any part of consultation process.

Among those audited, Federal Government enterprises stand out, such as the PEMEX'S petrochemical complexes, CFE's energy generation plants, National Mexican Railroads Workshops, etc. To give an idea about the required expenses, PEMEX by itself has spent more than US \$2 billion in the audit process as well as the Action Plans and remediation activities detected.

Although the concept of an audit is the same internationally, the Mexican concept of audit has special features. In Germany, Austria, Finland, France, United Kingdom, Belgium, USA, Canada and other countries, unlike México, the environmental authority has no key

participation in the process. An industry in those countries decides to audit because of one or more of the following reasons: internal or corporate politics; improvement of its public image; non-government organization pressure; stakeholders decisions; financial requirements; etc. The government does not participate in the decision. Furthermore, the final audit reports are not destined for the environmental authority and the audited industry decides all by itself what to do and when. Therefore, in those countries, there is no official or compulsory way to do audit. However, the review of every matter related to the environmental question is a common practice, but without governmental guidance.

In México, PROFEPA has a key role. First of all, it promotes the entrance to the voluntary program and establishes the compulsory terms of reference for the audit; then it supervises the performance of the job and convenes with the industry representative of all the actions to be performed in order to correct the findings of the audit. Finally, it supervises compliance of the convened actions.

As a signatory of NAFTA, México is committed to effective compliance of its own environmental regulations. In this sense, and facing less and less regulated international trade, the environmental audit is now accepted as an environmental law compliance advice in terms of the North American environmental protection agreement.

In the same sense, as an active organization member, México will have to heed the Organization for Economic Cooperation and Development Council's recommendation on integrated prevention and control of contamination, issued on January 31, 1991, which indicates that environmental audit is one of the integrating mechanisms.

The environmental audit has demonstrated its effectiveness and has other interesting advantages as the possible elimination of penalties for self-identified, reported, and corrected items, provided that PROFEPA is notified in a spontaneous way and realistic and scheduled solutions and control and prevention measures are presented.

We must notice too that the environmental audit's terms of reference fulfill the environmental certification requirements internationally, such as ISO 14000. This will allow, in the near future, the environmental audit to become a requirement to obtain the commercial benefits acquired with the adoption of such international standards.

The ongoing PROFEPA environmental audit policy is to take care of the problems arising from bigger industrial installations, either public or private; *Petróleos Mexicanos*, *Comisión Federal de Electricidad*, *Ferrocarriles Nacionales de México*, *Ford*, *General Motors* y *Nestlé* are some examples of them.

All of this has a double effect: to minimize industrial risks and, on the other hand, promote adequate pollution control. We really think that Environmental Audit Program must be complemented with an appropriated enforcement policy. The Federal Attorney for Environmental Protection's general policy is intended to achieve this goal.

The Mexican environmental question is based on the "Think Globally, Act Locally" concept, so, we are committed to the preservation of the unique world we have.

In conclusion, let me be emphatic in saying that the main objective of Mexico's Environmental Audit Program is to achieve a better and healthier environment for all of us and to raise the quality of life for all Mexicans through a preventative approach.