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LEGAL ASPECTS OF ENVIRONMENTAL CONTROL IN MEXICO: AN ANALYSIS OF MEXICO'S NEW ENVIRONMENTAL LAW*

JULIAN JUERGENSMEYER** and EARLE BLIZZARD***

On March 23, 1971, the Mexican Congress enacted the "Federal Law for the Prevention and Control of Environmental Contamination".¹ Mexico had joined the ranks of the expanding list of countries which have responded to the world-wide environment crisis by enacting legislation designed to control and prevent pollution.²

The impetus for the new Mexican legislation came primarily from the severe atmospheric pollution in and around Mexico City, *i.e.*, the Valley of Mexico. The extent and effect of this air pollution was vividly described in the official magazine of Mexico's ruling political party as part of its discussion of the new law:

The deterioration of the Valley of Mexico is the most dramatic historical event that its inhabitants have experienced in many generations, the present residents are not even able to imagine that it was once the most healthful, pleasant, the most transparent region of the country at the end of the 19th century. The hills which surrounded the city used to be covered with trees. The Lake of Chapultepec was five times as large. The avenues of Tacuba, Ixtapalapa, those which go through the Villa of Guadalupe, to Coyoacan, Bucarel, were all flanked by trees of diverse types. The canals of Xochimilco used to reach all the way to San Lazaro. It

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1. Ley Federal para prevenir y controlar la contaminacion ambiental, *Diario Oficial* Martes, 23 de Marzo, 1971, at 8-11. For an English translation of the Law see Appendix.

2. Not until the reports of the various nations which participated in the United Nations Environment Conference in June of 1972 have been studied will there be any clear idea of exactly which nations have done what in regard to environment law. Until that time the survey studies available include Juergensmeyer, *A Comparative View of the Legal Aspects of Pollution Control*, 5 Suffolk Univ. L. Rev. 741 (1971); Kiefe, *Water and Air Pollution and the Public Health*, The Review of the International Commission of Jurists, at 28 (March 1970). Association pour le Developpement du Proit Mondial, *La Defense de l'Homme Contre Les Pollutions* (1970); and *Proceedings of the Eighth International Symposium on Comparative Law* (1971).

used to be a green city. Now it is gray and opaque, surrounded by industrial centers and polluted by dust storms, carbon monoxide, sulphur dioxide, nitrogen oxides, particles of asbestos and rubber. . . .³

The severity of the present situation is even more shocking when one considers how recently the problem became severe. Although the area covered by lakes and forests began to shrink at the beginning of this century, Mexico City was known as "the air-conditioned city of the world" as late as the nineteen hundred and fifties when Americans and Mexicans alike considered the pure cool air of Mexico City as one of the country's greatest assets. This asset was, however, doomed to at least temporary exhaustion by a lethal combination of natural and man-made factors.

The natural factors which play such an important role in Mexico City's atmospheric pollution problem result from nearly unique topographic and meteorological factors. Mexico City is built in a "bowl" created by high volcanoes which provide a spectacular backdrop for tourist brochure views but which have the unfortunate effect of confining atmospheric emissions within the bowl or at least making their exit quite difficult since they must rise to a height of 9,100 feet in order to escape through the narrow pass between the volcanoes at Milpa Alta, southeast of the City.

The First Symposium of Air Contamination in Mexico City⁴ identified the meteorological effects of these topographic features in the following terms:

1. Prolonged periods of thermal inversion, which persist frequently during the February through May dry season.
2. Low wind velocity caused by the reduction of wind intensity by mountains which surround the Valley of Mexico.
3. Long periods of calm air caused by the above mentioned low intensity of the winds and vertical thermal stability.
4. A predominately northeasterly wind direction in the Valley of Mexico which results in smoke from the industrial zone in the northern part of the city and dust from the dry basin of Texcoco also to the north, being blown to the urban centers.

3. Arenas, *Una Ley Para Preservar La Vida*, 6 Pensamiento Politico 495 (Abril 1971).

4. The Symposium [El Primer Simposium Sobre La Contaminacion De Aire En La Ciudad De Mexico] was held on Dec. 9, 1968, under the auspices of the Mexican Institute of Chemical Engineers. The April and May 1971 issues of I.M.I.Q. [Revista del Instituto Mexicano de Ingenieros Quimicos] are devoted to summaries and reviews of papers and speeches delivered at the Symposium.

5. The deterioration of air transparency, indicated by visibility reduction indicating that dilution capacity has been exceeded.⁵

The Symposium identified the contamination as proceeding from four types of sources:

1. Industrial emissions consisting of gaseous hydrocarbons, nitrogenous oxides, sulphurous oxides, organic solvent vapors together with (particulates) and dusts such as lime sulphates (gypsum), cement, carbon and soot.

2. Emissions due to combustible fuels—the greatest source of contaminants.

3. Municipal waste emissions.

4. Dust from the surrounding rural areas—most particularly the dry basin of Texcoco.⁶

As these sources of contaminants indicate, the man-made factors which have combined with the natural factors to precipitate the crisis are the usual culprits in the environment realm—overpopulation and unregulated industrialization. An increased birth rate compounded by an influx of people from rural and provincial areas have resulted in a population growth of more than 400 percent for the Valley of Mexico in the past sixteen years. Population predictions call for an increase from the present 8.3 million to fourteen million in 1980.⁷ Even without industrial pollution, the emissions from domestic sources and motor vehicles for this many people in such a confined atmosphere would no doubt put Mexico high on the roll of polluted cities. Industrial enterprises are, however, and will continue to be, a significant source of air pollutants since over 50 percent of Mexico's industrial production is concentrated in the Valley of Mexico. Furthermore present economic factors and policies insure a continuation of this pattern of industrial concentration for the following reasons: The consuming market for industrial products, as a consequence of consumer goods for demand, is concentrated in the Mexico City area, which has approximately 50 percent of Mexico's consumers; Transportation beyond the Federal District area is expensive and difficult; and The day-to-day relations of industry to the plethora of government agencies, and the need for up-to-the-minute information on import permits, market price changes and also customer relations, have made many corporations reluctant to separate their management

5. 12 I.M.I.Q. 17 (April 1971).

6. *Id.* For a detailed discussion of the Texcoco dust problem, see note 12 *infra*.

7. B. Galbraith, *Stirrings in Pollution Control*, 37 Mexican-American Review II (Feb. 1969).

teams into a production unit and sales management unit separated by several hours travel distance.⁸

Official government policy further compounds the industrialization problem. For example, the Secretariat of Industry and Commerce recently published lists of industries which Mexico needs and wants. Seven hundred and twenty-eight new, *i.e.*, not previously manufactured in Mexico, products are listed.⁹ At least 50 percent of these, if all were to be produced, would be produced in the Mexico City area and would contribute substantially to the atmospheric contamination. Although the Secretariat falls within the scope of the environmental legislation which specifically calls for a policy of industrial decentralization, no area restrictions, or manufacturing controls were suggested for the new industries.

Thus, the industrial needs of Mexico, as championed by the Secretariat of Industry and Commerce, raise the dilemma of the need and desire to curb air pollution on one hand, and on the other, the need to satisfy the industrial needs of Mexico which will increase the air pollution problem through the promotion of new industries. How the government proposes to satisfy both needs, air pollution control and new basic industries, remains the unanswered—and, some would say, the unanswerable—question.

In regard to health effects of the atmospheric pollution, Mexico City has not officially reported any serious health problem due to air pollution. However, informal interviews with doctors¹⁰ indicate that there is a general feeling that conditions and illness, especially those of the upper respiratory tract, that are attributable or traceable to atmospheric contamination, have sharply increased in recent years. However, this may be only because the practitioners have been made more aware of the problem, since accurate statistics from other than government facilities are scarce or non-existent.

Although many discussions of current pollution problems in Mexico City and environs mention water pollution, there is little scientific evidence available to indicate the seriousness of the problem in the Federal District. Contamination by sewage has

8. See International Basic Economy Corporation, *Annual Projection Report on Mexico* (1970).

9. Information supplied by *Dirección General De Industrias, Secretaría De Industria Y Comercio*. The Secretariat recommended that two things be considered before new manufacturing ventures are embarked upon: Favorable localization features, *i.e.*, market and meeting market demands. The industries are listed and discussed at 37 *Mexican-American Review* 23 (July 1970) and 37 *Mexican-American Review* 39 (Sept. 1970).

10. Interviews conducted by the authors and their assistants during July of 1971.

been largely avoided in Mexico City by pumping the sewage to an adjacent valley in the State of Hidalgo.¹¹ This sewage water has been used for fertilizing large areas of alfalfa, and has been a source of salmonella infection in livestock.

Within the Valley of Mexico there is little soil that can be considered worthy of commercial production, except a few isolated areas in the Texcoco region for commercial alfalfa production, and Xochimilco for large scale flower farms. Hence soil contamination is not of importance for immediate enforcement of federal legislation; and there has been no evidence of soil pollution in Mexico other than misuse of a farmer's own soil through lack of rotation, or over fertilization in the hope of an improved production.¹²

Both the water and soil situation in the Federal District could rapidly deteriorate since pressures on industry due to atmospheric contamination could become such that other outlets of effluent discharge would be sought before adequate filtering systems are installed. However, the immediacy of the solution to the contamination problem centers on effective air pollution control and not in the areas of soil and water contamination.

THE NEW LEGISLATION

The first thing which should be noted about Mexico's new environment law is that it is part of one of three constitutional reforms spearheaded by a group of deputies from the Federal District. These constitutional changes center around Section XVI of Article 73 of the Mexican Constitution and cover alcohol and its sale and use, narcotics and degenerative substances, and environmental contamination.

The President proposed, by means of an *iniciativa*, that the Mexican Constitution be amended to enlarge the powers of the Council on Health (*Consejo de Salubridad*) so that it would develop pollution legislation subject to Congressional review and

11. La Presa de Endho, Tula, Hidalgo.

12. Most of Mexico City's dust pollution results from the Lake of Texcoco having been drained some seventy years ago in an unsuccessful effort to obtain additional farming lands. The soil of the former lake bed is unsuitable for farming so that at present the dry barren lake bed's only role is that of a source for considerable quantities of dust during the dry season. The dust pollution plus the need for more residential areas for Mexico City's growing population form the impetus for the Texcoco Plan of President Echeverria Alavrez's government.

The Texcoco Plan is an extremely ambitious, long-range, and expensive one which portends numerous environmental consequences. Eventually the lake bed is to be flooded thereby recreating Lake Texcoco and eliminating the source of the dust pollution. The area is then to be developed as a residential and recreational center for the inhabitants of Mexico City.

Presidential veto. Since the procedure for amending the Constitution is lengthy, President Echeverria Alvarez requested that Congress enact in the meantime the Federal Law to Prevent and Control Environmental Pollution, which it did on March 23, 1971.

The Constitutional Amendment was not published until July 6, 1971, in the Official Gazette¹³ and five days later became law. It will, however, be considered first. It reads as follows:

First and only Article—Clause 4 of Fraction 16 of Article 73 of the Political Constitution of the United States of Mexico is hereby amended as follows:

4th—The measures that the Council [of Health] has enacted in the campaign against alcoholism and the sale of substances which are poisonous to the individual or which degrade the human species, as well as those enacted for the prevention of and fight against environmental contamination, will afterwards be reviewed by the National Congress in cases within its jurisdiction.

The commentary on the amendment published in the official reports of the Chamber of Deputies¹⁴ deals with the pollution aspect of the Amendment. According to the commentary, the Government recognized the growing problems of pollution facing Mexico. In order to manage these emerging and potential problems, piecemeal measures which had been used in the past would not be satisfactory. By means of the Constitutional Amendment, the Council on Health would be empowered to

13. *Diario Oficial*, Martes, 6 de Julio, 1971, at 2. The official text of the amendment reads as follows:

Que la Comision Permanente del H. Congreso de la Union se ha servido dirigirme el siguiente

DECRETO:

“LA COMISION PERMANENTE DEL CONGRESO DE LOS ESTADOS UNIDOS MEXICANOS EN USO DE LA FACULTAD QUE LA CONFIERE EL ARTICULO 135 DE LA CONSTITUCION GENERAL DE LA REPUBLICA Y PREVIA APROBACION DE LA TOTALIDAD DE LAS HH. LEGISLATURAS DE LOS ESTADOS, DECLARA:

ARTICULO UNICO. Se adiciona la base 4a. de la fraccion XVI del articulo 73 de la Constitucion Politica de los Estado Unidos Mexicanos. en los siguientes terminos:

“Articulo 73.
XVI

4a.—Las medidas que el Consejo haya puesto en vigor en la Campana contra el alcoholismo y la venta de sustancias que envenenan al individuo o degeneran la especie humana, asi como las adoptadas para prevenir y combatir la contaminacion ambiental, seran despues revisadas por el Congreso de la Union en los casos que le competan:

TRANSITORIO

UNICO. La presente reforma entrara en vigor cinco dias despues de su publicacion en el “Diario Oficial” de la Federacion.

14. Ano. I.T.I. No. 11 CAMARA DE DIPUTADOS Febrero 2, 1971, at 26.

develop a program and legal system for dealing with environmental pollution. Measures which the Council would thereby be empowered to enact would not interfere with Congressional legislative jurisdiction in the field of general health and welfare; rather the Council of Health would enact pollution laws as required by the urgency and the gravity of the situation. Such laws would be subject to Congressional review in cases within its jurisdiction. The commentary also considered that the Amendment was not the only measure needed in building an effective legal structure to combat pollution; to wit, the March 23rd Decree. The ultimate legislative power is in the hands of the people and the ultimate expression of the people's will is the Mexican Constitution. To amend the Constitution, both houses of Congress and the legislatures of all the Mexican states must ratify the amendment; but without amending the Constitution, the Congress may enact laws based on Constitutional provisions. Such laws are called Ordinary Laws (*Leyes Ordinarias*). These laws must meet the test of constitutionality, but they do not derive their authority directly from a specific Constitutional provision as do the Regulations.

The Law of March 23rd is an example of a *Ley Ordinaria*. As will be seen subsequently, this law is of a general nature and states that regulations will be formulated by which to carry out its provisions. According to Section 89, Fraction 1 of the Mexican Constitution, it is the Chief Executive rather than the Congress who usually enacts regulations of Ordinary Laws. These regulations (also called *Reglamentos*) have the force of federal law but are not on the same hierarchical level as the Constitutional Regulations enacted by Congress.

Statements by Deputy Santana have indicated the origins of the Law of March 23rd.¹⁵ The studies which resulted from the First Symposium of Air Contamination in Mexico City sponsored by the Mexican Institute of Industrial Chemists¹⁶ were presented to the authorities of the Federal District. One of the recommendations made was for the creation of a central office of air contamination. The official response was the establishment of the Office for the Study and Control of the Contamination of the Air and Water in the Federal District.

The studies and recommendations that were included for

15. Newspaper Interview published in *Excelsior*, June 30, 1971.

16. See note 4 *supra*.

consideration by the local governmental officials, and subsequently by the Office for Study and Control, consisted of a complete analysis of Chicago's Air Contamination Control Department, the monitoring systems recommended by the National Center for Atmospheric Research of Boulder, Colorado, and recommendations of the Air Pollution Control Association (APCA) of the United States.

In 1970, a group of government officials, scientists from the National University, and press and television reporters were invited to visit several cities of the United States (Cincinnati, Pittsburgh and Washington) under the auspices of the American Embassy and Proctor and Gamble Co. Pittsburgh provided state and federal studies as well as those of private groups on air contamination. Cincinnati provided information on the OR-SANCO (Ohio River Sanitation Compact) and Washington D.C. was the source of information on water pollution.¹⁷ An English translation and the official text of the Federal Law for the Prevention and Control of Environmental Contamination is given as an appendix to this article. At this point the most important provisions of the Act will be summarized and discussed.

The Act's thirty-four articles are divided into five chapters. Chapter One contains general provisions including definitions; Chapter Two concerns the prevention and control of air pollution; Chapter Three, water pollution; Chapter Four, soil pollution; and Chapter Five consists of provisions relating to penalties and sanctions.

The general legislative policy and framework established at the outset is that of pollution prevention and control through federal regulations and prohibitions issued or promulgated by the federal executive pursuant to the act. No role or authority whatsoever is specified for the States or local governmental units.

As can be seen from the above chapter-by-chapter breakdown the Law is quite comprehensive in that it deals with, in the words of Article I, "the prevention and control of pollution, and the improvement, conservation, and restoration of the environment."

17. The exact relation between American environment laws and the Law of March 23 is difficult to establish. In several informal interviews the authors were told by Mexican officials that the laws of Canada and West Germany and "several other countries" were also relied upon as models. The officials declined being more definite in regard to the models used in drafting the Mexican legislation and emphasized that Mexico has not borrowed any nation's laws, but has used them as aids to draft a specifically Mexican law.

The Law is therefore not confined in purpose to some specific type of pollution or environmental problem but with pollutants and polluting activities which are capable of degrading the quality of ecological systems. The new Law, as enacted, is therefore comprehensive environmental legislation and not a piecemeal attempt to deal with only one small segment or small group of segments of the problem. The definition of pollutants and pollution contained in Article 4 encompass all of the generally regulated types of pollution—air, water, and soil, noise, thermal, insecticide, and radiation; and, in keeping with the preferred worldwide concepts of ecology, the Mexican legislative concept of pollution or environmental contamination is expressed in terms of altering the natural state and quality of environment.

Article 5 specifies the general enforcement and administration of the Act to be as a public health measure by the Secretariat of Health and Welfare and the Public Health Commission. By way of establishment of an administrative framework within the Executive branch of the federal government the article proceeds to give subordinate administrative power and authority to the Secretariat of Water Resources in regard to water pollution, the Secretariat of Agriculture and Animal Husbandry in regard to soil pollution and the Secretariat of Industry and Commerce in regard to pollution resulting from industrial and commercial activities.

Articles 6, 7 and 8 can be viewed as a Mexican National Environmental Policy Act. Article 6 obligates all agencies, officers and employees of the Federal Executive and of State, Territorial, and municipal governments to “study, design, evaluate and certify the projects and plans concerning urban development, national parks, industrial areas, and their planification and zonification in general, promoting, where possible industrial decentralization in order to avoid the problems inherent in environmental contamination.” In this same vein, Article 7 provides for study and investigation by the Federal Executive in cooperation with institutions of higher learning, of the private sector, and of individuals in general to develop new methods of pollution abatement and control. Article 8 provides for the Federal Executive to develop an educational program to acquaint particularly young Mexicans with the nation’s ecological problems.

Article 9, the last of the general provisions, is in effect, the nexus of the Law in that it provides for the promulgation by the Federal Executive of the decrees and regulations which will execute the act and provide for its effectuation and implementation.

Due to the broad power of regulation given to the Federal Executive by the general provisions of the first chapter, that chapter could stand alone as Mexico's environment act. In fact as far as the letter of the law—few countries could boast so powerful a specification of government control in regard to environmental matters. In addition, however, the Law contains specific provisions in regard to air, water and soil contamination. Chapter Two concerns air pollution and begins, in Article 10, with a comprehensive prohibition of air pollution.

Article 11 establishes the framework for administration of Article 10 by classifying emission sources as follows: Natural sources such as dry lands and volcanoes, and artificial sources. The artificial sources are in turn classified as follows: a. Stationary sources such as factories, b. Non-stationary sources such as motor vehicles and planes and c. Miscellaneous things including non-stationary sources not included in category a. such as fuel consuming engines and uses of stationary sources such as open burning of garbage, not included in category a. because of not being related to industrial activity.

Article 12, although somewhat vaguely worded gives general regulatory and supervisory power in regard to the location and operation of air pollution—producing activities. Whether this power would include the power of a relevant agency to shut down or prevent the construction of a plant for environment reasons is left unclear since Article 12 provides for the exercise of this activity pursuant to the regulations the competent agencies promulgate.

The remaining and final article in Chapter Two needlessly authorizes the Federal Executive to investigate and evaluate air quality in any area he judges to merit such an investigation and evaluation

Chapter Three, which deals with prevention and control of water contamination, is considerably longer than Chapter Two but contains no radical differences in approach except that the Secretariat of Water Resources rather than the Federal Executive is charged with the administration of this portion of the Act.

Chapter Three, like Chapter Two, begins with a general and comprehensive prohibition of water pollution.

The next five articles (15-19) concern regulation and administration of sewage and other waste waters. The following principles are established:

1. All liquid discharges—public, private and industrial—must comply with conditions necessary to prevent pollution of receiving bodies of water, interference with purification processes, and interferences with general water resources management programs and needs.

2. Effluent treatment plants are to be constructed when considered necessary by the Secretariat of Water Resources in conjunction with the Secretariat of Health and Welfare and the Secretariat of Industry and Commerce.

3. The Secretariat of Water Resources shall have a licensing power in respect to the exploitation or use of waste waters or their discharge into national waters.

In Article 20, the Secretariat of Water Resources is given supervisory power over works, installations and uses which may cause water pollution. The exact meaning of this provision is unclear especially in view of the considerably stronger and specific powers given in Article 12 to the Executive Branch in regard to air pollution. Perhaps if Article 21 is read in conjunction with Article 20, the latter becomes clearer and more closely approximates a water pollution equivalent to Article 12. Article 21 provides that the Secretariats of Health and Welfare, Water Resources, and Agriculture and Animal Husbandry shall “formulate such technical requirements as may be considered necessary for the prevention and control of the contamination of national waterways and underground waters. . . .”

Article 22, the final article in Chapter Three, is an internal administrative matter directing the Secretary of Water Resources to permit the intervention of the Secretary of Health and Welfare in cases in which water pollution may endanger public health.

Chapter Four concerning the prevention and control of soil pollution is in many ways the most unique feature of the Mexican Act. In six succinct articles (23-28), it establishes a statutory framework for regulation of soil pollution, solid waste disposal and, seemingly, urban development. Article 23 prohibits the discharge, deposit or infiltration of pollutants into the soil unless a permit to do so is obtained from the Secretariat of

Animal Husbandry. Article 24 broadly encompasses the regulation of various harmful substances connected with the soil such as insecticides, herbicides, fertilizers, defoliants and radioactive materials.

Articles 25 and 26 provide for governmental regulation of solid waste disposal, Article 27 further broadens the scope of Chapter Four by submitting to regulation by the Federal Executive non-biodegradable industrial products such as plastic, glass, and aluminum.

The concluding Article (28) in this chapter extends its scope even further by establishing what on its face at least, is an extremely broad provision for a national land use control policy: "The utilization and exploitation of land for urban, industrial, agricultural, recreational and other purposes shall be accomplished subject to existing Laws and Regulations as well as those decreed by the Federal Executive to this effect. The works and installations necessary for carrying out said utilization must be submitted to the Secretariat of Health and Welfare through agencies to which this law refers for approval, for the purpose of avoiding contamination, erosion, degradation or destruction of land areas."

Chapter Five, the final division of the Act, is concerned with Sanctions, Penalties and Enforcement. Article 29 provides for seizure and closure of contaminating sources and fines ranging from four dollars to eight thousand U.S. dollars.

Article 30 provides that a party against whom one of the administrative sanctions specified in Article 29 is imposed is entitled to a hearing. Under Article 32, the decision at that hearing is appealable to the head of the prosecuting agency.

Article 33, the last substantive provision of the Act, is designed to accord a role to private individuals in that it gives anybody a right to denounce any violation of the Act before the proper authorities. This will allow anyone, without formal requirements of a sworn statement, to inform the authorities of violations of the Act. The Article provides that "Anyone has a right to act (*accion popular*) in order to denounce before the competent authorities all deeds and acts which pollute the environment as described in this law and its regulation."

By way of conclusionary evaluation of the Law, it should be reemphasized that to the knowledge of the authors, no nation can boast an environmental law so comprehensive and so forceful in

spirit. It seems pointless to attempt a tracing of the exact correspondences between the Law and the legal regimes Mexican officials mention as having inspired them. The phraseology and such specific provisions as mentioned above which seek to accord the private individual a role and which seek to insure that the various branches of government undertake projects only after consideration of the ecological consequences clearly derive from American models. The comprehensiveness of the Law could have been suggested by Canadian and/or American models.¹⁸

The most ultimately significant characteristic of the Law is its nature as an organic statute which, in and of itself, does no more than establish an administrative regulatory power under the direction of the Central Government. This characteristic is best seen as a borrowing from the environmental law regimes of Western Europe or as attributable to Mexico's civil law tradition.¹⁹ The practical significance of this characteristic is that any meaningful evaluation of the Law must be reserved until such time as the regulations necessary for the implementation of the Law have been promulgated and administered. Depending upon the nature and administration of these regulations, the Law may fulfill its potential as one of the world's best environmental law regimes or prove to be a mere lip-service concession to the environment movement.

In view of the extreme importance of Regulations to be issued pursuant to the Law, attention must now be turned to the procedure and machinery for the issuance of such regulations and then to the only regulation issued thus far—the Regulations for the Prevention and Control of Atmospheric Contamination Caused by Smoke and Dust Emission.

As has already been stated, the responsibility for and power to issue regulations lies with the Federal Executive.²⁰ To aid him in the exercise of this power, President Echeverria Alvarez has created three bodies: the National Tripartite Commission,²¹ the

18. See, e.g., The Clean Environment Act, Man. Stat. ch. 7 (1968); The Illinois Environmental Protection Act, Ill. Ann. Stat. ch. III 1/2, §§ 1001-51 (Smith-Hurd Supp. 1972).

19. See Juergensmeyer, *supra* note 2, at 771-778.

20. Federal Law for the Prevention of Environmental Contamination, art. 9. The new constitutional amendment, *see* Appendix at 596, would seem to contemplate review of the regulations by the National Congress but the new Smoke and Dust Regulations were not submitted to Congress.

21. *Comision Nacional Tripartita*. The Commission is composed of five government officials, twenty representatives of labor and twenty representatives of capital. It is designed to provide an efficient procedure for hearing opinions from the three sectors in regard to various aspects of economic development and industrialization including environmental contamination. The

Committee for the Study of Environmental Contamination of the National Council of Science and Technology (CONACYT),²² and the Juridical Committee for the Prevention and Control of Environmental Contamination.²³ The procedural relationship of these three bodies is informal; but the practice currently followed is for the Juridical Commission, with the technical assistance of the environmental committee of CONACYT, to draft proposed regulations which they submit to the Tripartite Commission for examination and discussion by representatives of government, labor and capital. Upon approval, the Regulations are promulgated by the Federal Executive through publication in the *Diario Oficial*.

The first regulations to be issued pursuant to the Law of March 23rd are the "Regulations for the Prevention and Control of Atmospheric Contamination Caused by Smoke and Dust Emission" Which were issued on September 17, 1971.²⁴

The Regulations, per Articles 1 & 2, are made uniformly applicable throughout the Republic and are designed to cover contamination caused by industrial, commercial, and transportation activities. Article 4 constitutes vague references to fiscal projects which the Federal Executive will decree or present to the National Congress so as to facilitate the acquisition and installation of smoke and dust control equipment by industries. Article 6 singles out for special attention the following sources of contamination: waste incinerators, refineries, thermoelectric installations, railways, automotive vehicles, fertilizer plants, and concrete and asphalt plants.

Articles 7 and 8 establish a license procedure similar to that followed in Western Europe whereby *new* industries whose activities can cause air contamination will not be permitted to be constructed until they have obtained a license from the Secretariat of Health and Welfare. The Secretariat is to issue such a license or permit only if the applicant proves that the new

proceeding of the first meeting are summarized in *Confrontacion Sobre Problemas Economicos*, Cuadernos de Documentacion/Serie Documentos/Num. 1 (1971). The Commission's conclusions in regard to environmental contamination are given at 65-69.

22. *Consejo Nacional de Ciencia y Tecnologia*.

23. *Comision Juridica para Prevenir y Controlar la Contaminacion Ambiental*. The Juridical Commission is established under the suzerainty of the Attorney-General's office and is composed of representatives from the Secretariats of Health and Public Welfare, Water Resources, the Department for the Federal District, and the Attorney General's office.

24. Reglamento para la prevencion y control de la contaminacion atmosferica originada por la emision de humos y polvos, *Diario Oficial* Viernes 17 de Septiembre, 1971, at 2.

industry will meet the air contamination standards established elsewhere in the Regulations.

The Regulations next establish smoke emission standards on two basic approaches: number of minutes or seconds during start-up that emission may equal but not exceed a given Ringelmann chart number and kilograms per hour of emissions based upon kilograms per hour of production.

The Regulations provide for fines, seizures and closures pursuant to the Law of March 23rd. The Regulations also repeat the provision for "*accion popular*" contained in the Law of March 23rd but attempt to enhance this role for private individuals by providing that the individual whose report results in a successful prosecution is to receive a certificate attesting to his cooperation. The Regulations are to go into effect on November 17, 1971, but existing industries are given six months from that date in which to submit their plans for compliance after which time they have two years in which to install the needed equipment to meet the standards. Owners of internal combustion engines are given six months in which to comply.

CONCLUSION

Mexico's new package of environment legislation—*i.e.* the Law of March 23, 1971, the constitutional amendment of July 6, 1971, and the smoke and dust regulations of September 17, 1971,—is comprehensive, stringent and responsive to Mexico's needs. In short, if these measures are taken at face value, one can conclude that Mexico can now boast one of the world's most impressive legal regimes for environmental protection and control for virtually every aspect of the environment crisis.

The true test in Mexico, or elsewhere, will come with the issuance of further regulations pursuant to the existing laws and with the administration and enforcement of those regulations. In this regard, there is less basis for optimism. Two major factors must be taken into account as potential emasculators of the new legislation. First, Mexico is not known for the efficiency and incorruptibility of its bureaucracy. In the many technical areas of environmental control, a truly first rate administrative organization from top to bottom is essential. Few Mexicans interviewed were convinced that such an administration either exists or can be created in the near future. Without it, the new legislation, no

matter how strongly supported by top government officials, could prove quite impotent.

Secondly, one must not lose sight of the fact that, economically, Mexico is a developing country. The reconciliation of a need to develop new industries and protect existing ones from foreign competition and the need to require costly equipment and processes in order to protect the environment is difficult indeed. Furthermore, the expenditure of public monies for environmental projects designed to enhance beauty or convenience is difficult to justify in a society with so many citizens at the poverty end of the economic spectrum. Every indication is that, in spite of the forcefulness of the new laws, environmental protection in Mexico will be subordinated to frequently inconsistent policies of economic development.²⁵

25. Newspaper reports of the deliberations of the Tripartite Commission stressed that industrialists insisted that the policy of environmental health must always be subordinated to general economic development policies. "Los industriales sostienen que la política de sanidad ambiental debe estar subordinada en todo caso a la política general de desarrollo." *Ultimas Noticias de Excelsior*, Viernes 2 de Julio, 1971, at 10.

APPENDIX

FEDERAL LAW FOR THE PREVENTION AND CONTROL OF ENVIRONMENTAL CONTAMINATION

(Translation by Earle Blizzard and Julian Juergensmeyer)

CHAPTER ONE: GENERAL PROVISIONS

Article One. This Law and its regulations shall govern the prevention and control of contamination and the improvement, conservation and restoration of the environment; activities which are declared to be in the public interest.

Article Two. The provisions of this Law and its Regulations as measures of general public health shall govern throughout the Republic.

Article Three. Contaminants and their causes, whatever may be their source or origin, that are directly or indirectly capable of producing contamination or degradation of the quality of the ecological system shall be subject to prevention, regulation, control and prohibition by the Federal Executive.

Article Four. For the purposes of this Law, the following definitions apply:

a) Contaminant: All materials or substances, or chemical or biological combinations, compounds, or derivatives thereof, such as smoke, dust, gases, ashes, bacteria, residues, wastes and whatever else, which upon being incorporated with or added to the air, water, or soil may alter or modify their natural characteristics, or that of the environment; as well as all forms of energy, such as heat, radioactivity, and noise which when acting upon or in conjunction with the air, water, or soil alters their normal state.

b) Contamination: The presence in the environment of one or more contaminants, or any combination thereof, which injures, impairs, or disturbs life, health, or human well being, *flora* and *fauna*, or lowers the quality of the air, water, soil or property and resources of the Nation in general, or of individuals.

Article Five. The enforcement of this Law and its Regulations shall be incumbent upon the Federal Executive through its administration by the Secretariat of Health and Welfare and of the Public Health Commission.

The following shall also have authority to administer this Law and its Regulations in their areas of competence in coordination with the Secretariat of Health and Welfare:

The Secretariat of Water Resources, in matters relating to the prevention and control of water contamination; the Secretariat of Agriculture and Animal Husbandry in matters relating to prevention and control of soil contamination; and the Secretariat of Industry and Commerce in matters relating to the prevention and control of contamination by industrial and commercial activities.

The following are auxiliary authorities: all officers and employees of the Federal Executive, and of the governments of the States, of the Territories and of the Municipal governments.

Article Six. The agencies and members of the Federal Executive referred to in the preceding article, within the scope of their powers, must study, design, evaluate and certify the projects and plans concerning urban development, national parks, industrial areas, and their planification and zonification in general, promoting, where possible, industrial decentralization in order to avoid the problems inherent in environmental contamination.

Article Seven. The Federal Executive shall encourage and foster study programs, investigations and other activities for the development of new methods, systems, equipment, appurtenances, and other devices and means which permit the prevention, control, and abatement of contamination, inviting the needed cooperation of the institutions of higher learning, the private sector and individuals in general in order to reach a solution to this problem.

Article Eight. The Federal Executive, through such Agencies and organizations as he may designate, shall develop an educational and informational program on a national level in regard to environmental contamination orienting especially children and young people of the Nation to a greater awareness of ecological problems.

Article Nine. The Federal Executive shall issue such decrees and regulations as he may deem relevant in order to:

a) Locate, classify, and measure types of contaminating sources, making known the standards and technical procedures to which effluents, discharges, overflows, deposits, and transportation and, in general, the control of all types of contamination must be subject.

b) To put into effect methods, processes, and techniques adequate for the prevention, control and abatement of environmental contamination indicating the preparations, installations, equipment, and systems whose use shall be obligatory to this end.

c) To regulate the transportation, composition, storage, and use of combustibles, solvents, additives, and other products which by their nature cause or may cause pollution of the environment, such as vehicles and internal combustion engines.

d) To create, contract and order, as is necessary, the planning, projects and works, as well as establish mediate or immediate measures that are advisable for the prevention of environmental contamination.

e) To establish by decree, in pursuance with the purposes of this Law the agencies or organizations that are deemed necessary, having the framework and functions that the Executive may assign them; and

f) To enforce compliance with the provisions of this Law.

CHAPTER TWO: PREVENTION AND CONTROL OF AIR CONTAMINATION

Article Ten. It is prohibited, without complying with the corresponding standards, to expel or discharge contaminants, which disturb the atmosphere in detriment of health, human life, *flora* and *fauna*, and in general to the detriment of the resources or property of the State, or of individuals; therefore, the discharge into the atmosphere of contaminants such as dust, vapors, smokes, gases, radioactive materials, etc. shall be subjected to standards as specified in the corresponding regulations, for which purpose there shall be installed or additions made, or adaptations of such additions as the Federal Executive, through the corresponding agencies, shall consider necessary in order to promote the purposes of this Law.

Article Eleven. For the purposes of this law, the following shall be considered as sources of contaminant emissions:

1) Natural sources, including eroded land areas, desiccated lands, volcanic emissions and other similar types;

2) Artificial sources, or those products of human technology or endeavor, among which are included:

a) Stationary sources such as factories, boilers, laboratories, workshops, thermoelectric plants, refineries, chemical plants and any other analogous to the foregoing;

b) Non-Stationary sources, such as internal combustion type vehicles, airplanes, locomotives, ships, motorcycles, automobiles, and similar types;

c) Miscellaneous sources, such as open air garbage and waste incineration, and others that consume combustibles that produce or are capable of producing contamination.

Article Twelve. The Agencies of the Federal Executive Branch mentioned in Article Five, within the scope of their powers and in accordance with the regulations which are duly issued will determine, classify, evaluate, and supervise the location, installation, operations, and the processes, raw materials, products and by-products in each case, of those activities which produce or are capable of producing air contamination; consequently the interested parties must provide the agencies such information and assistance as shall be required of them for this purpose.

Article Thirteen. The Executive through the agencies or organizations referred to in Article 9(e) will carry out an expansive program to investigate and evaluate the air quality in areas that in his judgement so merit.

CHAPTER THREE: PREVENTION AND CONTROL OF WATER CONTAMINATION

Article Fourteen. It is forbidden to discharge into any water collection networks, rivers, river basins, riverbeds, basins, and other bodies of water, or to infiltrate into the soil waste waters which may contain contaminants, radioactive materials, or any other substance harmful to human health, *flora* or *fauna*, or to property. The Secretariat of Water Resources, in coordination with the Secretariat of Health and Welfare, shall promulgate the methods for use of waste waters and shall fix the conditions under which waste water may be discharged into water collection networks,

river basins, river beds, basins and other diverse deposits and waterways, as well as the infiltration of such waters into the soil.

Article Fifteen. Those waste waters originating in and from public, private, or industrial uses, that are discharged into public drainage systems or into rivers, river basins, river beds, basins, territorial waters and other diverse deposits and waterways, as well as those which, by any means, infiltrate into the subsoil, and in general all water that is dispersed into the soil, must comply with the conditions necessary to prevent:

- a) Contamination of water recharge areas
- b) Interference with the purification processes of these waters, and
- c) Modifications, disruptions, interferences, or alterations in the utilization and adequate functioning of the systems and the water capacity of the river basins, riverbeds, basins, and other water deposits that are the property of the nation, as well as drainage and culvert systems.

For the discharge of waste waters, water purification works or installations must be constructed which the Secretariat of Water Resources in coordination with the Secretariat of Health and Welfare and the Secretariat of Industry and Commerce deem necessary for the purposes of this article.

Article Sixteen. The construction of works and installations for the discharge of waste waters and the continuation in operation of those already in existence which can cause contamination shall not be permitted.

Article Seventeen. The Secretariat of Water Resources for the purposes of this Law, subject to the prior opinion of the Secretariat of Health and Welfare, shall approve applications for authorization, concession, or permission for the exploitation of use of waste waters, or their discharge into federal waterways, imposing in each case, such conditions as it may deem necessary.

Article Eighteen. Waste waters originating in urban drainage or sewer systems may be used for industrial purposes if they are subjected to treatment which, in each case, the Secretariat of Water Resources shall determine, without variance of quality and sanitary standards.

Article Nineteen. In order for water to be used in industrial processes, there shall be constructed, within the limits under the conditions established by the Secretariat of Water Resources, adequate works and installations for the discharge of industrial waste waters when these are allowed to flow into river basins, riverbeds, basins and other deposits.

Article Twenty. The Secretary of Water Resources is granted the power to supervise the works, installations and uses that can cause the contamination of waterways. All interested parties shall provide the information that is required of them to this end.

Article Twenty-One. The Secretariats of Health and Welfare, Water Resources, and Agriculture and Animal Husbandry shall formulate, in collaboration with the various federal auxiliary authorities to which this Law refers, such technical requirements as may be considered necessary for the prevention and control of the contamination of national waterways and underground waters; for which purpose adequate technical agencies shall be established for the promotion and development of studies, investigations, and other related activities.

Article Twenty-Two. In those cases of water contamination in which the public health is endangered, the Secretariat of Water Resources will permit the intervention of the Secretariat of Health and Welfare.

CHAPTER FOUR: PREVENTION AND CONTROL OF SOIL CONTAMINATION

Article Twenty-Three. It is prohibited, without complying with the applicable standards, to discharge, deposit, or infiltrate contaminants into the soil. Applications for authorizations which may be presented to the Secretariat of Agriculture and Animal Husbandry shall be issued in a manner such as to promote the purpose of this Law, subject to the prior opinion of the Secretariat of Health and Welfare, imposing, in each case, the technical standards to which the adequate functioning of systems of collection, removal, or deposits shall be subject.

Article Twenty-Four. The Federal Executive shall limit, regulate, or when necessary prohibit the use of all substances such as insecticides, herbicides, fertilizers, defolliants, radioactive materials, etc. when its improper use may cause contamination.

Article Twenty-Five. Natural or juridical persons which make use of or dispose of solid wastes or garbage, shall be required to do so in accordance with the regulations related to such activity and

shall require when necessary the approval of the related plans and installations by the competent governmental agencies.

Article Twenty-Six. Solid wastes such as garbage and other capable of producing contamination, resulting from public, domestic, industrial, agricultural and other uses, which may accumulate or which do accumulate on the soil, shall comply with the conditions necessary to prevent:

- a) Contamination of the soil itself.
- b. Undesirable alterations in the biological processes of the soil.
- c) Modifications, variations or alterations:
 - 1) In the use or exploitation of the soil.
 - 2) In the capacity of rivers, river basins, riverbeds, lakes, pools, territorial waters, and other bodies of water.

Article Twenty-Seven. The industrial products capable of producing solid wastes which by their nature are not susceptible to undergoing organic decomposition, such as plastics, glass, aluminum, and others, shall be subject to regulation by the Federal Executive.

Article Twenty-Eight. The utilization and exploitation of land for urban, industrial, agricultural, recreational and other purposes shall be accomplished subject to existing Laws and Regulations as well as those decreed by the Federal Executive to this effect.

The works and installations necessary for carrying out said utilization and exploitation must be submitted to the Secretariat of Health and Welfare through agencies to which this Law refers for approval, for the purpose of avoiding contamination, erosion, degradation or destruction of land areas.

CHAPTER FIVE: SANCTIONS

Article Twenty-Nine. In the regulations to be issued by the Federal Executive, there shall be established the violations of this law which give rise to the imposition of the following penalties:

- 1) Fines from \$50.00 (Pesos) to \$100,000 (Pesos)*
- 2) Temporary, total, or partial seizure of the contaminating sources and a fine consistent with the foregoing section.
- 3) Temporary or permanent closure of the factories or businesses which produce or emit contaminants and a fine in accordance with fraction 1 of this article.

Article Thirty. Prior to the imposition of the administrative sanctions referred to in the preceding article, the interested party shall have a period of thirty working days within which to be heard before the corresponding authorities wherein he shall offer a written defense, submit proofs, and allege such things consistent with his rights. The decision of the corresponding authorities shall be rendered within thirty working days after the period of time referred to in the previous sentence.

Article Thirty-One. Contamination caused by purely domestic activities shall not be subject to sanctions.

Article Thirty-Two. The decisions issued in conformance with articles Twenty-Nine and Thirty are appealable, in writing, within fifteen working days, to the head of the agency which prosecuted the violation.

Article Thirty-Three. Anyone has the legal right to denounce before the competent authorities all acts which constitute contamination of the environment within the framework of this Law and its Regulations.

Article Thirty-Four. Supplemental to this Law and its Regulations are the Sanitary Code of the United Mexican States and its Regulations, the Federal Law of Sanitary Engineering, and other controlling laws in matters of land, waters, air, *flora* and *fauna*, and their corresponding regulations.

Transitional Provisions

First Article. All statutory provisions in conflict with this law are hereby abolished.

Second Article. This law takes effect the day after its publication in the *Diario Oficial* of the Federation.

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*\$4.00 - \$8,000.00 (U.S. Currency)