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Gary B. Conine

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MEXICO: ENERGY DEVELOPMENT AND THE STATE OIL COMPANY

Gary B. Conine*

I. INTRODUCTION

The state oil company is a common participant in today's international petroleum industry. These companies were non-existent in the early decades of the century. But as host governments became more interested in greater control and participation in the development of their countries' petroleum resources, state enterprises became popular instruments of public policy.

These enterprises have been used in several ways. Countries such as Norway will grant a petroleum license only to a consortium that includes its state oil company as a participant. In most countries, such as Indonesia, the state oil company has the exclusive right to government concessions for the exploration and development of petroleum, but the company is free to contract with foreign investors for the financing and management of the concession through production sharing agreements or risk-service contracts. In a few countries, the state oil company is the only entity entitled to petroleum concessions and is precluded from involving other investors in its exploration and development activities. The company may even be granted a virtual monopoly over all phases of the petroleum industry. Mexico provides one of the best examples of the latter practice. Since the government's 1938 expropriation of private oil companies, *Petróleos Mexicanos*, or PEMEX, has been the sole participant in Mexico's petroleum industry.

State oil companies gained much of their popularity in the 1970s. While world oil prices were climbing, these enterprises were extremely successful. When profits were sufficient to obscure the inefficiencies and other difficulties inherent in the operation of a government monopoly,

* J.D., 1977, University of Oklahoma; LL.M., 1988, Harvard Law School. Associate Professor, University of Houston Law Center. Former partner, Liddell, Sapp, Zivley, Hill & LaBoon, Houston, Texas.

potential problems were not apparent. But as oil prices collapsed in the last decade, state companies have experienced trouble in maintaining profit levels and in obtaining outside investment. As a result, they have been unable to maintain their reserve base and have often been criticized for overproduction in an effort to sustain earnings.

As one of the largest state oil companies, PEMEX offers an excellent case study on the problems currently faced by such enterprises, the options for overcoming these problems, and the direction the oil industry may take in developing countries during the next few years. Possible changes in the structure and operation of PEMEX are important for another reason. Its monopoly position precludes active participation by U.S. companies in a neighboring country with significant energy markets and resources. As Mexico seeks closer trading ties with the United States, the U.S. oil industry is asking that Mexico take steps to open its borders to more foreign participation. The extent to which Mexico can and is willing to alter its petroleum industry may have a crucial effect on the success of the North American Trade talks.

This article examines the origin and structure of PEMEX, the present condition of Mexico's petroleum industry, and the measures the government and PEMEX are adopting and are likely to adopt in the near future in an effort to overcome current deficiencies in the industry. The success or failure of revitalizing the petroleum industry in Mexico may determine the economic future of Mexico and the direction other developing countries take in handling similar problems.

II. FOUNDATIONS OF THE MEXICAN OIL INDUSTRY

A. *Early Mexican Petroleum Laws*

Except for a brief period at the turn of the century, Mexico has followed the general practice of vesting petroleum rights in the state. It departs from the practice of most countries by restricting the grant of concessions to these rights to PEMEX. Together, these factors form the basis for the company's monopoly over virtually all aspects of Mexico's petroleum industry. Their origin is grounded in both history and politics, creating a situation in which sovereignty over petroleum resources and the role of PEMEX is a matter of national heritage celebrated yearly in a *de facto* national holiday.

Mexico's earliest mining laws were inherited under Spanish rule and

followed civil law tradition by placing mineral ownership in the sovereign.¹ After Mexico attained independence from Spain, the country's political history was dominated by the regime of Porfirio Díaz, which was intent on attracting foreign investment and stimulating private enterprise. During a brief interlude in this regime, the Díaz policies continued to influence the government, and Mexico enacted the Mining Law of 1884.² The new law made oil and gas the subject of private ownership.³

Following the first major discovery of commercial reserves in 1901, large areas of Mexico were acquired by foreign interests for petroleum development.⁴ By 1917, the country was the world's second largest producer of crude oil with 440 private companies producing 55 million barrels annually.⁵ As usual, petroleum operations were largely controlled by the major oil companies. In the mid-1930s, Royal Dutch/Shell, Standard Oil of New Jersey, Sinclair, Cities Service, and Gulf Oil were producing ninety-five percent of Mexico's crude oil.⁶

B. *Revolution and Expropriation*

The oil companies fully expected that the latest mineral legislation would assure their absolute ownership to petroleum rights on private lands.⁷ But the economic policies of the Díaz regime that formed the basis for these laws were in conflict with the revolutionary movement that had given Mexico its independence. The movement's resentment of

1. Spanish law placed gold, silver, and quicksilver mines under the ownership of the Crown as early as 1387. The first mining laws designed specifically for Mexico under Spanish reign were the Ordenanzas de Aranjuez decreed in 1783 by Carlos III. In 1865, Mexico's first mining law after independence continued to prohibit salt, coal, and oil development without a government concession. Las Reales Ordenanzas para la Minería de la Nueva España, art. 1 (1865) [Royal Orders for the Mining of New Spain]. The country's first oil company was Compañía Explotadora del Petróleo del Golfo de México founded by American investors in 1870.

2. Código de Minería de 22 de noviembre de 1884, tit. 1, art. 10, Diario Oficial Nov. 26, 1884.

3. This right was reinforced by the Mining Law of 1892, which made private ownership of minerals "irrevocable and perpetual." Ley Minera de 4 de junio de 1892, tit. 1, arts. 4, 5, in LEY MINERA Y LEY DE IMPUESTO A LA MINERÍA CON SUS RESPECTIVOS REGLAMENTOS [Mining Statute and Mining Activities Taxation Statute with Corresponding Regulations] 3, 4-5 (1892). While petroleum operations on federal lands were still owned by the state, liberal concessions were routinely granted by the government. FREDDA J. BULLARD, MEXICO'S NATURAL GAS: THE BEGINNING OF AN INDUSTRY 2-3 (1968).

4. WENDELL C. GORDON, THE EXPROPRIATION OF FOREIGN-OWNED PROPERTY IN MEXICO 5 (1941).

5. ABDERRAHMANE MEGATELI, PETROLEUM, POLITICS AND NATIONAL OIL COMPANIES 36 (1978) (unpublished thesis, University of Texas (Austin)).

6. DANIEL YERGIN, THE PRIZE 272 (1990).

7. For a thorough analysis of the companies' perspective, see Ernest E. Smith & John S. Dzienkowski, *A Fifty Year Perspective on World Petroleum Arrangements*, 24 TEX. INT'L L.J. 13, 24-26 (1989).

foreign domination and economic oppression triggered the 1910 Revolution that ended the Díaz regime and led to the creation of a new Constitution in 1917 that again reversed the Mexican position on mineral ownership.⁸ The crucial provision for the oil companies was Article 27 which reserved certain minerals, including petroleum, to the state.⁹

To enforce the dictates of the Constitution, the Petroleum Law of 1925 required that government concessions be obtained to confirm rights on the basis of which oil was being produced prior to May 1, 1917.¹⁰ Although a majority of the companies complied,¹¹ those holding most of

8. The nationalistic attitude toward the petroleum industry that was so apparent in the 1910 Revolution persists today. Private ownership of petroleum resources is still forbidden under the Constitution in order to prevent national assets from being controlled by outside forces. The same concern can be seen in policies that have emphasized conservation of natural resources or energy self-sufficiency.

Until the mid-1970s, Mexico emphasized conservation of its petroleum reserves. The reserves were regarded as a national treasure that should be used wisely to fuel domestic economic development or preserved for use by future generations. Exportable surpluses were to be avoided to prevent production from being obtained by foreign powers on terms that were exploitative of Mexico's interests. With the discovery of additional reserves in the mid-1970s this approach was modified to permit exports to the extent the revenues could be absorbed by the domestic economy. See Secretaría de Patrimonio y Fomento Industrial, *Programa de Energía: Metas a 1990 y Proyecciones al año 2000* [Secretary of Industrial Resources, *Energy Program, 1990 Goals and Projections to the year 2000*], ENERGÉTICOS 4 (November 1980). This change was based on: (1) a lack of domestic refining capacity to handle production of new reserves; (2) the oil industry's need for foreign exchange to finance its expansion; (3) a favorable international market and foreign pressure to export crude oil; and (4) the opportunity to offset reduced growth in the manufacturing sector. The wisdom of this policy change was questioned when world oil prices collapsed in the mid-1980s, leaving the country with sizeable foreign debts and reduced revenues. In the economic crisis precipitated by the fall in oil prices, Mexico has reverted to earlier policies and has declined to rely on additional production of crude oil at low prices to improve its economic condition.

Avoiding foreign influence also requires energy self-sufficiency so that imports are not relied upon to meet internal demand. After a slow start caused by reorganization, labor problems, and a war-related shortage of materials, PEMEX focused on expanding its reserves and distribution systems to meet national demand. The most recent national energy programs have sought to ensure energy independence through diversification of available fuels. For example, considerable emphasis is now placed on the expanded use of coal and nuclear energy due to availability and price. Until recently, use of low-quality fuel oil was encouraged through subsidies in order to assure the availability of light crude oil for the export market.

9. In part, Article 27 provided:

In the nation is vested legal ownership . . . of all minerals or substances which in veins, layers, masses or beds constitute deposits whose nature is different from the components of the land, . . . [including] petroleum and all hydrocarbons—solid, liquid or gaseous.

Constitución Política de los Estados Unidos Mexicanos, art. 27, para. 4 (Mex. 1917, amended 1960) [hereinafter Constitution].

10. Ley Reglamentaria del Artículo 27 Constitucional en el Ramo de Petróleo [Regulations for Article 27 of the Constitution in the Area of Petroleum], reprinted in 15 LEGISLACIÓN PETROLERA: LEYES, DECRETOS Y DISPOSICIONES ADMINISTRATIVAS REFERENTES A LA INDUSTRIA DEL PETRÓLEO [Petroleum Legislation: Statutes, Decrees and Administrative Orders Referring to the Petroleum Industry] 51 (1925).

11. HARLOW S. PERSON, MEXICAN OIL 46 (1942).

the producing properties resisted.¹² The resisters argued that such action by the government was precluded by Article 14 of the Constitution which prohibited retroactive laws that prejudiced personal rights.¹³ But neither the government nor the companies pressed their claims. Mexico continued to depend on foreign investment while an increasing share of the country's oil trade was being lost to cheaper Venezuela production.¹⁴ The government asserted that compliance by a majority of the companies established the success of the government action and an uneasy peace prevailed over the ownership issue.

Expropriation of the oil companies was triggered by labor problems, rather than title disputes. In 1935, the petroleum workers' union presented a new labor contract for collective bargaining. Following a year of unsuccessful negotiations, the union initiated a ten-day general strike in May 1937. Under Mexico's Constitution, the dispute was submitted to the Federal Board of Mediation and Arbitration, which ordered a twenty-seven percent wage increase and the creation of pension and medical plans, sick leave policies, and vacation pay.¹⁵ The Mexican Supreme Court upheld the Board's decision but the oil companies informed the government on March 15, 1938, that they would not comply with the order to execute the contract.¹⁶

A 1936 law¹⁷ had authorized the nation's President to expropriate property for purposes of public utility. Faced with potential economic and political chaos resulting from the stalemate in the oil industry, President Cárdenas issued an expropriation decree on March 18, 1938. The action was politically popular. Though based on economic necessity, the expropriation was a redeclaration of the nationalism that had driven the revolution, a reaffirmation of the coalition of government and labor that emerged from the revolution, and a reinstatement of the nation's uncontested patrimony over its natural resources.

C. *Creation of PEMEX*

Three institutions vied for authority to assume control of petroleum operations. The National Petroleum Administration had been created in

12. MERRILL RIPPY, *OIL AND THE MEXICAN REVOLUTION* 29 (1972).

13. Smith & Dzienkowski, *supra* note 7, at 28.

14. YERGIN, *supra* note 6, at 272.

15. ALAN RIDING, *DISTANT NEIGHBORS* 160 (1985).

16. L.H. Woolsey, Editorial Comment, *The Expropriation of Oil Properties by Mexico*, 32 AM. J. INT'L L. 519, 519-20 (1938).

17. Expropriation Law, art. 1, D.O. Nov. 23, 1936.

1925 to compete with private firms in producing and refining crude oil and to regulate the price of petroleum in the domestic market.¹⁸ These functions had been transferred in 1935 to Petromex, a quasi-autonomous company half-owned by the government. The Cárdenas administration had also created the General Administration of National Petroleum in 1936 to oversee the development of the petroleum industry and the training of technical personnel.¹⁹ The third contender was the petroleum workers union, whose members had assumed operating control of oil company facilities as foreign managers and technicians departed.²⁰

President Cárdenas rejected all three and instead created PEMEX on June 7, 1938. As a result, PEMEX became the first state-owned oil company formed to take over the assets expropriated from foreign owners.²¹ By 1940, all other government agencies involved with the petroleum industry were abolished and their functions transferred to PEMEX.²² PEMEX was established as a state monopoly with a broad mandate over exploration, development, refining, transportation, storage, distribution, and first sale of oil, natural gas, and their products.²³ The company is precluded from granting any interest in its concessions²⁴ or operations to other persons.²⁵

PEMEX is organized as a decentralized public institution²⁶ owned jointly by the federal government and the petroleum workers union. The concept of a decentralized agency was borrowed from French law. Such bodies are characterized by a legal status separate from the government, a patrimony of its own, a degree of independence from general regulations, an ability to conduct commercial activities like a private enterprise and, in theory, autonomy from government control.²⁷

The company is managed by a Board of Directors comprised of eleven members, six of whom are appointed by Mexico's President. The remaining five members are designated by the petroleum workers union

18. Christopher C. Joyner, *Petróleos Mexicanos in a Developing Society: The Political Economy of Mexico's National Oil Industry*, 17 *GEO. WASH. J. INT'L L. & ECON.* 63, 68 (1982).

19. Isidro Sepulveda, *PEMEX in a Dependent Society*, in *U.S.-MEXICAN ENERGY RELATIONSHIPS* 46 (Jerry R. Ladman et al. eds., 1981).

20. GEORGE W. GRAYSON, *THE POLITICS OF MEXICAN OIL* 18-19 (1980).

21. Smith & Dzienkowski, *supra* note 7, at 30.

22. Ley Reglamentaria del Artículo 27, *supra* note 10, art. 3.

23. *Id.*

24. Organic Act of Petróleos Mexicanos, art. 7, 306 D.O. Jan. 1, 1971 [hereinafter Organic Act of PEMEX].

25. *Id.* art. 16.

26. *Id.* art. 1.

27. Carlos R.V. Barrera, *The International Sale of Natural Gas: The PEMEX-Border Gas, Inc. Contract*, 17 *TEX. INT'L L.J.* 15, 17 (1982).

from among its active members working for PEMEX.²⁸ By law, the President of the Board is now the Secretary of Energy, Mines and Parastatal Industries.²⁹ Daily operations are overseen by a Director General and seven subdirectors, also appointed by the nation's President. Sub-directories, or divisions, exist for primary production, industrial production (or refining), projects construction, petrochemicals, commercial activity, finances, and technical and administrative operations. Several subsidiaries have been created and more are expected as the company attempts to streamline its operations. Presently, the most significant subsidiary is PMI Comercio Internacional, S.A. de C.V., which is responsible for international transactions, such as the export and import of oil, gas, and petrochemicals.³⁰

Despite its decentralized status, PEMEX is far from independent. Its activities are closely monitored by other federal agencies. Besides the obvious political influence asserted in the appointment of senior management, the federal government maintains other control over PEMEX. The company's annual investment plan and its budget are subject to the approval of the Departments of the Presidency and the Treasury and Public Credit. The annual operational plan must be approved by the National Wealth Department. The annual financial statement is subject to the approval of the Departments of Treasury and Public Credit and National Wealth.³¹ As part of a general effort to better control decentralized organizations, the Secretary of Energy, Mines and Parastatal Industries is charged with coordinating, evaluating, and planning the operations of the company.³²

Moreover, PEMEX is affected by government policies that directly

28. Organic Act of PEMEX, *supra* note 24, art. 5.

29. The other government directors are the Secretary of Finance and Public Credit, the Secretary of Commerce and Industrial Development, the Secretary of Foreign Affairs, the Secretary of Programming and Budget, and the Director General of the Federal Electricity Commission.

30. Other subsidiaries include the Mexican Exploration Company and the state natural gas distribution company.

31. Organic Act of PEMEX, *supra* note 24, art. 15.

32. Organic Law of the Federal Public Administration, 339 D.O. Dec. 29, 1976 (amended 1978). The actions of those responsible for such organizations are, in turn, coordinated by the Secretary of Planning and Budget. In addition, it should also be noted that the Ministry of Finance and the Ministry of Commerce and Industrial Promotion supervise prices and tariffs on petroleum goods and services, Organic Law of Federal Public Administration, arts. 31 and 34; the Ministry of Communications and Transportation supervises transportation of petroleum products, Organic Law of the Federal Public Administration, art. 36; and the Department of Labor supervises relations between PEMEX and the Petroleum Workers Union, Organic Law of the Federal Public Administration, art. 40.

apply to energy operations. During each six-year administration, guidelines are set for exploration and production based on political considerations and economic priorities. Since the 1970s, each Presidential administration has constructed and published its own National Energy Plan that is consistent with its National Plan of Development under the country's National System of Democratic Planning.³³ Each energy plan is designed by the Ministry of Planning and Budget in coordination with the Ministry of Energy, Mines and Parastatal Industry, PEMEX, and the Federal Commission of Electricity.³⁴ Within these plans, socio-economic policies seem to have an important impact on the company. The government periodically has attempted to vary the impact of these factors on energy policy. But these actions have been susceptible to reversal with each change of administration. As a result, these factors tend to have a continuing effect on energy policy and PEMEX.

III. ENERGY POLICIES AND PROBLEMS

In essence, PEMEX is a government authorized and regulated monopoly. Its monopoly status, however, is not justified by traditional economic theory.³⁵ With the possible exception of its pipeline operations, none of the company's operations are of a scale that constitutes a natural monopoly. Instead, each rationale for the exclusive activities of the company is political.

Several justifications for the creation of state enterprises have been identified in economics literature.³⁶ Of these, two seem predominant in both the 1938 expropriation of foreign companies and the subsequent creation and management of PEMEX. The first was the achievement of national economic emancipation. Given the strategic importance of petroleum to the country's developing economy, the traditional belief that Mexico's petroleum resources were the nation's patrimony, the historical distaste for foreign domination, and the obstinance of foreign oil companies in refusing to relinquish portions of the economic rents obtained

33. Constitution, *supra* note 9, art. 27, para. 4; Ley de Planeación, art. 12, D.O. Jan. 5, 1983.

34. Ley de Planeación, *supra* note 33, arts. 16, 17, 21-24; Organic Law of the Federal Public Administration, *supra* note 32, arts. 32, 33.

35. See generally STEPHEN BREYER, REGULATION AND ITS REFORM 15-20 (1982).

36. Among these are (1) correction of market failures, such as the elimination of uncompetitive market structures and correction of economic externalities, and (2) political aims, such as national economic emancipation, reduction of dependence on private enterprise decisions, a desire to achieve benefits from vertical integration, and pursuit of socio-political goals. MARIAN RADETZKI, STATE MINERAL ENTERPRISES 9-13 (1985).

through their operations in labor concessions, the reaction of the Mexican government in both the 1917 Constitution and the 1938 expropriation is not surprising. The history of the Mexican oil industry between these episodes is one of continued efforts by Mexico to re-establish control over petroleum as a national resource.

The second motivation for creation of this state enterprise was the advancement of socio-economic goals through the activities and revenues derived from the company. Such functions not only have been assigned to the company by law, but also are inherently a part of the company's ownership and management structure. The public service orientation and the close connection with the government creates a unique atmosphere for any national oil company. Several characteristics inherent in this setting assist in understanding the internal processes and policy constraints placed on such companies.³⁷ As quasi-public institutions, the companies have public obligations beyond the profit orientation of most private firms, including concerns over externalities, national employment, income distribution, and regional equity.³⁸ Few of these issues can avoid political debate. Further complicating PEMEX administration is the political relationship between management and government officials, which assures that all decisions are politically oriented. Consequently, these public objectives not only determine the direction of the company but also may represent conflicting public needs and political demands that make consensus and rational coordination of operations difficult.

Despite the political justification for the creation of PEMEX, it is still subject to the same concerns and weaknesses that affect any regulated industry that is granted monopoly power. Three matters are of particular importance. First, having authorized monopoly power within a market area, the government must protect the consuming public against abuse by assuring adequate service at reasonable prices. To a great extent, both are achieved through the rates that the company is permitted to charge the consumer. The monopoly should not be allowed to use its market power to charge prices in excess of those that would be imposed in a competitive setting. Yet the company must be allowed to set prices at a level that will assure it a rate of return after taxes that will

37. For a more detailed discussion of these characteristics, see *id.* at 38-39.

38. For example, PEMEX objectives were once listed as contribution to the formation of the nation's capital, integration with the overall economy, assistance with regional and social development, stimulation of domestic enterprise, increase of oil reserves, establishment of petrochemical production, and efficiency. MEGATELI, *supra* note 5, at 78-79.

encourage additional investment so that goods and services can be provided at adequate levels. Second, the government must be alert to the inefficiencies inherent in a business whose market is assured and whose prices can be fixed to cover whatever costs are incurred. Unless controlled, prices will be higher than necessary or service will be less than adequate. Third, the government must assure that the monopoly's position is not used to discriminate against potential customers or to prevent legally competing goods and services from getting to the marketplace. Unfortunately, these concerns have not been given the attention deserved by the Mexican government. As a consequence, PEMEX has not been encouraged or permitted to provide the service needed by the nation. Low prices, government taxes, inefficient operations, and expensive social obligations have left the company short on after-tax profits and have restricted its ability to attract outside funding. Reinvestment in PEMEX and capital expenditures on such activities as exploration have suffered. This has periodically resulted in declining reserves and, when investment is made in exploration to expand reserves, a failure to invest in the infrastructure needed to ensure efficient use of production.³⁹

On the matter of prices, government policies have failed to assure PEMEX remains a viable enterprise. The long-standing use of price subsidies to provide petroleum products at low prices to stimulate economic development has deprived the company of much of the revenues it could have used over the years for energy development. While the most recent trend has been toward elimination of these subsidies, some remain in the form of inflation controls. Moreover, PEMEX has been used as a principal source of government revenues without a compensating adjustment in prices and permitted income. The resulting financial drain on PEMEX as a result of taxes has been criticized for years. Taxes have recently been reduced but remain significant.⁴⁰ For example, as a result of taxes paid in 1989, only \$7 million of the company's pre-tax profit of \$7.9 billion remained in the company. In 1990, PEMEX paid \$12 billion, over half its income, in federal taxes.⁴¹

39. For example, the failure to construct pipelines to market associated gas resulted in extensive and wasteful flaring in the 1970s.

40. PEMEX is subject to a 50% tax on crude oil exports, 27% on production income and royalty taxes of from 10 to 35%.

41. George W. Grayson, *Mexico's PEMEX Begins to Act Like a Competitor*, WALL ST. J., Sept. 27, 1991, at A11.

At the same time, the company's bureaucratic nature and its monopoly position have been allowed to instill it with inefficiencies that further reduce its profits and limit its effectiveness as an enterprise. In the absence of competition and with little reason to be concerned with profits for its government owner, the company has lacked adequate incentive to promote efficiency. Within the company's massive structure and political maneuvering, accountability has been minimized and decisions centralized so that effective management is lacking. Even upper management can take shelter in the ability and duty of the government to cover losses and failures during the short term of the administration that appointed them.

Additionally, PEMEX has been assigned a social as well as a business function. In general, the company is expected to promote the economic development of the country. But the company also has been required to participate directly in the economic development of those regions where it operates. PEMEX promotes, coordinates, finances, and executes economic development projects designed to compensate for the effects of petroleum operations. But its obligations go far beyond the social responsibilities normally placed on corporate enterprises. Health, education, housing, recreation, and retirement programs are standard projects for the company. During 1990, twenty projects in nine states cost 88 trillion pesos. It is not uncommon for social purposes to become justifications for policies pursued by government regulated monopolies. However, such projects add to the cost of the company's central operations and distract its talent and attention from its principal goal.

As the sole entity authorized to develop, refine, transport, and market Mexico's petroleum resources, its central purpose is clearly to finance and manage the nation's petroleum industry. The difficulty for PEMEX is that this central purpose is not always consistent with the social and political objectives of the government. From a business perspective, the company must ensure that revenues exceed expenses and that there is a source of continuing investment to replenish the wasting assets of the company. But as a state-owned monopoly, it is expected to be responsive to public needs and to accept political decisions that affect its finances and operations with less objection than the private sector. Factors necessary to coherent and efficient development of natural resources are often ignored.

The principal problem created by reliance on PEMEX as a social

instrument rather than as an oil company has been the reduction in investment funds as social objectives are given priority over petroleum operations. This has been a long-term problem. Recent corrective action has been directed at eliminating subsidies and permitting prices for PEMEX products to equal those in the world market. Initial steps have been taken to reduce the bureaucracy within the company. But during most of the last decade, PEMEX revenues have still been used by the government to repay international debt incurred by the nation in the late 1970s. As a result, capital investment in PEMEX for 1981 to 1989 fell almost eighty percent. Even increased investment planned for 1992 will be only one-fourth the amount absorbed by the company in 1981. To sustain its production and prevent Mexico from becoming an oil importing country, PEMEX estimates it will need \$20 billion through 1995.⁴²

The cost of new reserves is increasing as the company is forced to drill deeper for replacement reserves. In order to raise the needed capital, PEMEX must rely on its own profits or incur additional debt. The constitutional limitations on the company's ability to transfer its concession interests and to pay compensation with oil production restricts PEMEX from entering many joint ventures or other forms of development contracts that might shift or reduce its financial commitments or risks. But taxes and social obligations continue to restrict internal funds, and foreign lenders remain reluctant to become extensively involved in new debt without substantial government guarantees.

IV. REFORMING MEXICO'S PETROLEUM INDUSTRY

If Mexico is to remain energy independent and take full advantage of its petroleum resources, significant changes must be made in the way its oil industry is structured. Several options are available. At one extreme is retention of the present structure but with greater sensitivity to the problems inherent in government monopolies. At the other is the complete elimination of the PEMEX monopoly and return of the industry to private enterprise. Neither are particularly viable alternatives.

Effective regulation of authorized monopolies has been an elusive goal in every country with a system of economic regulation. The difficulty of bringing efficiency to the state oil monopoly is compounded by

42. M.A. Sánchez & T. Bardacke, *The Private Memoirs of Petroleos Mexicanos*, 1 EL FINANCIERO INTERNACIONAL, Feb. 2, 1992, at 14. While officials assert that PEMEX can maintain current production levels of 2.68 million barrels per day for 17 years, some experts claim that Mexico will become a net importer of crude oil by 1998. *Id.* at 16.

the lack of economic justification for the monopoly which eliminates any inherent efficiency gained in such a structure. Moreover, one administration's pledge to insist on correcting problems associated with monopoly enterprises through greater government awareness is likely to be short lived when administrations change and new political issues arise that tempt a prompt solution by using PEMEX as an instrument of social policy. Some degree of restructuring will be necessary to ensure that the inherent problems of the state company are effectively addressed on a continuing basis.

The dissolution of PEMEX so that most segments of the petroleum industry can be entrusted to private enterprise could now be accomplished without doing severe damage to the political concerns that gave rise to the company in the first half of the century. No constitutional amendments would be needed to effect this change. Article 27 of the Constitution merely places ownership of petroleum reserves in the government and requires government concessions before operations can be conducted by any party. The position of PEMEX is fixed by regulatory laws alone that are enacted and changed through the usual legislative process. Since Mexico's 1938 expropriation, significant advances have been made in the standard terms of government concessions for private petroleum operations. Governments have managed to retain much greater control over the pace and nature of operations, obtained increased shares in the revenues derived from production, and required more contributions from private companies to the social and economic development of the host country. These terms can reduce the abuses in earlier arrangements with private investors and eliminate much of the exposure to foreign domination that was the root cause of the expropriation.

But it is still unlikely that such a drastic change will be politically acceptable. PEMEX is an important national institution. It embodies the meaning of the 1910 Revolution and stands as a symbol of Mexico's nationalism. It is the instrument through which the constitutional principle of state ownership and development of petroleum resources has been realized. The government of President Salinas has made significant strides in reforming the Mexican economy. Decontrol and deregulation have been pursued with diligence. Even the nation's banks, telephone system, airline, and communal lands have been privatized. However, none of these actions entailed challenge to a national symbol and tradition.

Even if political issues were put aside, it is not entirely clear that dissolution of the state oil company would be a wise economic choice. The usual deterrents to mineral development by any government are a lack of technology, trained personnel, and funds that can be committed to the unusually risky business of petroleum exploration and development. Mexico's principal problem is the latter factor. In Mexico's case, the commitment of funds is determined by political priorities and the assessment of risk. Before terminating the state oil company, the nation must decide whether a government-owned entity should be engaging in the risks associated with petroleum operations or whether such risks should be left to the private sector. In many developing countries, the risk is clearly too great when other government activities desperately need funding. But in a country such as Mexico where much is known about the productive potential of its petroleum reserves and where operations can be undertaken on a large scale and over a protracted period of time, risk is reduced. If reduced enough, the government is likely to perceive that it has more to gain by developing the nation's resources on its own if it can overcome some of the inherent inefficiencies in government-owned businesses. At the very least, the government is likely to conclude that the economic gains from restructuring an industry are not worth the political costs involved.

A. *Opening the Industry to Competition*

Instead, reform of Mexico's petroleum industry is more likely to be accomplished incrementally. Initially, this would entail the correction of some of the inefficiencies inherent in a vertically integrated, government regulated monopoly. This requires that PEMEX be subjected to competition from private companies or that it rely on outside companies to perform some of its assigned responsibilities working under contract bidding. Three factors make it possible for other companies to participate in this increased involvement in Mexico's petroleum industry. First, many business activities assigned exclusively to PEMEX can be opened to private enterprise by more liberal interpretation and enforcement of existing law. Second, PEMEX may contract for services from private companies on a broader basis, provided the compensation is paid in cash.⁴³ Third, foreign energy products can be permitted to compete with PEMEX by recognizing that the company's monopoly over sales of petroleum and petroleum products extends only to petroleum resources produced in

43. Ley Reglamentaria del Artículo 27, *supra* note 10, art. 6.

Mexico. While PEMEX continues to control many petrochemical operations, other energy end-users are free to import oil and gas for their own account without purchasing from PEMEX if arrangements can be made to transport the product on PEMEX pipelines without discrimination. Action has already been taken by PEMEX and the government to open the industry to competition using each of these factors.

1. Petrochemical Operations

Under Mexico's Constitution, a distinction is made between primary and secondary petrochemicals. Basic petrochemical operations are reserved to the state as strategic activities and are therefore only produced by PEMEX. Secondary petrochemicals may be produced by private companies but only under government concessions.⁴⁴ In 1971, legislation gave the Executive the right to determine which petrochemicals are primary or secondary and set the general terms for foreign participation in private petrochemical operations.⁴⁵ Under that law, concessions for the private production of secondary petrochemicals were to be granted after evaluation of the proposal by the National Petrochemical Commission in consultation with the Foreign Investment Commission.⁴⁶ The Foreign Investment Commission is, in turn, constrained by the limitations prescribed in the 1973 Law to Promote Mexican Investment and Regulate Foreign Investment.

In general, foreign ownership of a Mexican enterprise under the latter legislation must remain less than fifty percent, whether by joint venture or through direct corporate ownership. In the case of firms engaged in petrochemical operations, foreign ownership is limited to forty percent.⁴⁷ Under a further restriction, foreign investors, and corporations owned by foreign investors, are not allowed to acquire direct dominion over lands or waters or their accessions in a zone that extends one-hundred kilometers along the borders and fifty kilometers from sea coasts.⁴⁸ Because these zones are prime locations for petrochemical operations, this restriction is an important one. However, it can be circumvented by placing the property in a trust held for the benefit of the investor or

44. See Constitution, *supra* note 9, art. 28; see also 1973 Law to Promote Mexican Investment and Regulate Foreign Investment, art. 4, D.O. Mar. 9, 1973.

45. Petrochemical Law, D.O. Feb. 9, 1971.

46. *Id.* art. 60.

47. 1973 Law to Promote Mexican Investment and Regulate Foreign Investment, *supra* note 44, art. 4.

48. *Id.* art. 7.

corporation.⁴⁹

The Salinas administration has taken several steps to alleviate some of these restrictions on private enterprise and foreign investment. The President has exercised the authority granted the Executive in 1971 to expand the list of secondary petrochemicals open to private manufacture. Of seventy petrochemical substances reserved for state production in 1986, only twenty remain classified as basic and therefore restricted to production by PEMEX alone. As a result, 300 companies now produce about 600 petrochemicals.⁵⁰

Additionally, regulations issued in 1989⁵¹ on the implementation of the 1973 Law to Promote Mexican Investment and Regulate Foreign Investment provide mechanisms that permit greater percentages of foreign ownership in secondary petrochemical firms. One device employs a twenty year trust authorized by the National Commission on Foreign Investment. Use of the trust requires that the investment improve the financial or operational condition of an existing Mexican company. A Mexican bank acting as trustee for a foreign investor may acquire the entire ownership of the Mexican company. Voting rights are exercised by a technical committee appointed by the foreign investor with the exception of one member appointed by the National Commission. At the end of the trust, however, the company must be resold to Mexican investors.

Under an alternate approach, corporate stock in the form of neutral shares ("N" shares) may be issued by Mexican corporations that permit foreign investors to participate in company profits without holding voting rights, provided that approval of the arrangement is obtained in advance from the National Commission on Foreign Investment. These "N" shares are held in trust by a Mexican bank for the benefit of the foreign investor and are not counted in determining the amount of foreign ownership in the company.

2. Drilling Services

PEMEX is permitted to contract any work or service to conduct its

49. *Id.* art. 18.

50. *See* Decree that Reclassifies the Petrochemical Products from the Basic to the Secondary Petrochemical Industry, D.O. Aug. 15, 1989.

51. Reglamento de la Ley para Promover la Inversión Mexicana y Regular la Inversión Extranjera, D.O. May 16, 1989.

operations.⁵² Beginning in 1949, PEMEX experimented with co-operative ventures with foreign companies. Sixteen risk-service contracts were executed with American independents. In return for assuming the financial burden and all drilling risks, the foreign driller was entitled to a recovery of costs from fifty percent of production revenues and fifteen percent of such revenues as risk compensation. To comply with Constitutional prohibitions on foreign ownership of reserves, PEMEX supervised the work and assumed control of completed wells. However, a Constitutional amendment in 1958 precluded drilling contracts payable from production and, during another resurgence of nationalism, the existing private production contracts were later rescinded.⁵³

Exploration and development plans for PEMEX are defined and authorized by the Institutional Committee of Investments according to internal rules that are considered confidential. Drilling plans are also revealed in the Annual Program of Operations of PEMEX and the institutional budget and income plans of the organization, which are approved by the Board of Directors and the Director General who control distribution of the information. Current practice is to keep the latter material confidential. These practices add to the difficulty of projecting the needs, plans, and opportunities to provide services to PEMEX.

However, there are clear indications that PEMEX is interested in increasing the involvement of foreign drilling and service companies in Mexico. Two sets of drilling contracts have been executed by PEMEX with American companies in the last year. These may expand in the future, particularly in connection with specialized drilling operations. Credit guarantees of \$1.3 billion from the U.S. Export-Import Bank and \$500 million from the Canadian Ex-Im Bank are expected to provide other opportunities for drilling and servicing contracts to be awarded by PEMEX to American and Canadian firms. However, the contracts are likely to remain service contracts payable in cash. Exploration, drilling, and construction activities by PEMEX are considered public works subject to Mexico's Law of Public Works.⁵⁴ This law requires PEMEX to use a public bid procedure in order to enter into these contracts.

3. Natural Gas Transactions

PEMEX is also slowly being subjected to increased competition

52. *Ley Reglamentaria del Artículo 27, supra* note 10, arts. 4, 6.

53. *Id.* art. 6.

54. *Ley de Obra Pública*, art. 4, D.O. Dec. 30, 1980.

from foreign energy suppliers. Natural gas producers in the United States and Canada are particularly anxious to access a greater share of Mexico's energy market. Declining gas reserves in Mexico, excess productive capacity in the other two countries, and the attractiveness of natural gas as an efficient and environmentally preferable fuel has created a situation in which Mexico has some advantage in using foreign supplies. While the market may be limited to northern Mexico where use of pipeline systems from across the U.S. border is cheaper than long distance lines from fields in southern Mexico, the purchase of foreign gas is a step toward reliance on additional energy sources on the basis of economic advantage rather than political preference.

There have been obstacles to increased gas imports, however. Countries traditionally base their gas import policies on considerations of price, security, and need. For Mexico, these considerations are complicated by several factors associated with energy policy and the nature of PEMEX. These include:

1. The government's commitment to energy self-sufficiency;
2. Excessively protective concerns over the security and adequacy of foreign fuels based on avoidance of foreign control;
3. Fiscal and legal restraints on the investment available to the Mexican petroleum sector for construction of additional transmission facilities;
4. Government subsidies and price controls that interfere with inter-fuel competition; and
5. Legal restraints on open access to gas transmission facilities and appropriate charges for service.⁵⁵

The first two of these factors can serve as the justification for the government to reject an import license application by a purchaser. The latter three can discourage the development of a market for foreign gas supplies even when there is consumer preference for gas as a source of energy. Thus, PEMEX itself is in a position to determine whether a sale will occur by determining whether its pipelines can be used to transport the gas to many markets.

However, there are signs that Mexico is opening its borders to foreign gas. In the period from 1986 to 1988, Mexico imported approximately 1900 to 2300 Mcf of gas annually. This increased by 724% in 1989 to 16,644 Mcf. After a slight decline in 1990, imports were again increasing in 1991, with indications that Mexico was interested in

55. For an analysis of these factors, see Gary Conine, *Natural Gas Transactions Between the U.S. and Mexico: Political and Legal Impediments to Free Trade*, 27 TEX. INT'L L.J. —, — (1992).

purchasing from 100 to 250 MMcf annually. There is hope that direct sales to end-users will be enhanced with the introduction of new guidelines on the pricing of pipeline transmission services by PEMEX.

B. *Structuring PEMEX for Competition*

If PEMEX is to fulfill its function of developing Mexico's petroleum resources and maintaining the nation's self-sufficiency in energy supplies, adequate funding of operations will be essential. The necessary investment, if it is to come from internally generated funds, will depend on increased efficiencies within the company or reduced taxes. While the actions discussed earlier in this article will eventually add some efficiency to the company's operations, other steps are possible on the part of the company and the government which can more directly contribute to the desired results. Some of these have already been taken by PEMEX. Its operational sub-directories have been re-organized into geographic zones. The ability of management to compare results among the regions and attribute responsibility to regional staffs is expected to add significantly to company productivity. At the same time, the company has made major reductions in the size of its labor force. Such measures have been estimated to be saving the company \$1 billion annually.⁵⁶

The government must also play a greater role in this effort. If the nation's oil industry is to be revitalized, the government must come to the realization that it is an equity owner of a major industry subject to business risks and capital demands. The government will have to accept the fact that successful operation of the industry is hindered by excessive taxation and by too much responsibility for socio-economic goals that are more properly the concern of the government itself and the burden of all sectors of the economy. These obligations must be reduced until the company's operations are driven by wise business decisions and not by a socio-political agenda. Much of the responsibility lies with the legislature. Reducing taxes on the company that are in excess of those imposed on other business enterprises while shifting social programs to the government budget calls for difficult choices. But the alternative may only lie in subjecting the economy to even greater difficulty if the nation becomes a net energy importer.

56. The company has also attempted to improve its investment opportunities by converting five of its operating sub-directories into affiliated companies in 1990. Each of these affiliates is involved in joint ventures with other companies or owns equity interests in other corporations. These relations permit the PEMEX affiliates to secure outside funding for some of their projects without selling interests in PEMEX itself to private persons.

Further action could entail insulating the company from government control of operating decisions within the company. The present Board of Directors is essentially a political Board. To permit the company to focus on its principal business obligations, the Board ought to be composed of business, technical, and community experts whose attention can be devoted to the successful management of the enterprise. Although the government's ownership of the company assures that there will always be some degree of government influence, this can be minimized through longer, staggered terms for Board members so that the Board has some continuity even as government administrations change.

Government control will not and cannot be completely removed from PEMEX operations. It will be necessary for an effective national energy policy that must be coordinated throughout Mexico's energy industry. As direct government involvement in the company's operational decisions is reduced, it will be necessary to protect public interests in areas such as the environment and natural resource conservation. Because PEMEX would retain its monopoly position, abuse of its market power must still be prevented. Prices would have to be monitored to protect the consumer. But this must still be done in a way that assured the company an adequate return on its investment to assure the continued ability of PEMEX to serve the public. Additionally, it will be necessary to assert some control over private access to PEMEX facilities such as oil and gas pipelines that are essential to moving petroleum products to market. Without such controls, foreign suppliers will not be able to compete against the company and some of the potential efficiency gains through competition will be lost.

V. CONCLUSION—THE CHANGING STATE OIL COMPANY

The state oil company is an important institution in any developing country. Its tax base and its effect on economic development give it political power and subject it to political pressure. To the extent either becomes excessive and the company focuses on social issues, the less likely the company will be able to fulfill its assigned task of managing the nation's petroleum resources. The efficiency problems in a bureaucratic monopoly are problem enough in a capital intensive industry without the constant drain of revenues toward projects related to or dictated by political issues. What could be a source of strength for the economic development of the country becomes a disappointment when neither the socio-economic goals nor the business goals of the enterprise can be achieved.

Presently, these weaknesses are being manifested in a lack of internally generated funds that can be dedicated to continued exploration and development. In order to overcome the immediate problem and still maintain the existence and authority of the state owned company, funds must be found through greater efficiency in operations and through a reduction on the socio-economic demands of the enterprise. Internal reorganizations are a beginning. But much more is promised through changes that subject the company to competition in areas that can be removed from full state ownership and control. Even more can be achieved by reducing government reliance on the revenues of the company and removing some of the obligations it has for social programs and policies.

These adjustments greatly change the complexion of the state enterprise, but they still honor and even promote the original purposes behind the creation of the company. It is true that these changes will result in less direct control and coordination by the government in energy matters. However, without change, these companies will continue to have difficulty replacing depleting reserves, overproduce existing reservoirs, and ultimately fail to provide the energy products or revenues needed to drive a developing economy. Some moderation in the responsibilities of these companies is needed to achieve a satisfactory status for the local industry. At the very least, the government must begin to view the company as a true enterprise rather than as a state agent and to be more mindful of the fact that its election to manage its petroleum industry through a state owned entity has deficiencies that detract from its central purpose. The focus then must be on assuring that the company serves the public interest as a business and not as another bureaucracy.

The volume of Mexico's oil production, the size and success of PEMEX, and the country's courage in assuming control of its petroleum industry before the ownership of state oil companies had become popular have given Mexico a leadership role among petroleum producing countries despite its refusal to join OPEC. This places Mexico in a position to set the trend in coming years as producing countries attempt to overcome the investment problems encountered by state oil companies in times of lower crude oil prices. The direction Mexico selects for PEMEX in the next few years may well affect not only the Mexican economy but the international structure of the oil industry as well.

