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## MEXICO'S OPEN DOOR TO COGENERATION AND INDEPENDENT POWER

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### INTRODUCTION

The Mexican Government recently reformed its laws governing the generation of electric energy.<sup>1</sup> Notwithstanding its Constitutional monopoly on electric power service, the Mexican government authorized domestic and foreign firms to generate power for (1) private consumption, (2) for sale to the Commission Federal de Electricidad (CFE), and (3) for export. This restructuring of the generation of electric power in Mexico has far-reaching implications both for Mexican consumers and for firms desiring to tap the increasing demand for electric power in Mexico.

To place this important legislative and political event in its proper historical context, Part I of this article provides a brief overview of the development of the electricity industry in Mexico over the past century. Part II of the article describes and analyzes the 1992 Amendment to the Law on the Public Service of Electric Power and its implementing regulations.<sup>2</sup> Finally, Part III discusses the significance of the 1992 Amendment for American utility and independent power companies, especially in light of the passage by the U.S. Congress of the Energy Policy Act of 1992.

### I. EVOLUTION OF THE MEXICAN ELECTRIC POWER INDUSTRY

The history of the electric power industry in Mexico reveals an ambivalent attitude toward foreign investment over time: encouragement and expansion of foreign investment in the early decades after independence, in an effort

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1. See *Decree Amending the Law on the Public Service of Electric Power*, Diario Oficial de la Federacion, December 23, 1992, art. 39.

2. *Id.*

to encourage urbanization and industrial development in a resource-rich land, followed in this century by contraction and eventual withdrawal of that investment in a nationalistic effort to preserve the fruits of Mexico's natural resources for Mexicans. Today, the pendulum has begun what appears to be a major and, perhaps, sustained swing in the other direction. Thus, from the dominance of foreign utility interests in the early twentieth century, to their withdrawal in 1960 with the completion of the acquisition by the government of the electric power industry, to the current shift toward more liberal foreign investment policies, Mexico has demonstrated deftness and flexibility in its response to the changing needs of its citizenry for electric power, as political and economic circumstances have evolved.

*A. The Porfirio Diaz Era — Dominance of Foreign Interests (1876-1911)*

After Mexico attained its independence from Spain, the country's politics, as well as its industrial development, were controlled by the Porfirio Diaz regime (1876-1911), which permitted foreign investment to dominate the economy.<sup>3</sup> Shortly after the development of electricity in the United States and Western Europe during the late 1800s, the Diaz regime set out to electrify Mexico, and by the turn of the century electric power plants were generating energy for industry and a handful of urban areas.<sup>4</sup> The early 1900s brought a flurry of foreign activity to the Mexican electricity industry as British, Canadian, and United States interests established electricity systems in different parts of Mexico and acquired most of the small domestically-owned plants. In an effort to further encourage these developments, the Diaz Administration revised the Mexican Constitution in an 1894 decree, extended federal government control over river flows and established federal authority to grant "concessions" for irrigation and power production for industrial purposes.<sup>5</sup> Foreign firms subsequently obtained control of the most profitable concessions for hydroelectric generation.

In the final years of the Diaz regime, municipalities and small domestic energy consumers began to express their discontent with the predominance of the foreign firms and the Mexican public's subsidization of foreign-owned economic activities (the foreign companies often sold energy at reduced rates to other foreign-owned enterprises).<sup>6</sup> In response to these concerns, Diaz enacted new water resources legislation designed to restrict hydroelectric concessions. Foreign entrepreneurs effectively ignored these early signs of hostility to foreign control of hydroelectric generation, and instead continued to expand their electric utility investments.<sup>7</sup>

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3. Sandra F. Maviglia, *Mexico's Guidelines for Foreign Investment: the Selective Promotion of Necessary Industries*, 80 AM. J. INT'L L. 281, 283 (1986).

4. Miguel S. Wionczek, *The State and the Electric-Power Industry in Mexico, 1895-1965*, 34 BUS. HIST. REV. 527 (Winter 1965). Wionczek's comprehensive history of the Mexican electric industry served as an important source for this section. See also Miguel S. Wionczek, *Electric Power: the Uneasy Partnership, Public Policy and Private Enterprise in Mexico* 19 (Raymond Vernon, ed., 1964).

5. Wionczek, 34 BUS. HIST. REV. at 528.

6. *Id.* at 530.

7. *Id.* at 531-32.

*B. The Mexican Revolution — Beginnings of Regulation (1910-1930)*

The Mexican Revolution of 1910 resulted in a reversal of Diaz's liberal investment policies. Little foreign capital entered the country during the Revolutionary Period (1910-1925),<sup>8</sup> and while foreign-owned utilities generally managed to preserve their physical plants, many suffered major financial losses.<sup>9</sup> Despite the shift in investment policies, as well as the introduction of a new Constitution in 1917, Mexico's policy toward the electric power industry was virtually unaffected.<sup>10</sup> The Constitution, adopted in 1917, demonstrated some caution toward foreign investment, with Article 28 reserving "strategic sectors" for exclusive control by the Mexican government<sup>11</sup> and subsoil rights exclusively to Mexican citizens (Article 27).<sup>12</sup> In addition, Article 73 of the new Constitution "limited Congress's authority in economic matters to mining, commerce, credit institutions, general means of communication, postal services, and water resources."<sup>13</sup>

Though later amended to include the electricity industry, the Constitution of 1917 did not list the electricity industry among its "strategic" sectors. The federal government's control over the electric power industry was limited to the issuing of concessions for the use of water resources. With the help of President Obregon's construction and expansion programs, the electric power companies were able to recover economically. In fact, the electricity industry may have expanded more rapidly during the 1920s than any other sector of the Mexican economy.<sup>14</sup>

The first efforts to regulate the electricity industry were undertaken in 1922, with President Obregon's establishment of the Comision Nacional de Fuerza Motriz (National Power Commission or CNFM). Designed as an advisory board, the CNFM undertook "overall estimates of the industrial needs of the country and of the probable future demand for electric power in relation to the present state of development of national water resources."<sup>15</sup> In 1926, the CNFM proposed legislation which outlined "a series of general principles to be applied by the government in its relations with public utilities."<sup>16</sup> The Codigo Nacional Electrico (National Electric Code) extended "federal control to all stages of hydroelectric power generation and distribution, rather

8. American Embassy, MEXICO, *Mexico: Foreign Investment Report* 69 (August 1992).

9. See Wionczek, *supra* note 4, at 532.

10. See Wionczek, *supra* note 4, at 533.

11. See Gary Clyde Hufbauer and Jeffrey J. Schott, *North American Free Trade: Issues and Recommendations* 187 (1992).

12. *Id.* Article 27 was amended in 1973 to reserve the generation and transmission electricity as a function exclusive to the State. See also Fernando Flores-Garcia, *Aspects of Mexican Energy Regulation*, 25 TEXAS INT'L L.J. 359, 360 (1990).

13. See Wionczek, *supra* note 4, at 537, n.11. Article 73 was later amended to give Congress the authority to "legislate throughout the Republic on hydrocarbons, mining, the motion picture industry, commerce, games of chance, lotteries, bank and credit services, [and] electric and nuclear power. . . ." CONSTITUCION POLITICA DE LOS ESTADOS UNIDOS MEXICANOS, art. 73, subpart X. [hereinafter Mex. Const.].

14. Wionczek, *supra* note 4, at 533.

15. *Id.* (quoting "Comision Nacional de Fuerza Motriz: su organizacion, labores y tendencias," a pamphlet published by the CNFM in 1924), at 533).

16. Wionczek, *supra* note 4, at 534.

than just to the establishment of new electric plants," and it devised "a legal formula for federal jurisdiction over thermoelectric plants, which were still operating under state and municipal concessions and franchises."<sup>17</sup> The statute's vagueness, coupled with political considerations, delayed effective implementation of the law.<sup>18</sup>

*C. The Great Depression — Mounting Concern Regarding Foreign Interests (1930s)*

Nationalist sentiment was rekindled with the onset of the Great Depression, which saw electricity prices for middle class and small consumers remain steady despite the drastic decline in Mexico's gross national product. In 1932, the Confederacion Nacional Defensora de los Servicios Publicos (National Public Service Defense Confederation), a consumer resistance organization made up of "tecnicos," intellectuals, and small commercial and private consumers was formed.<sup>19</sup> In response to cries for the nationalization of the power industry, the official governmental party, Partido Nacional Revolucionario, declared in its economic plan for 1934-1939 that in order to ensure an adequate supply of electricity, "the government will look to the formation of a national system of electric power generation, transportation, and distribution . . . ."<sup>20</sup> Subsequently, the Mexican government imposed a tax on electric power generation, rescinded the automatic five-year exemption from profit taxes for new electric enterprises, and amended article 73 of the 1917 Constitution to extend federal authority to all aspects of the power industry, and conferred on the President the authority to establish a Comision Federal de Electricidad (CFE).<sup>21</sup>

The CFE was created as a non-profit organization in 1937 and charged with implementing a national electric power system to generate, transmit, and distribute electricity "for the purpose of obtaining the greatest possible output at minimum cost" for the public benefit.<sup>22</sup>

*D. Decline of Foreign Interests and Growth of the CFE (1940-1960)*

Between 1926 and 1940, most large foreign-owned agricultural investments were expropriated.<sup>23</sup> In 1937, the railways were nationalized, as was the foreign-owned oil industry the following year.<sup>24</sup> Though much of the ownership of the electric power industry remained in foreign hands, the industry did not go unregulated. The Ley de la Industria Electrica (Electric Industry Law), enacted in 1938 and slightly modified in 1940, provided guidelines

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17. *Id.* at 534.

18. *Id.* at 534-35.

19. *Id.* at 536-37.

20. *Id.* at 540 (quoting "Plan Sexenal del Partido Nacional Revolucionario, 1934-1939," quoted in Rochelle Artega Mata, *Problemas economicas de la industria electrica* (Mexico 1939)).

21. *Id.*

22. *Id.* at 542 (quoting President Cardenas' decree).

23. American Embassy, Mexico, MEXICO: *Foreign Investment Report* 69 (August 1939).

24. *Id.*

for regulating all sectors of the electricity industry."<sup>25</sup> Under this law, electricity rate increases were periodically granted and suspended in accordance with economic and political considerations. Under the Emergency Decree of 1944, the Ministry of Foreign Relations gained significant authority to restrain the flight of foreign capital invested in Mexican companies.<sup>26</sup>

As a result of these developments, relations between the State and the foreign-owned electric companies steadily deteriorated. Speculation continued as to whether the government intended to nationalize foreign private power interests, and growth of the foreign electric companies stagnated. The market share of the two largest companies, Mexican Light & Power and American & Foreign Power, fell from 60% to 33% of total capacity.<sup>27</sup> One American owned company, Compañía Hidroeléctrica de Chapala, went bankrupt and was acquired by the Mexican Government in 1940.<sup>28</sup>

For the CFE, by contrast, the 1940s was a period of growth. The state-owned organization responded to the demand for electric power by constructing small power plants in outlying areas of Mexico and by developing reserves of untapped hydroelectric power. Because the CFE lacked adequate funding, the nation experienced frequent shortages of electric power.<sup>29</sup> After 1945, however, electric power generation and distribution facilities proliferated throughout Mexico. Between 1945 and 1960, the CFE's market share grew from 5 percent of total installed capacity to 40%.

#### E. "Mexicanization" and Renewed Nationalism (1960-1980)

The acquisition by CFE of the two major foreign utility companies in Mexico — American & Foreign Power Company and Mexican Light & Power Company — occurred uneventfully in 1960. Although the takeover occurred largely on the New York Stock Exchange, purchase of the companies was "acclaimed in Mexico as a step comparable to the land reform of the early Revolution and to the expropriation of the oil industry by [President] Cardenas in 1938."<sup>30</sup> The 1960s were characterized by reorganization and consoli-

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25. Wionczek, *supra* note 4, at 542-43.

26. Maviglia, *supra* note 3, at 285. See also Dionisio J. Kaye, *Mexico: Liberalizing Foreign Investment*, 4 TEMPLE INT'L AND COMP. L. J. 79 (1990).

27. Miguel S. Wionczek, *The State and the Electric-Power Industry in Mexico, 1895-1965*, 34 BUS. HIST. REV. 527, 544 (Winter 1965).

28. *Id.* at 544-45.

29. *Id.* at 546-47.

30. *Id.* at 551. The trend toward restricting foreign investment was also played out in other industries. "In 1960, the timber industry was reserved exclusively for Mexicans. American Embassy, Mexico, MEXICO: *Foreign Investment Report* 70 (August 1992). In 1961, foreign ownership in mining was limited to 49 percent and, in the case of certain strategic minerals, to 34 percent." *Id.* Legislation created in 1965 limited foreign equity participation in banking, insurance, and bonding businesses. "In 1970, tighter restrictions were imposed on new foreign investments in steel, cement, glass, fertilizers, paper, and aluminum." *Id.* In addition to these industry-specific regulations, the Government employed "tax incentives, selective application of import controls," and other methods "to divest foreigners of control and ownership." Sandra F. Maviglia, *Mexico's Guidelines for Foreign Investment: the Selective Promotion of Necessary Industries*, 80 AM. J. INT'L L. 281, 288 (1986). Finally, the restrictive trend culminated in the Foreign Investment Law of 1973 (FIL) which generally limited foreigners to minority ownership in Mexican companies and established the National Foreign Investment Commission (FIC) to exercise broad

dation of the newly acquired state-owned electricity industry. The Mexican government revised the system of rates in 1962 and again in 1965 to allow for price increases.<sup>31</sup>

In 1973, Article 27 of the Mexican Constitution was amended to provide for the national control of the electricity industry.<sup>32</sup> "It is exclusively a function of the nation to generate, conduct, transform, distribute, and supply electric power, which is to be used for public service."<sup>33</sup> Additionally, Article 73 provided that Congress has the authority "[t]o legislate throughout the Republic on hydrocarbons, mining, the motion picture industry, commerce, games of chance, and lotteries, banks and credit services, [and] electric and nuclear power. . ."<sup>34</sup> With the adoption of the Constitutional amendments, Mexico thus completed and ratified the process, begun almost fifty years before, of national control of its electric utility system, from generator to light socket.

#### *F. The Modern Era — Encouraging Foreign Reinvestment (1980-1993)*

In 1982, the Mexican economy suffered a series of drastic setbacks precipitated by a sudden fall of world petroleum prices.<sup>35</sup> In the next several years, an escalating national debt and spiraling inflation rate caused sharp declines in domestic investment, including investment in the energy sector.<sup>36</sup>

Mexico began in the mid-1980s what has been termed a "new Mexican revolution," a process of privatization and liberalization of its policies toward foreign investment in an effort to attract foreign capital to Mexico and to modernize the country's economy.<sup>37</sup> President Miguel de la Madrid (1982-1988) initiated the privatization campaign, and some six hundred state corporations were either privatized or liquidated during his administration.<sup>38</sup> The Guidelines for Foreign Investment, introduced in 1984, had as their "primary objective . . . the active, systematic, and selective promotion of foreign investment in specific activities considered the most important for a fair and balanced

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discretionary powers in the implementation of that law and the approval or disapproval of applications for majority foreign equity. *Id.* at 289-90.

31. Maviglia, 80 AM. J. INT'L L. at 554.

32. Flores-Garcia, *supra* note 12, at 360.

33. MEX. CONST., art. 27.

34. MEX. CONST., art. 73, subpart X. The tendencies toward federal government control of essential economic functions continued through 1982, when the Government took over the banking sector. This action was reversed by Constitutional amendment in 1990. See Business International Corp., *ILT Mexico* 4 (1991). See also U.S. Agency for International Development, Office of Energy and Infrastructure, (U.S. Agency for International Development), *Energy and Environment Market Conditions in Mexico* 72.

35. See David B. Hodgins, *Mexico's 1989 Foreign Investment Regulations: A Significant Step Forward, But Is It Enough?* 12 HOUS. J. INT'L L. 361-2 (1990).

36. *Id.* "[I]nvestment allocations to the consolidated power sector [were] cut by nearly 50 percent, thus representing only one-third of total electricity financial requirements between 1981 and 1989." Raul Monteforte, *A Review of Power-Sector Economics in Mexico*, 16 J. ENERGY & DEV. 15, 16 (1990).

37. Rogério Casas-Alatraste U. and Peter Benson, *Mexico: Saving the Best Until Last*, PRIVATISATION YEARBOOK 151.

38. *Id.*

growth of the Mexican economy."<sup>39</sup> The Guidelines' list of priority activities that may receive up to 100 percent direct foreign investment included the production of electric generators, turbines, and other equipment.<sup>40</sup>

Privatization has intensified under President Carlos Salinas de Gortari (1988-present). In 1989, new regulations to the FIL were introduced in an effort to further liberalize the rules governing foreign investment in Mexico. The National Development Program for 1989-94 and the National Program for Industrial Modernization and Foreign Trade for 1990-94 outlined measures designed to correct problems of inefficiency, low productivity, excessive regulation, and slow economic growth and industrial development.<sup>41</sup> The Government, however, still generally refused to allow such investment in "strategic" areas, including the energy sector.<sup>42</sup>

In 1991 and 1992, however, the Mexican Government made major liberalizing changes to its electric power laws. The 1991 change was a limited effort to encourage industrial cogeneration by allowing industrial firms, subject to CFE approval, to develop, own, and operate as much cogeneration as needed to fully operate an industrial site.<sup>43</sup> In addition, several firms at the same location may jointly develop a central cogeneration unit to satisfy the power needs of each of the partners. All projects must be self-financed, non-recourse, and not involve public financing.

In December of 1992, the Mexican Government went much further and dramatically opened up its tightly controlled power sector with an amendment to its Law on the Public Service of Electric Power, effective January 1, 1993.<sup>44</sup> Inspired by (but not conditioned upon) the North American Free Trade Agreement (NAFTA) among the United States, Canada, and Mexico, the reforms allow both domestic and foreign firms to generate power for private consumption, for export, and for sale to the CFE. The provisions of this amendment are discussed in the following section.

## II. THE 1992 AMENDMENT TO MEXICO'S LAW ON THE PUBLIC SERVICE OF ELECTRIC POWER

### A. *Overview of the New Opening for Cogeneration and Independent Power*

Prior to the passage of the December 1992 Amendment to the Mexican Law on the Public Service of Electric Power, only limited industrial cogeneration projects were allowed in Mexico; as the above described history reveals, all other aspects of electric power service, including generation, were reserved to the CFE. The 1992 Amendment modified the CFE's exclusivity by reinterpreting the term "public service," which appears in Article 27 of the Constitu-

39. Maviglia, *supra* note 3, at 294 (quoting Diario Oficial, Aug. 30, 1984 (General Resolutions of the FIC)(five resolutions published pursuant to the Guidelines)).

40. Maviglia, 80 AM. J. INT'L L. at 296.

41. Fernando Sanchez Ugarte, *Mexico's New Foreign Investment Climate*, DOING BUSINESS IN MEXICO 5-1 (Michael Wallace Gordon, ed. 1993).

42. Business International Corp., *ILT Mexico* 5-6 (Sept 1991).

43. *Mexico*, INT'L PRIVATE POWER Q., First Quarter 1993, at 69, 70.

44. *Decree Amending the Law on the Public Service of Electric Power*, Diario Oficial de la Federacion, December 23, 1992, art. 39. [hereinafter Amendment].

tion. That Article reserves to the Mexican government, through the CFE, the exclusive right to "generate, conduct, transform, distribute and supply electric power which is to be used for public service."<sup>45</sup> Article 3 of the Amendment declares that five categories of activity are not to be considered "public service" and therefore may be undertaken by private firms. These are (1) generation for self-supply, cogeneration, or small production; (2) generation by independent power producers for sale to the CFE; (3) generation for export through cogeneration, independent production, or small production; (4) importation for self use; and (5) emergency power generation. Although inspired in part by NAFTA, the legislative changes implemented by the 1992 Amendment actually go further than the comparable provisions in NAFTA toward liberalizing Mexico's foreign investment policies in the electricity industry.<sup>46</sup>

One of the most fundamental aspects of the Amendment is that with respect to new capacity or the replacement of existing capacity, the law and its implementing regulations direct the Ministry of Energy, Mines and Parastatal Industry (Ministry) to determine whether the CFE or private entities should supply the necessary electric power.<sup>47</sup> In making the determination, the Ministry will consider the goals of producing electric energy at the lowest cost to the CFE and achieving optimum stability, quality, and safety.<sup>48</sup> Where the Ministry opts for private construction of additional or replacement capacity, the CFE is urged to conduct a competitive bidding process among existing licensees and others, who must demonstrate in their bid applications that they have met the requirements to become licensees.<sup>49</sup> This openness to private investment at the production end of the electric system, where it makes economic and operational sense, represents a sea of change in public policy in Mexico.

Under the new law, private companies may apply to the Ministry for a permit of indefinite duration<sup>50</sup> to participate in the Mexican electric power market. Temporary use of the national electric system network may take place with prior agreement from the CFE if such use does not pose a risk to the public service, and such use must be compensated in accordance with the prior agreement.<sup>51</sup> The Amendment's implementing regulations provide that in granting permits, the Ministry will consider the need for growth or substitution of the system's generating capacity; the comparative costs; the terms and

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45. MEX. CONST., art. 27.

46. See M. Bauer, *Energy Trade Between Mexico and the U.S. and NAFTA — An Update*, Address before the Western Interstate Energy Board (1993); "According to Kathleen Deutsch of the DOE's Office of International Affairs and Energy Emergencies, and a participant in the U.S.-Mexico Electricity Trade Study, there basically is free trade for that commodity, and a NAFTA may not have an impact on transactions." Lori M. Rodgers, *What Will a Mexican Trade Agreement Mean to the U.S. Energy Industry?*, 128 PUB. UTIL. FORT. 1, at 35 (1991).

47. Amendment, art. 36-BIS (II); *Regulation of the Law on the Public Service of Electric Power*, Diario Oficial de la Federación, arts. 125, 126 [hereinafter Regulation].

48. Amendment, art. 36-BIS (I); Regulation, art. 124.

49. Regulation, arts. 125-34.

50. Permits for independent power production are limited to 30 years. See Amendment, art. 38.

51. Amendment, art. 36(V)(2).

the conditions of the agreements; "the safety, efficiency and stability of the public service"; and "the general interest."<sup>52</sup> No permit is necessary for the self-supply of power under 0.5 MW or for power plants' own use in emergencies.<sup>53</sup>

The implementing regulations prohibit permit holders from selling, reselling, or disposing of electric energy except as authorized by the Amendment. Repeated failure to abide by this requirement may result in revocation of the permit.<sup>54</sup> The regulations also call for permit holders to comply with certain technical standards relating to the operation of the licensed facilities.<sup>55</sup> Permit holders similarly are required to operate and maintain their facilities and equipment in safe condition.<sup>56</sup>

The Ministry of Finance and Public Credit, at the request of the supplier and with the participation of the Ministry of Commerce and Industrial Promotion, will set the rates for the retail sale of electric energy by the CFE, and will take into account the financial and extension needs of the public service as well as international rates for service of similar quality.<sup>57</sup> Rates will be designed to cover all of a supplier's financial requirements.<sup>58</sup> Licensees may request transmission service from the CFE, and where interconnection is required, the licensee and CFE may enter into a cost-sharing agreement for the construction of new interconnection facilities.

## B. *Categories of Private Power Production*

### 1. Self-Supply

Under the new law, "self-supply is the generation of electrical power solely to meet the needs of the generator's industrial or commercial facilities."<sup>59</sup> The provisions allow for a group of individuals or corporations to own the power-generating facility in order to satisfy the energy needs of each of its partners, so long as the facility does not supply power to third parties.<sup>60</sup> Admission of new persons is subject to authorization by the Ministry.<sup>61</sup> Any surplus of electric power production must be made available for sale to the CFE.<sup>62</sup>

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52. Regulation, art. 81.

53. Amendment, art. 39.

54. Regulation, art. 99(IV)(a).

55. Regulation, art. 90(IV).

56. *Id.*

57. Regulation, art. 47, 48.

58. *Mexico*, INT'L PRIVATE POWER Q., Second Quarter 1993, at 2, 4.

59. *Mexican Investment Board*, EXECUTIVE SUMMARY OF THE PRIVATIZATION SUMMIT Mexican Investment Board, (1992).

60. Amendment, art. 36(I)(a). Any assignment rights in, or expansion of such corporations must receive Ministry approval. *Id.*

61. Regulation, art. 102. The regulations specifically approve such additions to the self-supplying entity when the Ministry permits an assignment of interest in the entity, and when the additions are part of expansion plans "communicated to the Ministry." *Id.*

62. Amendment, art. 36(I)(b).

## 2. Joint Generation (Cogeneration)

"Cogeneration facilities produce electricity together with steam or other thermal energy for use in an industrial or commercial facility."<sup>63</sup> Under the Amendment the concession holder may, but need not, operate the facility supplying the energy for cogeneration.<sup>64</sup> The electricity generated must, however, be "destined to meet the needs" of the individuals or corporations that operate or assist the base processes of the joint generation.<sup>65</sup> Cogeneration must increase both the energy and economic efficiency of the industrial process and must exceed the efficiency of "conventional generation plants."<sup>66</sup> As required of self-suppliers, cogenerators producing excess electrical power must make this electricity available for sale to the CFE.<sup>67</sup>

## 3. Small Power Production

Only Mexican citizens or corporations organized pursuant to Mexican law and domiciled in Mexico may apply for a license to engage in small power production.<sup>68</sup> A small power production project may not exceed a total capacity of 30 MW within a geographic area specified by the Ministry, and may produce electricity for sale to the CFE or for export.<sup>69</sup> Small producers generating less than 1 MW of energy may supply small rural communities or isolated areas lacking electric energy service.<sup>70</sup> An entity authorized to engage in small power production for export or for sale to CFE may not obtain a permit for projects exceeding 30 MW of capacity in the same area.<sup>71</sup>

## 4. Independent Power Production

Implementing regulations define independent power production as the generation of electric energy by a plant with a capacity in excess of 30 MW, where the energy is destined exclusively for export or sale to the CFE.<sup>72</sup> Only individuals or corporations incorporated in accordance with Mexican law and domiciled in Mexico may apply for a permit to engage in independent power production.<sup>73</sup> An independent power producer (IPP) may build, own, and operate an electrical power generation plant and sell electricity to the CFE by means of renewable long-term (up to 30 years) agreements. Sales of the IPP's electric output must be exclusively to the CFE unless the Ministry grants prior permission to the producer to export the power.<sup>74</sup>

When the energy produced by an IPP is destined exclusively for sale to

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63. Mexican Investment Board, *supra* note 59, at 10.

64. Amendment, art. 36(II)(a).

65. Regulation, art. 104.

66. Amendment, art. 36(II)(a).

67. Amendment, art. 36(II)(b).

68. *Id.*, arts. 36(III)(b), (IV)(a); Regulation, art. 111. The Amendment likewise limits a small producer's exports to 30 MW.

69. Amendment, art. 36(IV)(b); Regulation, art. III.

70. Amendment, art. 112; Regulation, art. III.

71. Amendment, art. 112; Regulation, art. III.

72. Regulation, art. 108.

73. Amendment, art. 36(III)(a); Regulation, art. 109.

74. Amendment, arts. 36(III)(c), 38. *See also* Mexican Investment Board, *supra* note 59, at 11.

the CFE, the project must be previously included in the "planning" of the CFE or be the "equivalent" of such a project.<sup>75</sup> Annually the CFE must issue a prospective paper, for approval by the Ministry, that discusses the trends of the domestic electricity sector and offers possible investors information on the long-term power requirements of the country.<sup>76</sup> The prospectus must "contain projections on the evolution of the demand by type of consumption and geographical region, information on the existing generation and transmission capacity, expansion requirements for power generation and transmission to cover the estimated demand, and the energy saving actions projected nationwide."<sup>77</sup> The Ministry is required to publish relevant excerpts from the paper and solicit comments from private investors, during a five-month period, that will be included in CFE's planning documents for the following year.<sup>78</sup>

The Ministry will also periodically determine the need to extend or replace capacity as required by the demand for electricity. The Ministry will then recommend "technical solutions" to satisfy those needs. An independent power project will be considered included in "planning" when the size of its generation capacity is consistent with the recommendations outlined in the CFE's prospective paper or when the project's specifications fulfill the Ministry's requirements for a technical solution.<sup>79</sup> Some permits will be granted for projects not included in the long-term plan, but only when the full production is exported.<sup>80</sup>

### C. Bidding Procedures

According to the Amendment, IPPs must sell electricity generated for Mexican consumption to the CFE "under the economic terms and conditions that may be agreed upon" by the parties.<sup>81</sup> Likewise, self-supplying companies, cogeneration facilities, and small producers may sell their surplus electricity to the CFE.<sup>82</sup> The CFE may therefore solicit bids in an effort to secure electricity at the "lowest cost" and "optimum stability, quality, and security for public service."<sup>83</sup>

The CFE's call for bids must allow interested parties to describe in their proposals the "technology, fuel, design, engineering, construction and location of the facilities" involved<sup>84</sup>; and the CFE must explain the methodology and criteria for evaluation of the bids.<sup>85</sup> All bids must meet "Mexican official stan-

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75. Regulation, art. 110. *Accord*, Amendment, art. 36(III)(b).

76. Regulation, art. 66. *See also* Emilio Lozoya Thalmann, Requirements of the Electric Sector in Mexico and Cooperation Opportunities Between the Public and Private Sectors, Address before the International Energy Conference 8 (June 6, 1993).

77. Lozoya Thalmann, *supra* note 76, at 8.

78. Regulation, art. 69.

79. Regulation, arts. 110, 125.

80. Amendment, art. 36(III)(b); Lozoya Thalmann, *supra* note 76, at 10.

81. Amendment, art. 36(III-IV).

82. *Id.*, art. 126.

83. *Id.*, art. 36-B; Regulation, art. 131.

84. Regulation, art. 127. The Ministry may also instruct the CFE to require that the bids contain "accurate specifications" regarding fuel used for electricity generation. *Id.* at 128.

85. *Id.*, arts. 127, 129.

dards," as well as the "technical specifications" set by the CFE and approved by the Ministry at its discretion.<sup>86</sup> Private firms lacking electricity generation permits may submit bids, but must provide documentary evidence that they have met the requirements for licensure.<sup>87</sup>

"Under the strict supervision of the Ministry," the CFE will consider "technical viability," total "long-term" costs, and "stability, quality and safety" in evaluating the bids.<sup>88</sup> The regulations specify that the CFE must rule on the bids "within the period stated in the call," award the contract, and "demand the provision of the respective guarantees."<sup>89</sup> The CFE must also submit a "comprehensive" written report of its decision to the Ministry.<sup>90</sup>

#### *D. Exports and Imports*

The amendment permits private entities to export electric power generated by cogeneration, independent production, and small production. It also authorizes the importation of electricity by private individuals or corporations for their own use.<sup>91</sup> Petitioners for permits for the generation of electric energy intended for exportation must submit to the Ministry documents recording the agreement for purchase or sale of the energy.<sup>92</sup> Entities holding permits to export energy may not dispose of the energy within Mexico without first obtaining a permit from the CFE to change the destination of the energy.<sup>93</sup> Importation permits must establish the conditions and periods under which the licensee will request the energy,<sup>94</sup> and imports shall be subject to certain import tariffs.<sup>95</sup>

#### *E. Emergency Power Generation and Other Matters*

The holders of permits for self-supply, cogeneration, independent power production, small production, exportation, or importation may provide, for compensation, electric power service to the public during a time of emergency resulting from a force majeure or an Act of God.<sup>96</sup> The regulations also contain additional details regarding such important matters as the contents of power purchase agreements with the CFE, including rules as to payments for capacity and energy, and dispatching of the power from a given facility. It seems clear that as a result of the changes described above, Mexico is making a visible effort to turn its procurement practices for new electric generating capacity firmly in the direction of the transparent, competitive bidding procedures now followed in the great majority of U.S. jurisdictions.

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86. *Id.*, art. 128.

87. *Id.*, art. 130.

88. *Id.*, art. 131.

89. *Id.*, art. 132.

90. *Id.*, art. 134.

91. Amendment, arts. 3(III) and (IV).

92. Regulation, art. 117.

93. *Id.*, art. 118.

94. *Id.*, art. 121.

95. *Id.*, art. 122.

96. Amendment, art. 37(a).

### III. IMPLICATIONS OF THE 1992 AMENDMENT FOR U.S. UTILITY COMPANIES

The above described changes to Mexico's Law on the Public Service of Electric Power were inspired in part by the success of the NAFTA negotiations in 1992. NAFTA requires Mexico to allow U.S. and Canadian companies to generate electricity in Mexico for their own use, with excess sold to the CFE; to operate cogeneration facilities in Mexico, again with excess electricity sold to CFE; and to engage in independent power production of electricity for sale to the CFE or for export, with the approval of the parties and the CFE. The goals of the new policy, as stated by Emilio Lozoya Thalmann, Secretary of Energy, Mines and State Industry of Mexico, are "to fulfill the demand for [energy-related] goods and services at lower costs; to increase the technical and economic effectiveness of the [energy] sector; to ensure optimum stability, quality, and safety in supplying goods and services; and [t]o offer juridical assurance to the new participants in the energy sector."<sup>97</sup>

For Mexico, the liberalization of its foreign investment policies in the electric power industry are necessary to meet the country's growing demand for electricity. Underpriced electricity and accelerated growth in consumption led to oversized financial and investment requirements in the Mexican electric power industry.<sup>98</sup> Between 1989 and 1990, industrial demand, which represents 56.5% of demand, grew 8.8% and residential demand, (22.3% of total demand), grew 8.3%.<sup>99</sup> Mexico's electricity requirements are expected to double over the next ten to twelve years.<sup>100</sup> When compared to the United States 2% growth rate,<sup>101</sup> it is easy to understand why U.S. firms are enthusiastic over the changes in Mexico's foreign investment policies and eager to enter this promising new market.

At the same time that demand is increasing in Mexico, the costs of supplying electricity are also on the rise. Electricity generation costs in Mexico have risen significantly as a result of an increasing national debt, inflation, and changes in financial conditions, such as rising interest rates, shorter-term maturities, and devaluations of the peso.<sup>102</sup> In addition, costs have increased in real terms over the years since CFE took over the industry. The primary causes of this movement include labor costs in the 1970s and internal fuel, equipment, and material costs in the 1980s.<sup>103</sup> Mexico's economic crisis, combined with "financial and technological problems associated with the pattern and speed of power system growth" in the industry, have forced the government to make "drastic cuts" in investment and to borrow funds from both

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97. Lozoya Thalmann, *supra* note 76, at 5.

98. Raul Monteforte, *A Review of Power-Sector Economics in Mexico*, 6 J. ENERGY & DEV. 15, 33 (1990).

99. RCG/Hagler, Bailly Inc. and the U.S. Agency for International Development, *Powering Mexico*, INDEPENDENT ENERGY, at 88 (1992).

100. Ted Bardacke, *The Hunger for Power: Government Electricity Privatization in the Works* EL FINANCIERO INTERNACIONAL, 14, 15 (1993). See also U.S. Department of Energy, United States/Mexico Electricity Trade Study at 88 (March 1991).

101. Bardacke, *supra* note 100, at 15.

102. Monteforte, *supra* note 98, at 22.

103. Monteforte, *supra* note 98, at 22.

foreign and domestic sources.<sup>104</sup> For investment CFE has relied on borrowed monies, with federal resources covering the remainder of its investment needs as well as its current expenditures and consumer subsidization.<sup>105</sup>

In such circumstances, the passage of the new legislation discussed above represents a tremendous opportunity for U.S. firms, especially those with an orientation and capability to undertake projects or investments in the generating sector. Ironically, that opportunity could have been severely curtailed or retarded by certain historically based limitations imposed on U.S. utility companies under the Public Utility Holding Company Act (PUHCA).<sup>106</sup> However, recent amendments by Congress to the PUHCA, which occurred somewhat coincidentally in parallel with the NAFTA negotiations, should greatly facilitate investment by U.S.-based utility and other interests in Mexico.

The Energy Policy Act of 1992 (Act)<sup>107</sup> significantly reduces the regulatory burden on companies which seek to invest in electrical generation outside the United States. While PUHCA previously raised significant barriers to the participation of domestic companies in independent power production and foreign utility investment,<sup>108</sup> the Act amends PUHCA to create two new classes of electric generators, "foreign utility companies"<sup>109</sup> and "exempt wholesale generators" (EWGs).<sup>110</sup>

Under the Act, a foreign utility company is exempt from all provisions of PUHCA. Thus, a utility with only intrastate operations may acquire an interest in a foreign utility subject only upon approval of the appropriate state regulatory body. Prior to passage of the Act, such a utility would face significant regulatory hurdles under PUHCA in attempting to conclude such an acquisition and would thereafter be subject to ongoing regulation under PUHCA.

Utilities registered under PUHCA also benefit considerably under the Act. Although the Act requires to the Securities and Exchange Commission (Commission) to adopt rules governing the acquisition of foreign utility companies by utilities registered under PUHCA,<sup>111</sup> and governing certain transac-

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104. Monteforte, *supra* note 98, at 16.

105. In 1990 the electricity subsidy was 17%, but the CFE is gradually increasing its prices for consumers. RCG/Hagler, Bailly Inc., *supra* note 99, at 88.

106. 15 U.S.C. §§ 79-79z-6 (1988).

107. ENERGY POLICY ACT OF 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992).

108. See Southern Co., Holding Company Act Release No. 25,639, International Release No. 460 (September 23, 1992); SEC No-Action Letter No. —, Colstrip Energy Co., 1988 WL234462 (S.E.C.) (Fed. Sec. Rpt. (CCH))(June 30, 1988).

109. A "foreign utility company" is defined in section 33(a)(3)(A) of the Act to include any company which owns or operates facilities outside the United States that are used for generation, transmission, or distribution of electrical energy for sale or retail distribution of natural or manufactured gas for heat, light, or power. A foreign utility company must not derive any of its income from utility operations within the United States, and neither the company nor any subsidiary of the company may a public utility company operating within the United States.

110. An EWG is defined in section 32(a)(1) of the Act to be any person determined by the Federal Energy Regulatory Commission to be engaged directly or indirectly, and exclusively, in the business of owning or operating all or part of one or more "eligible facilities" and selling electricity at wholesale. An "eligible facility" is a facility, wherever located, which is used for the generation of electricity at wholesale.

111. The Act provides "[A] registered holding company shall be permitted as of the date of the

tions ancillary to any such acquisition,<sup>112</sup> the SEC may reject a proposed acquisition only if it finds a specific threat to the customers of the domestic utility. In regulations recently published, the SEC has set forth "safe harbor" tests which, if met, permit the acquisition to go forward without SEC consideration or approval.<sup>113</sup> The scope of these proposed regulations suggest that the SEC has taken the Act's mandate to lessen regulation seriously.

The proposed regulations state that a registered holding company will be permitted to acquire a foreign utility company or its securities without Commission approval if (1) the registered holding company system's aggregate investment in EWGs and foreign utility companies does not exceed 50% of its consolidated retained earnings as stated on its most recent Form 10-K or 10-Q filed under the Securities Exchange Act of 1934; (2) books and records of EWGs and foreign utility companies are made readily available to the Commission, in English, and are kept in a manner consistent with the Federal Energy Regulatory Commission's Uniform System of Accounts; and (3) no more than 2% of the system's domestic utility employees render services at any one time, to EWGs and foreign utility companies in which a system holds an interest.<sup>114</sup> Notwithstanding these tests, the safe harbor is not available if a system company had filed for bankruptcy protection within the past three years, or if the target EWG or foreign utility company had reported operating losses exceeding 25% of the system's total investment in EWGs or foreign utility companies.<sup>115</sup> In such cases, and when the safe harbor cannot be complied with, the Commission will consider an acquisition on a case-by-case basis.

The restrictions on EWGs are even less significant. An EWG is exempt from all provisions of PUHCA, and a domestic holding company need not apply for, or receive permission from the Commission to acquire an EWG.<sup>116</sup> Commission approval is needed only to the extent that securities are issued by the registered domestic company to finance the acquisition, or if the domestic company guarantees debt of the EWG, or in certain other limited situations.

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enactment of this section (without the need to apply for, or receive approval from the Commission) to acquire and hold the securities of, or interest in the business of one or more foreign utilities. The Commission shall promulgate rules or regulations regarding registered holding companies' acquisition of interests in foreign utility companies which shall provide for the protection of customers . . . and the maintenance of the financial integrity of the registered holding company system." Act. § 33(c)(1). The Commission's response was to set forth a fairly lenient safe harbor test for acquisitions which will not require Commission approval, while retaining jurisdiction for those proposed acquisitions which do not meet the safe harbor. Although this rule is arguably inconsistent with the statute, it is not clear what other type of rule the Commission could have proposed which would have had any effect.

112. These transactions include the issuance of securities by a registered holding company for purposes of financing the acquisition of the foreign utility company, the guaranty of securities of a foreign utility company, the entering into service, sales or construction contracts, and the creation and maintenance of any other formalized relationship between the registered holding company and the foreign utility company.

113. Proposed Rules and Forms Relating to Exempt Wholesale Generators and Foreign Utility Companies, 58 Fed. Reg. 13,719 (1993).

114. 58 Fed. Reg. 13,727 (1993), (to be codified at 17 C.F.R. Pts. 250.53(a), 250.55)(proposed Mar. 15 1993).

115. *Id.*; (to be codified at 17 C.F.R. Pts. 250.53(b); 250.55).

116. Act, § 32 (e-g).

Once again, the Commission has authority to reject the proposed security sale only if the issuance of the security would have a "substantial adverse impact" on the financial integrity of the registered holding company system.<sup>117</sup> In making this determination under the proposed rules, the Commission will utilize the same three-part safe harbor applicable to investments in foreign utility companies.<sup>118</sup> Thus, if the safe harbor tests are met, the registered utility company may issue securities to finance the acquisition of the EWG without Commission approval.

An EWG may be located outside of the United States. A foreign EWG, unlike a domestic EWG, may sell electricity at the retail level so long as none of the electricity generated is sold to customers within the United States. Significantly, a company not affiliated with a holding company registered under PUHCA (i.e., one engaged only in intrastate sales) which desires to acquire foreign generating facilities may avoid seeking approval from its state regulatory commission simply by qualifying the foreign investment as an EWG. The Energy Policy Act thus frees U.S. firms — even those registered under PUHCA — to participate in the opening of the Mexican market for electricity.

#### CONCLUSION

Mexico's decision to open its electric system to private investment in generation and small power production facilities constitutes a major change in direction in public policy in a sector of its economy that has long been viewed as uniquely within the patrimony of the government. The fact that the decision has become the subject of specific legislation signed by President Salinas and recently implemented by regulations issued by the Ministry of Energy, Mines, and Parastatal Industries suggests a degree of permanence to this new policy direction.

However, prediction of future trends must be done with great caution, because considerable flexibility is retained by the CFE and the Ministry in the actual administration of the subject law and regulations, as individual decisions to add capacity or repower existing facilities of the CFE are made. Subjective factors in the decision process have, by no means, been eliminated. Moreover, a history of ambivalence toward foreign participation in the energy sector will continue to form a backdrop for discussions and negotiations with individual private investors and power companies. The outcome of the current deliberations in the U.S. Congress regarding approval of the NAFTA inject additional uncertainty.

Nevertheless, the opportunity for significant, constructive engagement by U.S. utility and independent power companies with the Mexican electric system appears to be greater now than at anytime this century. The U.S. Congress has largely removed the shackles imposed on American utilities and others from undertaking investments in electric systems abroad, and thus American firms will not be disadvantaged vis-a-vis other foreign investors in

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117. Act, § 32(h).

118. 58 Fed. Reg. 13,727 (1993), (to be codified at 17 C.F.R. Pt. 250.53).

**Mexico.** Barring unforeseen adverse consequences affecting Mexico's bilateral trade relationship with the United States, such as those arising from a failure of the NAFTA to win congressional approval, a new era in cross-border cooperation and mutual benefit in the electric utility sectors of the two countries may finally be at hand.