

Servicio Eléctrico, Electric Service Law, which privatizes the construction and operation of larger electrical projects. New projects will be contracted to the private sector on a turnkey basis, and will no longer be managed by the *CFE* staff. The *CFE* plans to build nearly 14,000 megawatts of new generating capacity, at a cost of US \$34 billion, between 1993 and 2000.

THE ELECTRICITY GENERATION SECTOR

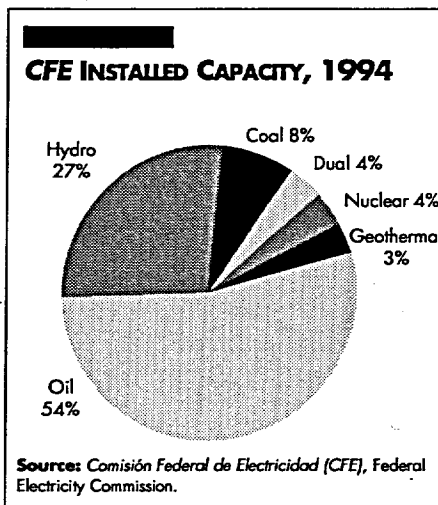
The *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission, is the state-owned company responsible for the generation and public distribution of electrical power throughout Mexico. The *CFE*, which was created in 1937, reports to the *Secretaría de Energía, Minas e Industria Paraestatal (SEMIP)*, Secretariat of Energy, Mining and State-owned Industry. A 1960 amendment to Article 27 of Mexico's constitution gave it exclusive authority for all planning, development and operation of electrical generation systems. New regulations were introduced in 1993 to expand the opportunities for small-scale private power generation, but the *CFE* maintains its monopoly over power sold to the public. With an installed capacity of 33,000 megawatts, it is among the world's 20 largest electricity suppliers. The Commission employs 85,000 people and had sales of US \$3 billion in 1990. In 1992, it also received some US \$6 billion in government subsidies.

The *CFE*'s installed generating capacity is expected to more than double by the year 2010, as the utility extends service to previously unserved communities and keeps pace with rising demand stemming from sustained economic growth. Consumption is forecast at about 160,000 Gwh for 1995.

The *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission, signed a major agreement to sell

electricity to customers in California in 1987. Since then, annual exports to the U.S. have averaged two billion kilowatt hours, about two percent of the *CFE*'s capacity.

The government is now demanding that the *CFE* bring revenues into line with costs. Subsidies are expected to be completely eliminated by the year 2000. Considering that the *CFE* presently covers only about one-third of its costs from revenue, this is putting enormous pressure on the utility to rationalize and modernize its operations. Prices will also have to rise, stimulating demand for more efficient equipment by electricity users.



More than two-thirds of all electricity is generated by thermal plants which burn coal, oil and gas. The *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission maintains two nuclear units at its *Laguna Verde* plant in the state of Veracruz, supplying about four percent of Mexico's electricity. Most of the nation's power comes from hydro and geothermal generation plants. Small-scale private generation plants tend to use gas turbine and combined cycle technologies. By 1999, the *CFE* expects to increase its installed capacity to about 44,000 megawatts, with a large part of the increase coming from dual fuel systems.

Like other public enterprises, the *CFE* is under government pressure to reduce emissions, particularly from its thermal power plants, many of which

burn the high-sulphur fuel oil produced by *Petróleos Mexicanos (PEMEX)*, the state-owned oil company.

PEMEX also generates electricity and is an important customer for power generation equipment. It has an installed generation capacity of roughly 2,000 megawatts, which is about two-thirds of its requirements. Some large industrial plants also generate electricity for their own use.

Luz y Fuerza del Centro, the Central Light and Power Company, is responsible for all distribution of electricity in Mexico City. This utility, which has 36,000 employees, is administered independently of the *CFE* and makes its own procurement decisions.

TECHNICAL SPECIFICATIONS

Mexico's electrical system includes more than 33,000 megawatts of capacity. It operates at 60 cycles with normal voltages of 110, 200 and 400. Three-phase and single-phase 230 volt power is available. Generation is at a voltage of 4-22KV, with transmission at 69, 114, 230 or 400 KV. The *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission, operates about 350,000 kilometres of transmission and distribution lines, with about 1,300 substations.

OPPORTUNITIES FOR CANADIAN COMPANIES

The Mexican market for electric power generation, transmission and distribution systems totalled about US \$1.2 billion in 1993. The market has expanded at an average rate of more than five percent per year over the past ten years and this growth is projected to continue until the turn of the century.

Foreign participation in this market was about 30 percent in 1993. Import penetration is expected to increase over the next several years as the *Comisión Federal de Electricidad (CFE)*, Federal Electricity Commission, attempts to increase its efficiency in the face of sharp cuts in

