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## Power Sector Analysis

### 1. Power Sector Definition

The power sector is comprised of diverse sub-sectors that produce a wide variety of products, including equipment for hydro, thermal and nuclear generating stations; power transmission and distribution equipment; electrical wire and cable products; power and distribution transformers; control and protection equipment; power conversion equipment; electric motors; alternate energy equipment for power from solar, wind, etc.; standard and advanced technology batteries, and fuel cells.

### 2. Indian Power Market

#### *Market Potential*

With a rapidly growing requirement to expand and upgrade its power generation, transmission and distribution systems, India has been identified as a prime market prospect for Canada's electrical equipment manufacturers, consulting engineers, utilities and private power developers.

India has increased its installed power generation capacity from 1,300 megawatts in 1947 to 82,000 megawatts in 1995. Despite this, India faces an acute energy shortage that will only worsen as demand increases at an average annual rate of 8 percent. The current shortage is 10 percent (20 percent at peak demand). During the 8th Five-Year Plan (1992-97) an additional 48,000 megawatts will be needed, yet it is expected only 30,538 megawatts will be installed (in fact, actual capacity addition could be as low as 20,000 megawatts). At this rate, by 1997, India will have a shortage of 14 percent (28 percent at peak demand). The government's long term goal is to have an additional 143 gigawatts installed by 2010: outside observers consider this figure as overly optimistic and quote a figure of 115 gigawatts as being more realistic.

To address this shortage, the Government of India (GOI) decided to privatize the power sector and in 1993 announced a wide range of incentives to attract investment from foreign and Indian companies. The Ministry of Power has identified a requirement for 146 power projects totalling almost 66,000 megawatts. As of November 1995, the GOI had received 243 proposals from private companies for a total of 90,000 megawatts. However, to date, only sixteen of the private projects for a total of 10,000 megawatts have been cleared. Approval of another 31 proposals involving 23,000 megawatts is expected in the near future.

India's power generation infrastructure is a blend of hydroelectric, thermal and nuclear power. In recent years, capacity addition has been almost exclusively thermal, resulting in a current ratio of hydroelectric to thermal of 30:70. About 3