

## **Electric supply plan outlined for FY2000**

### **Preface**

The national electricity demand is on an ebb arising from the prolonged period of slack of industrial demand under the current recess of the economy. However, the shift toward convenient power is expected to continue reflecting the increased dependence on air-conditioning and the overall incline toward amenity as represented by the ongoing trend of computerization. As such, the electric power demand in Japan is estimated to continue its gradual-but-steady increase.

Turning to the supply side, utilities are under pressure to develop an efficient and economic service through additional efforts for cost reduction. At the same time, the power industry is required to correspond to the partial liberalization in the retail sector, the introduction of across-the-board competitive bidding in thermal power sourcing and other changes while maintaining a long term perspective for energy security and the attendance to the global environment issue.

Amidst the onset of significant changes and the move toward liberalization within the power industry, Electric Power Development Co., Ltd. is attempting to live up to the challenge of improving its financial constitution and enhancing its competitive strength in preparation for the privatization of the company scheduled in the year 2003. The development of power sources is the unchanging core of our corporate activity, and EPDC will continue to actively develop its atomic, thermal, and hydraulic power generation capabilities along with transmission/transformation facilities as a electric utility having a share of responsibility over the national power supply while achieving a strict cost reduction.

Furthermore, the preparation of EPDC for its privatization will also involve the enhancement of its activity in the alternative energy sector, promoting capabilities for the introduction of refuse and wind based power generation.

### **I Power Source development**

## **1. Nuclear power**

The low environmental load and superior environmental properties of nuclear power in terms of carbon dioxide emission makes the technology a viable option for development as the primary source of power. Nuclear power has the additional advantage of being a partially self-sufficient source of energy. One important project in this sector is the development of the full MOX-ABWR (Mixed OXide - Advanced Boiling Water Reactor) which was adopted as a strategic measure to provide flexibility to the operation of light-water nuclear reactor by exploiting MOX fuel.

EPDC is proceeding to initiate the construction of Oma nuclear plant (to be equipped with a full MOX-ABWR) at Oma in Aomori Prefecture, scheduled for construction in March 2002 (operation to start from July 2007).

## **2. Thermal**

Because coal is an abundant natural resource available throughout the world, the development of coal thermal power generation is another option actively being pursued at EPDC, second in importance only to nuclear power as the source of basic power.

Construction continues in earnest for the power stations in Tachibana Bay (unit #1 to start operation in July 2000; unit #2 in January 2001) and Isogo (new unit #1 to start operation in April 2002).

EPDC is also scheduling to launch the construction of the Hitachi-Naka Thermal Power Unit #1 (to be jointly maintained by Tokyo Electric Power Co., Inc., operation start-up in December 2005), preparing to begin the construction of the common facility in July this year. Preparations of the Isogo Thermal Power New Unit #2 is also underway, with plans to start operation by July 2006.

The new generation of thermal power plants incorporate the ultra supercritical pressure boiler technology capable of improving the power efficiency while simultaneously reducing the carbon dioxide emission to cut down on the load to the global environment.

EPDC is conducting fundamental research concerning coal thermal to promote the development of more efficient technologies including coal gasification compound power generation as well as research on the recovery and capturing of CO<sub>2</sub>.

## **3. Hydroelectric Power Generation**

Hydroelectric power is a regenerable, natural source of domestically available energy free of carbon dioxide emission. EPDC intends to utilize the national water resource, promoting the development with an awareness for environmental harmony and economic efficiency.

Expansion of the Okutadami/Otori Hydroelectric Power Station is underway, preparing the facility for operation scheduled in June 2003. Proper development of the pumped-up storage generation will be essential in the future not only as a reliable power source capable of corresponding to the peak demand with its excellent load following capability, but also for efficient operation of nuclear and major-scale thermal power and stabilization of electric systems. EPDC intends to maintain its efforts in this sector. EPDC intends to maintain its efforts in this sector.

Several pumped-up storage stations are now in preparation including the Yunotani Station scheduled to start the operation of its first unit in June 2020, and EPDC plans to proceed steadily toward the implementation of the projects.

#### **4. Geothermal Power Generation**

Similar to hydroelectric generation, geothermal power is a regenerable, natural source of domestically available energy free of carbon dioxide emission without much environmental load. EPDC will promote the technology taking economic efficiency into consideration.

The Oguni Geothermal Station is in preparation and scheduled to start operation in April 2012. EPDC plans to proceed steadily toward its implementation.

#### **5. Alternative Sources of Energy**

Alternative sources of energy are gaining growing interest from the perspective of reducing the emission of carbon dioxide and thus minimizing the environmental load, not to mention the diversification of energy sources in the context of improving the national energy security.

EPDC is engaged in a project to introduce RDF (Refuse Derived Fuel) generation technology to the city of Omuta in Fukuoka Prefecture in cooperation with the local authorities in an attempt to resolve the waste disposal and dioxin emission issue. The facility is scheduled to initiate operation in the year 2012, and EPDC will continue to actively promote the technology as a primary feature in the new activities of the company.

A wind power generation project is in its inception stage for implementation between

EPDC and the local authorities of Tomae, Hokkaido. The wind generator is being prepared to start operation in December this year. EPDC is also engaged in the research and development of fuels cells, a technology highlighted as a decentralized power source of the future.

**II Transmission/Transformation capability development**

The development of transmission/transformation capabilities must be promoted through a systematic, long-term approach in order to maintain the stable supply of electricity.

The Anan-Kihoku DC trunk and the Anan-Kihoku Converter Stations are in their final stages of preparation, undergoing tests for the actual operation coming up in June.

EPDC is preparing for the construction of the Ohma Trunk Route, with the works to start in August 2001 (completion in November 2005), and shall proceed steadily toward the introduction of the network.

The Sakuma East Trunk (alpine cable) interconnecting the 50 Hz transmission network with the 60 Hz network is gradually being replaced in urbanized regions also providing for future upgrades of the link.

**III Equipment work cost/Financing plan**

The equipment plans for the projects amount to 225 billion yen (1 billion yen; 0.4 percent increase from previous year), consisting of 181.1 billion yen for generation-related facilities, 6.7 billion yen for transmission/transformation related facilities and 37.2 billion yen for other applications.

The required funds are financed by introducing 120 billion yen from the fiscal investment and lending budget (government guaranteed bond), 38 billion yen in non-government guaranteed bonds and 81 billion in private borrowing in addition to private funds provided by EPDC.

Equipment work cost/Financing plan of EPDC is as indicated in Table 6 below:

Table 6: Equipment work cost/Financing plan (In billions of yen)

Item	FY2000
Equipment work cost	225
Power Station	188.1

Transmission/Transformation facility	6.7
Others	37.2
Funding	225
Fiscal investment and lending budget (government guaranteed bond)	120
Others	119
Non-government guaranteed bonds	38
Private borrowings, etc.	81
Retained earnings, etc.	126.1
Debt redemption	-140.1

End of announcement