# Power Transmission/Transformation

### Performance Highlights -

In fiscal 2010, operating revenues from power transmission/transformation business slipped 0.1% year on year, to ¥54.3 billion.

### **Overview of Operations**

As a wholesale supplier of electric power operating a wide array of power supplies, J-POWER owns and operates approximately 2,400 kilometers of power transmission lines and eight substations and converter stations throughout Japan. Supporting part of the grid of Japan's power companies and coordinating between the different regional power companies, J-POWER fulfills a role in the overall operation of Japan's entire power system.

In particular, we operate critical facilities that support the wide-area power interchange in Japan, such as voltage transmission

lines (the Kitahon and Anan-Kihoku HVDC links and the Honshi and Kanmon interconnecting lines) connecting Honshu with Hokkaido, Shikoku, and Kyushu as well as the Sakuma Frequency Converter Station, which enables the transmission of electricity between the different frequencies of eastern Japan (50 Hz) and western Japan (60 Hz).

Also maintaining a power communications network throughout Japan, J-POWER provides facility protection, monitoring and control as well as operational management to contribute to the stable operation of the power grid.

## Outlook

J-POWER's power transmission/transformation facilities, such as the Kitahon HVDC Link connecting Hokkaido and Honshu via undersea cables and the Sakuma Frequency Converter Station, contributed to alleviating the tight regional supply-demand balances that followed the Great East Japan Earthquake. The Company will maintain facility reliability and focus efforts on ensuring stable operations.

#### Major Transmission Lines (As of March 31, 2011)

÷	Beginning of		<b>*</b> - 111	
Transmission Lines	Operation	Location	Total Lines	voitage
Tokachi Trunk Line	1956	Hokkaido Prefecture	214.4km	187(kV)
Kitahon HVDC Link	1979	Hokkaido Prefecture – Aomori Prefecture	167.4km	DC±250(kV)
Tadami Trunk Line	1959	Fukushima Prefecture – Tokyo Metropolitan Area	216.2km	275kV-500(kV)
Sakuma East Trunk Line	1956	Shizuoka Prefecture – Tokyo Metropolitan Area	197.2km	275(kV)
Sakuma West Trunk Line	1956	Shizuoka Prefecture – Aichi Prefecture	107.7km	275(kV)
Miboro Trunk Line	1960	Gifu Prefecture – Aichi Prefecture	108.6km	275(kV)
Nahari Trunk Line	1960	Kochi Prefecture – Ehime Prefecture	119.9km	187(kV)
Honshi Interconnecting Line	1994	Kagawa Prefecture – Okayama Prefecture	127.0km	500(kV)
Anan-Kihoku HVDC Link	2000	Tokushima Prefecture – Wakayama Prefecture	99.8km	DC±250(kV)
Kanmon Interconnecting Line	1980	Fukuoka Prefecture – Yamaguchi Prefecture	64.2km	500(kV)

#### Substations (As of March 31, 2011)

Substations	Beginning of Operation	Location	Output
Minami Kawagoe	1959	Saitama Prefecture	1,542,000(kVA)
Nishi Tokyo	1956	Tokyo Metropolitan Area	1,350,000(kVA)
Nagoya	1956	Aichi Prefecture	1,400,000(kVA)

#### Frequency Converter Station (As of March 31, 2011)

Frequency Converter Station	Beginning of Operation	Location	Output
Sakuma	1965	Shizuoka Prefecture	300,000(kW)

### AC/DC Converter Stations (As of March 31, 2011)

AC/DC Converter Stations	Beginning of Operation	Location	Output
Hakodate	1979	Hokkaido Prefecture	600,000(kW)
Kamikita	1979	Aomori Prefecture	600,000(kW)
Kihoku	2000	Wakayama Prefecture	1,400,000(kW)
Anan	2000	Tokushima Prefecture	1,400,000(kW)