Shimizu Corporation
Toshiba Corporation
Sharp Corporation
Meidensha Corporation
Tokyo Gas Co., Ltd.
Mitsubishi Heavy Industries, Ltd.
Fuji Electric Co., Ltd.
Furukawa Electric Co., Ltd.
The Furukawa Battery Co., Ltd.

Nine Japanese Companies Launch Japan-U.S. Collaborative Smart Grid Demonstration Project in Business District of Albuquerque, New Mexico

Tokyo, May 21, 2012 – On May 17 (U.S. time), nine Japanese companies – Shimizu Corporation, Toshiba Corporation, Sharp Corporation, Meidensha Corporation, Tokyo Gas Co., Ltd., Mitsubishi Heavy Industries, Ltd., Fuji Electric Co., Ltd., Furukawa Electric Co., Ltd. and The Furukawa Battery Co., Ltd. – launched a demonstration study for the Albuquerque Business District Smart Grid Demonstration Project (hereafter "the Project") consigned to them by the New Energy and Industrial Technology Development Organization (NEDO), to be carried out as part of its Japan-U.S. Collaborative Smart Grid Demonstration Project. The demonstration study will continue for two years, ending in March 2014. An opening ceremony for the demonstration facility took place in Albuquerque to mark the occasion, the many attendees including officials of New Mexico and the city of Albuquerque, the NEDO chairman, and presidents and executives of the nine participating Japanese companies.

The Project demonstration study will be conducted using an existing three-story commercial building with approximately 7,000 square meters (m^2) in total floor space and an electric power load near 400 kilowatts (kW). A micro grid (to supply power from the demand side) will be installed in the building from power sources consisting of a 50kW photovoltaic (PV) power generation system, a 240kW gas-engine generator, 80kW fuel cells and a 90kW battery system. By controlling each of these power generation systems, the demonstration study will (1) perform demand and supply adjustment within the building based on requests from a commercial electric utility supplier*, (2) operate the power generation systems according to energy and heat demand within the building itself, and (3) compensate for power output fluctuations in the PV power generation system of the regional utility company.

Project participants from the U.S. side will include this regional utility firm – Public Service Company of New Mexico – as well as Sandia National Laboratories (SNL) and the University of New Mexico. Their involvement will enable a collaborative smart grid demonstration encompassing cooperation between the utility and demand sides. In addition, Accenture and Itochu Corporation will respectively undertake Project data management and demonstration site management support.

The nine participating Japanese companies signed a project implementation agreement with NEDO in August 2010. By September 2011, they had completed the design and manufacture of the Project's various power sources, heat source equipment and control system. Between October 2011 and April 2012, they transported, installed and adjusted the equipment at the building site.

Note: Management of the gas engine, fuel cells, battery and air-conditioning system (demand response) will be carried out according to anticipated requests from the utility company based on its power demand estimates.

1. Roles of the nine Japanese companies participating in the Project

Shimizu Corporation:
Design and establishment of overall micro grid system, building energy management system (BEMS) and heat storage air-conditioning system; management and verification of entire system

Toshiba Corporation:
Design, establishment and performance verification of smart grid's energy management system (utility side)

Sharp Corporation
Design, procurement and performance verification of photovoltaic power generation system

Meidensha Corporation
Design, procurement and performance verification of power control system (PCS) for photovoltaic power generation

Tokyo Gas Co., Ltd.
Design, establishment and performance verification of distributed power source management method

Mitsubishi Heavy Industries, Ltd.
Design, manufacture and performance verification of gas-engine power generator and its control system

Fuji Electric Co., Ltd.
Design, procurement and performance verification of fuel cells

Furukawa Electric Co., Ltd.
Design, procurement and performance verification of battery management system

The Furukawa Battery Co., Ltd.
Design, procurement and performance verification of battery

2. Outline of commercial building used for the Project

Name:	Mesa del Sol Aperture Center
Location:	Albuquerque, New Mexico, USA
Owner:	Mesa del Sol (master-planned community)
Scale:	Site area: 15,000m^2, building area: 2,500m^2, total floor area: 7,000m^2 (three stories)

3. Configuration of micro grid power system:

Photovoltaic power generation system:	50kW
Gas-engine generator:	240kW
Fuel cells:	80kW
Battery:	90kW (160kWh)

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