## U.S. and Japanese Companies Begin Smart Grid Project in Hawaii Hitachi to lead and coordinate project

**Tokyo, November 2, 2011** – Hitachi, Ltd. (NYSE: HIT / TSE: 6501, "Hitachi"), Cyber Defence Institute, Inc. ("Cyber Defence Institute") and Mizuho Corporate Bank, Ltd. ("Mizuho Corporate Bank") today announced that the companies have been selected as contractors for a world-leading smart grid demonstration project on Maui Island in Hawaii ("Project"), spearheaded by the New Energy and Industrial Technology Development Organization ("NEDO") as the result of feasibility study which was conducted from May to September this year by Hitachi and other companies. Serving as the project leader, Hitachi will take a leading role and coordinate the entire project.

The Project, a joint undertaking by the U.S. and Japan, is based on the Japan-U.S. Clean Energy Technologies Action Plan, which was agreed to following the Japan-U.S. Heads of State Summit held in November 2009. These contractors will cooperate with the State of Hawaii, Hawaiian Electric Company, Inc., the University of Hawaii, and the U.S. National Laboratories in the Project. The Project is expected to be completed by the end of March 2014. The estimated budget for the Project is approximately US\$ 37 million.

The objectives of the Project are to establish a system model for the integration of clean energy and to verify cutting-edge technologies in a smart grid system on Maui where a high percentage of renewable energy is already in place. The system being tested mitigates the impact of variable renewable energy generation and uses renewable energy efficiently. Other objectives of the Project include contributing to standardization of a low-carbon social infrastructure system deployment to other islands and semitropical regions all over the world.

The target and schedule of the Project are as follows:

- 1. The target
  - 1) "Advanced load shift" for maximum utilization of renewable energy
- 2) "Direct control" of home electric appliances and PV generation output control by smart PCS to withstand rapid changes in power supply and demand
- 3) "EV/PHEV management system" coordinated with the grid management system for the impact of EV/PHEV high penetration
- 4) "Cyber security" to improve safe operation of the system
- 5) "Autonomous control architecture" for system scalability and highly responsive energy control
- 6) Evolution of community and infrastructure based on the integrated control system of EV/PHEV management system and the grid management system using the latest information and communication and control technology to improve quality of life
- 7) Evaluation of the efficiency of demonstration systems developed forthe Project. Establish business models and assessment tools for remote island social infrastructure systems based on the project results
- 2. Schedule of the Project
  - 1) From October, 2011 and FY2012: System design and construction
  - 2) From the beginning of FY2013 and FY2014: Demonstration and business case assessment

## About Hitachi, Ltd.

Hitachi, Ltd., (NYSE: HIT / TSE: 6501), headquartered in Tokyo, Japan, is a leading global electronics company with approximately 360,000 employees worldwide. Fiscal 2010 (ended March 31, 2011) consolidated revenues totaled 9,315 billion yen (\$112.2 billion). Hitachi will focus more than ever on the Social Innovation Business, which includes information and telecommunication systems, power systems, environmental, industrial and transportation systems, and social and urban systems, as well as the sophisticated materials and key devices that support them. For more information on Hitachi, please visit the company's website at <a href="http://www.hitachi.com">http://www.hitachi.com</a>.

## **About Cyber Defence Institute, Inc.**

Cyber Defence Institute, Inc., (CDI), in Tokyo, Japan, is a cyber security assessment and audit company with approximately 30 employees. CDI is a group of experienced cyber security professionals providing penetration testing from the "hacker's view", hands-on training (network/web application hacking, exploit writing, network/web application penetration testing, incident response, forensics, and malware analysis), forensics services, and information analysis/intelligence services. CDI also provides security assessments for new areas such as smart phone security, smart grid and industrial (SCADA) system security. For more information on CDI, please visit the company's website at <a href="http://www.cyberdefense.jp/en/">http://www.cyberdefense.jp/en/</a>

## **About Mizuho**

Mizuho Corporate Bank, Ltd. provides financial and strategic solutions for the increasingly diverse and sophisticated needs of clients, focusing its efforts on serving major corporations, financial institutions, and public sector entities. A relationship management approach to serving clients enables Mizuho Corporate Bank, Ltd., together with affiliates such as Mizuho Securities Co. Ltd., to develop customized solutions in areas such as corporate, structured and project finance, investment banking, transaction banking and risk management. With offices in more than 30 countries, Mizuho Corporate Bank, Ltd. offers clients both localized service and the extensive reach of a global business network. Mizuho Corporate Bank, Ltd. is a subsidiary of the Japan-based Mizuho Financial Group, Inc. (NYSE: MFG / TSE:8411), one of the largest financial services companies in the world, with total assets of over \$1.9 trillion as of March 31, 2011.

For more information on Mizuho, please visit the company's website at <a href="http://www.mizuhocbk.com/index.html">http://www.mizuhocbk.com/index.html</a>

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