

Status of Superconducting Cable Demonstration Project in Japan

Shoichi Honjo, Tomoo Mimura, Yutaka Kitoh, Yu Noguchi, Takato Masuda, Hiroyasu Yumura, Michihiko Watanabe, Masamitsu Ikeuchi and Hiroharu Yaguchi

Abstract - The HTS cable demonstration project, called the Yokohama Project, supported by Ministry of Economy, Trade and Industry and the New Energy and Industrial Technology Development Organization, was initiated in Japan in 2007. The aim of this project is to operate a 66 kV, 200 MVA high-temperature superconducting (HTS) cable in a network of the Tokyo Electric Power Company to demonstrate cable reliability and stable operation. Total project period was changed from 5 years to 6 years. Chosen as the demonstration site was the Asahi substation in Yokohama. Based on the analysis of the network conditions of the demonstration site, specifications of the HTS cable system were determined. Element technologies were developed and various preliminary tests using short core samples were conducted to confirm the HTS cable design. A 30-meter HTS cable system was manufactured and tested prior to initial demonstration tests. Long-term demonstration tests of the HTS cable system in an actual grid at the Asahi substation are scheduled to be started in 2011.

Index Terms - High-temperature superconductors, Superconducting

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