

Installation and Operation of 22.9kV, 50MVA High Temperature Superconducting Cable System

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As a research activity of the project of "Verification Test of Superconducting Power Cable", a commercial contract has been made the first time in the world for one set of high temperature superconducting (HTS) cable system between the buyer, Korea Electric Power Research Institute (KEPRI) and the seller, Sumitomo Electric Industries. The rating and the length of the cable including terminations and the cooling system were 22.9 kV, 50 MVA and 100 m. After fabrication, test and examination by the manufacturer, the HTS cable system is being installed at the KEPRI's test field in Gochang, Jeonbuk province. The installation work will be completed in the middle of September, 2005. KEPRI is preparing measurement and test facilities for field test of the HTS cable system, and carrying out researches into the evaluation of cooling performance, measurement of AC loss, analysis of the quench phenomena due to excessive current and linking the HTS cable system to the existing electric power supplying system.

keywords : high temperature superconducting cable, AC loss ,installation, operation