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Characteristic analysis of SFCL DC interrupting system in Windfarm

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This paper presents a superconductivity fault current limiter(SFCL) DC interrupting system in wind power generation gird. SFCL DC interrupting system is comprised of SFCL and DC circuit breaker. When faults occurs, SFCL operates firstly to limit the maximum fault current and the residual fault current will be vanished by opening operation of dc circuit breaker secondly. To ensure the correct operation and reliable structure, SFCL DC interrupting system and wind power generation gird was designed using the EMTDC/PSCAD. A resistive-type superconducting fault current limiter was used for SFCL. It was modeled on the characteristics of the coil type superconductor in which it belonged to this laboratory. For the DC circuit breaker arc modeling ,Schavemaker model, was considered. To obtain operation characteristics in wind generation grid, DC fault has occurred according to the status of DC interrupting system. The results indicated that burden on the DC circuit breaker was decreased by 30% and also interrupting time has shortened.
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