



不同换流站Y/Y型换流变压器置换分析与实践

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摘要: 由于±500 kV肇庆换流站Y/Y型换流变压器故障丧失备用, 有必要探讨用深圳站Y/Y型换流变压器与肇庆站Y/Y型换流变压器并行的可能性。对两站Y/Y型换流变压器的技术规范进行了对比分析, 以及对谐波电流分布进行了EMTDC和RTDS仿真研究。结果显示, 深圳、肇庆两站换流变压器技术规范具有近似性, 且换流变压器替换前后, 各次谐波的含量和幅值, 包括被替换相(即U相)和非替换相(如V相), 大体上一致。进而提出了深圳站换流变压器在肇庆站使用时将分接开关档位整体下移一档的实施办法。

关键词: ±500 kV换流站; 实时数字仿真器(RTDS); 有载分接开关档位; 谐波电流

Analysis and Practice of Replacement of Y/Y Type Converter Transformers at Different Converter Stations

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Abstract: The Y/Y phase U converter transformer at ±500 kV Zhaoqing Converter Station was damaged, and the station lost its spare transformer, and thus it is needed to study feasibility of the Shenzhen's Y/Y converter transformer being in parallel operation with that of Zhaoqing Converter Station. This paper analyzes the technique criterions of the two transformers in comparison with each other, and carries out EMTDC and RTDS simulations to the harmonic current distributions. It is concluded that the two transformers have similar technique criterions, and the harmonic currents, including the replaced phase (phase U) and the others, are almost the same in the content and breadth for the situations without and with parallel operation. Furthermore, it is proposed that the parallel operation should be done in the way to lower one step in the on-load tap of converter transformer in Shenzhen Converter Station.

Key words: ±500 kV converter station; real-time digital simulator (RTDS); position of on-load tap changer; harmonic current

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