

Current State of Fault Current Limiting Technology and its Emerging Applications

B. W. Lee*^a, K. B. Park ^a, J. S. Kang ^a, H. M. Kim ^a, I. S. Oh

^a*Electrotechnology R&D center, LS Industrial Systems, Cheongju, Korea*

Introduction of fault current limiter and its application is a promising candidate for reducing short circuit currents from low voltage to extra high voltage systems. In order to anticipate increasing needs for effective and competitive device for limiting excessive fault current in electrical power systems, fault current limitation technologies and fault current limitation devices are widely introduced and investigated in many countries.

Fault current limiters are emerging electric equipment, which is under development using various methods including superconducting fault current limiter, solid-state fault current limiter, and arc driving fault current limiters. And these various methods have some advantages and disadvantages to take into considerations

In order to commercialize fault current limiters in the electrical networks, a lot of discussions should be given on the point that fault current limiting methods, need for fault current limiters, coordination with existing protective system, and field experience before commercialization.

In this paper, recent trends of fault current limiting technologies will be reviewed and the key issues of superconducting fault current limiters will be dealt with. And finally, future applications of superconducting fault current limiters would be discussed.

Keywords: Superconducting fault current limiter, YBCO, resistive type, 14kV rating