

Evdokunin G. A., Petrov N. N., Sheskin E. B.

Overvoltages caused by 35 kV vacuum circuit breakers.

The article presents the results of research on transients when switching off the vacuum circuit breakers on different loads in different networks of 35 kV. It is shown that in some cases, disconnection can lead to reignition in the vacuum circuit breakers, followed by overvoltage, which is dangerous for vacuum circuit breaker and the power equipment. It is shown that the character of the reignition can be different and can affect the magnitude of overvoltages. We examined the efficiency of pulse capacitor as a means of eliminating the phenomenon of reignition in such networks.

Key words: vacuum circuit breaker, high-frequency overvoltage, reignition, current chopping, surge arrester, shunt reactor, furnace transformer, pulse capacitor.

Evdokunin Georgy Anatolyevich, Dr. Sc., Professor, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.

E-mail: evdg@etelecom.spb.ru

Petrov Nikolay Nikolaevich, Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.

E-mail: pet.nikolai2012@yandex.ru

Sheskin Evgeniy Borisovich, PhD. tech., Scientific and Technical Center of Unified Power System (STC UPS), St. Petersburg.

E-mail: sheskin_e@ntcees.ru