



## **SUMMARY OF TRANSIENT RECOVERY VOLTAGE (TRV) STUDIES**

A common objective of TRV studies is to determine the TRV capacitor control requirements for circuit breakers at a substation under situations where the circuit breaker has a high-TRV duty applied to it from the system.

In such studies, MEPPI addresses the following areas:

- Inherent TRV as defined by IEEE Std C37.011-1994
- Impact of fault current on TRV capability
- Special fault scenarios of interest (e.g., transformer or reactor limited, series capacitor)
- Estimation of effective capacitance for substation equipment
- General impacts of stray capacitance location on the TRV
- Example of specific impacts of added capacitance on the RRRV

The analysis determined the “inherent” TRV (“system imposed” TRV) due to single-phase, three-phase grounded, and three-phase ungrounded faults at present-day and ultimate fault current levels. MEPPI quantifies the peak magnitude and rate-of-rise of recovery voltage (RRRV) for a variety of fault scenarios.

**MEPPI has performed a wide variety of detailed studies. More information on specific analysis types is available upon request.**

