

WP10 – HVDC Circuit Breaker Performance Demonstration

Results

- Test-circuits designed and realized
- Full-power test circuit for HVDC circuit breakers demonstrated
- Experimental breaker up to 100 kV designed and realized in laboratory
- Component stress quantified through high-frequency measurement
- Generic failure mode analysis of HVDC circuit breakers
- Public demonstrations of HVDC circuit breakers with three manufacturers up to 350 kV, 20 kA
- Initiation of standardization in IEC, pre-standardization in CIGRE
- Four IEEE journal papers, multiple conference tutorials, keynotes and award
- Technology Readiness Level of all test-objects supplied raised to level 8 ('system complete and qualified')

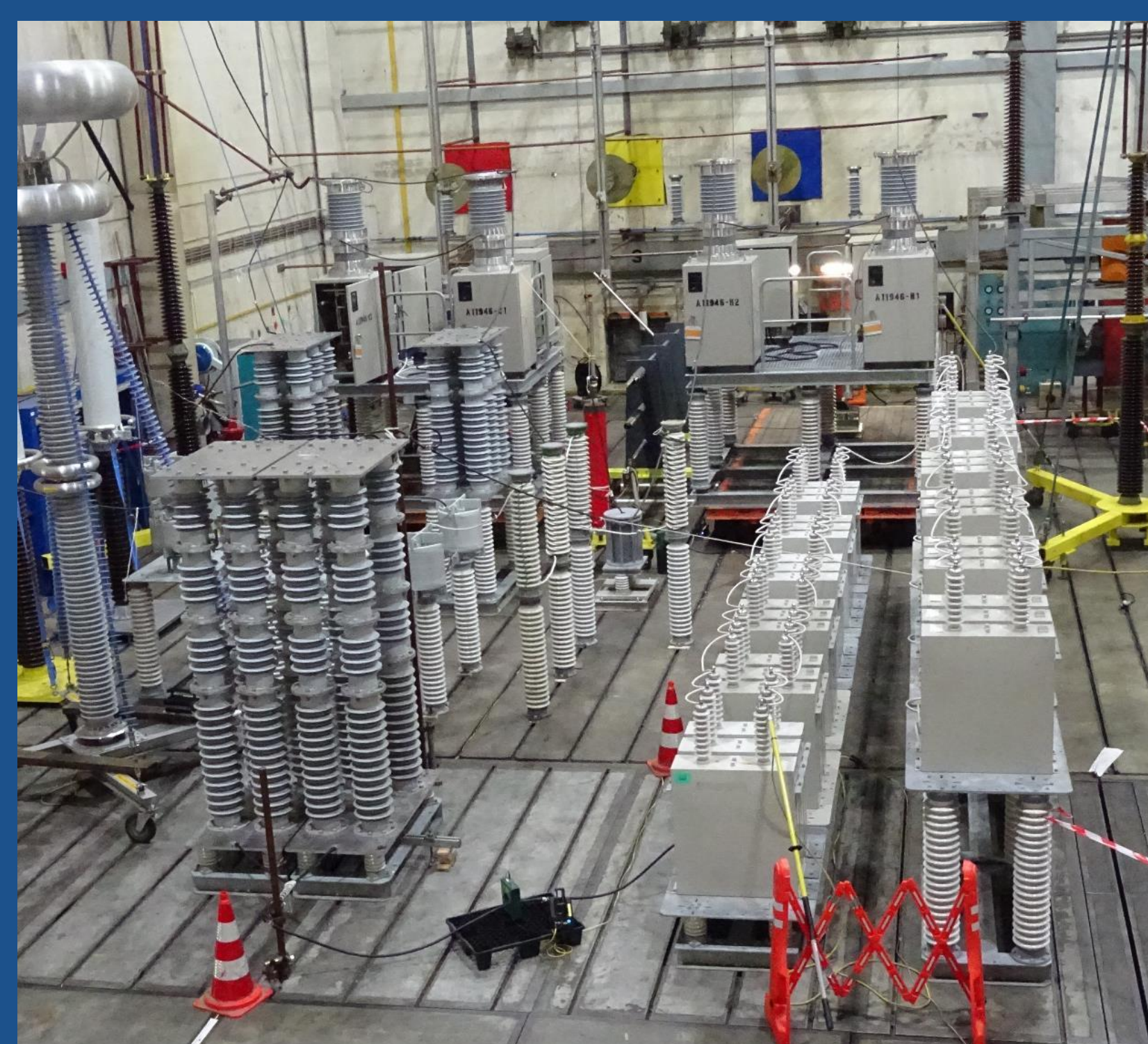
Test Circuit



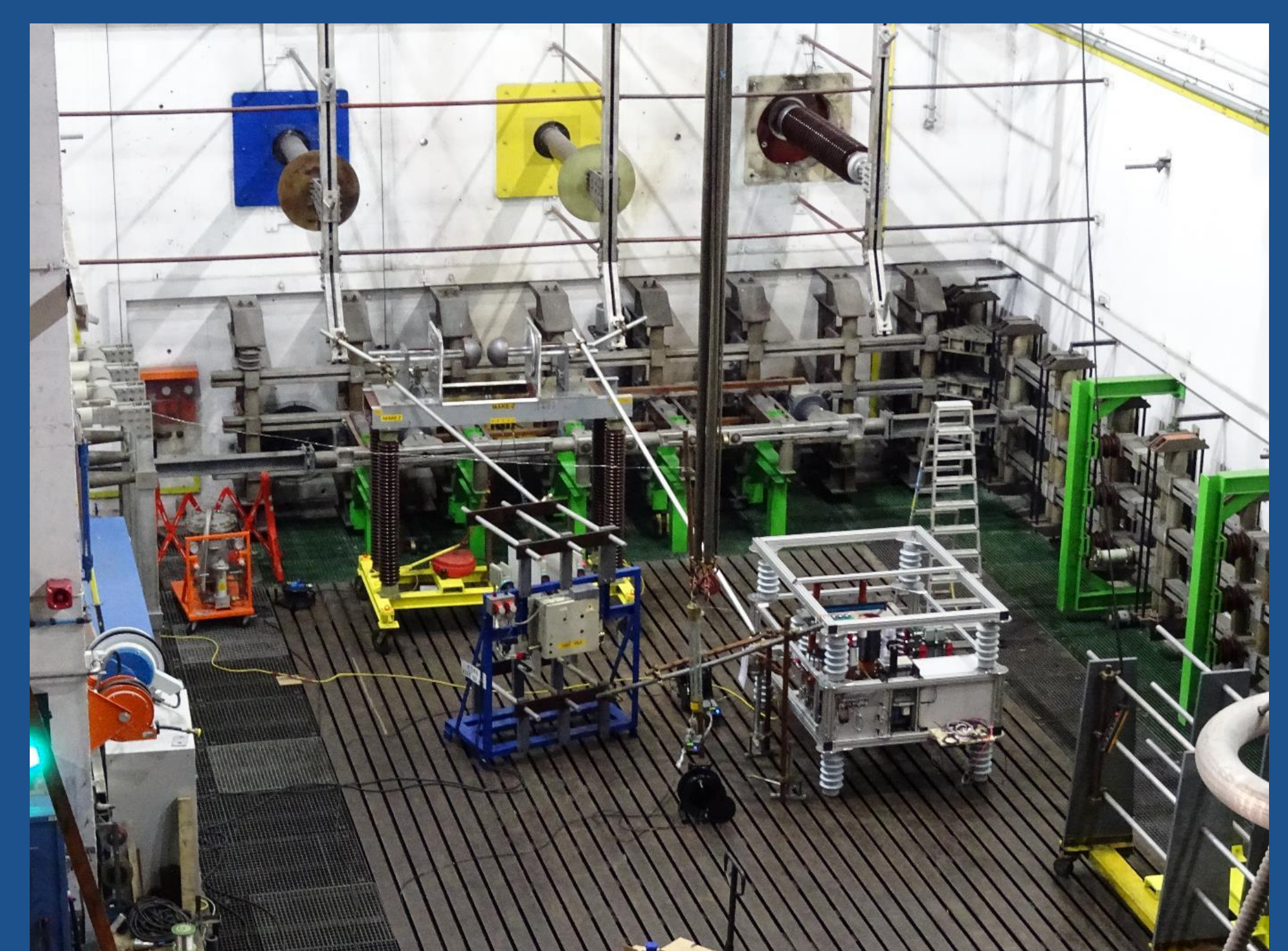
Full-Power Demonstrations



350 kV, 20 kA Hybrid HVDC CB

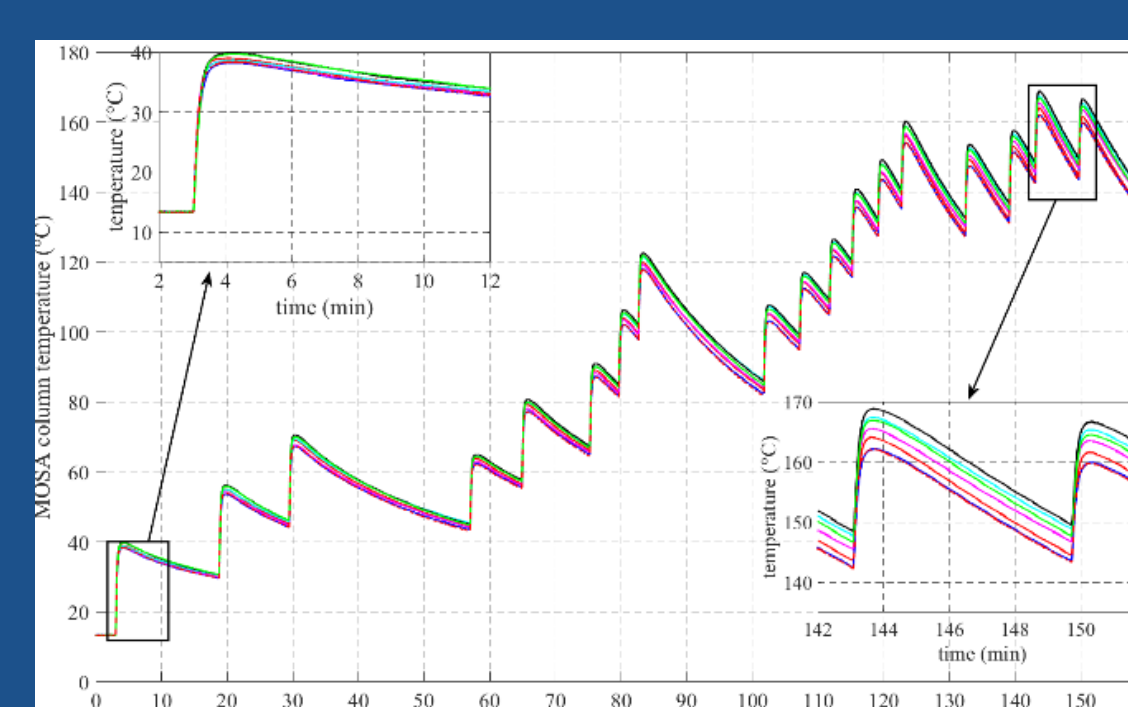
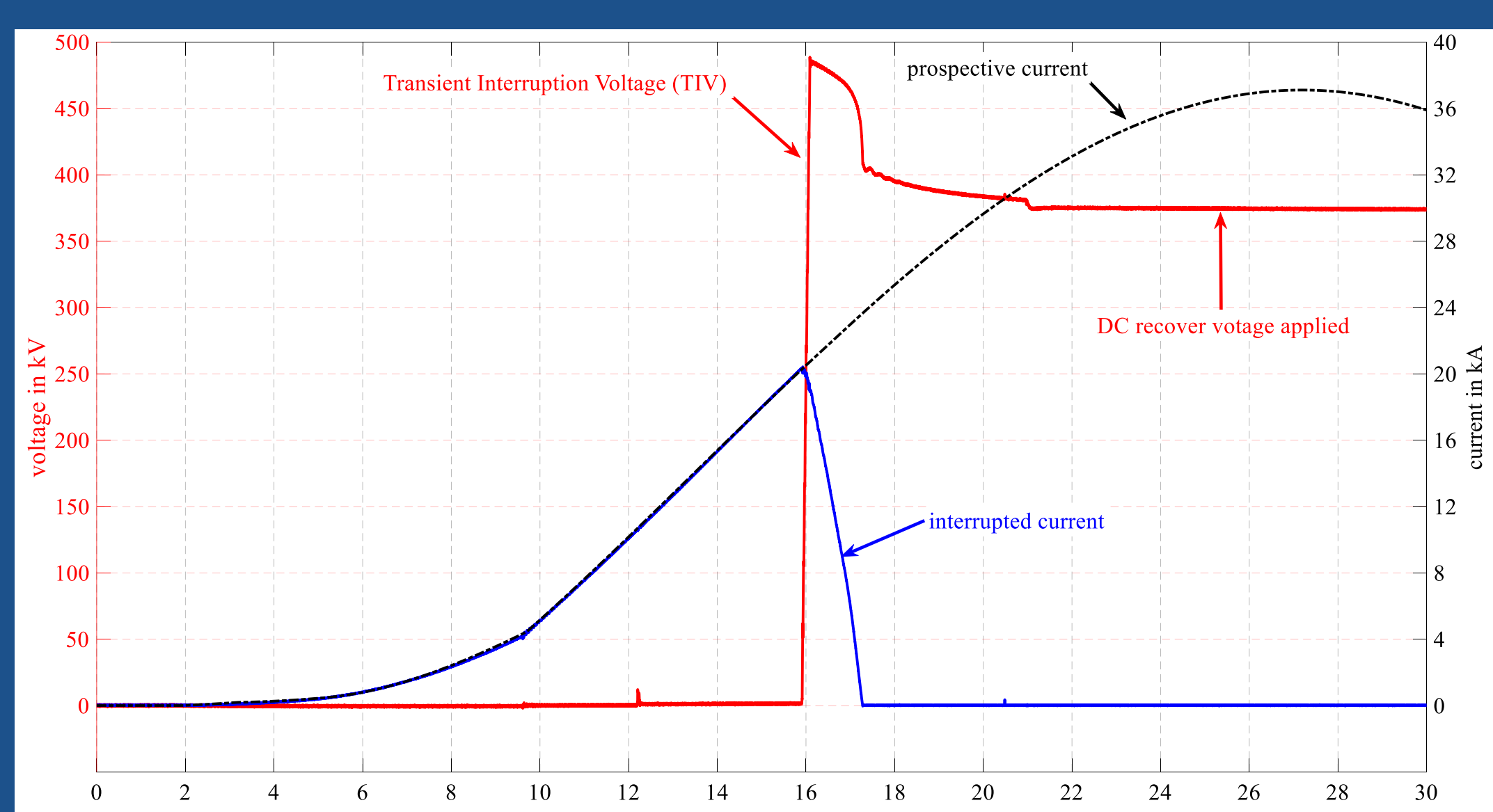


160 kV, 16 kA Active Current Injection HVDC CB



27 kV, 10 kA VSC Assisted Resonant Current (VARC) DC CB

Test Results



Test laboratory

