

CESI Milan Italy	CESI Synthetic Facility upgrading on Transformer Limited Fault tests with fast transient recovery voltage	2019	
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A basic design has been carried out in order to improve Synthetic Facility in order to perform Transformer Limited Fault tests with fast transient recovery voltage on HV circuit-breaker with rated voltage up to 420 kV in full compliance with clause 5 of IEEE Standard C37.06.1.

Tasks performed

- assessment of the requirements relevant the test-duties to be performed according to the reference Standard,
- simulation of the oscillating circuits for current and voltage injections test circuits in order to obtain the required transient recovery voltage; in order to validated the simulation results a close comparison with measurements performed in the Synthetic Facility at low voltage,
- definition of the main ratings of the reactors, capacitors and resistors banks of the oscillating circuits,
- identification of the test circuit configuration for the different test duties to be performed and consequent definition of the needed additional equipment (a resistors bank, some reactors and capacitors),
- drafting of the multiline diagram of the oscillating circuits for current and voltage injection test circuits,
- drawings of two mobile platforms housing the additional equipment to be used in performing the tests.

