Alstom, Lyon, France	Technical Assistance to the Revamping of CERDA High Power Laboratory	2011-2013	*

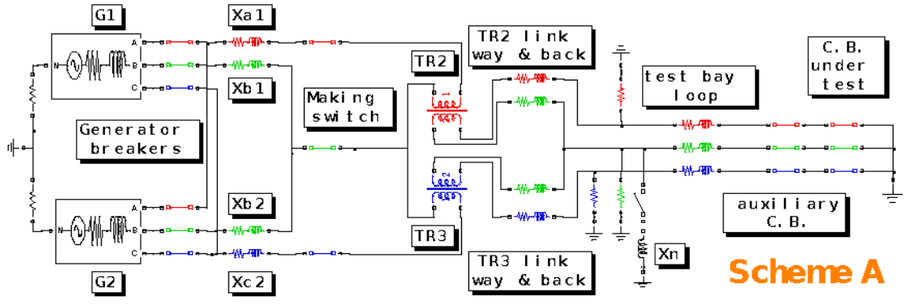
Testing Facilities and maximum ratings of equipment to be tested

The Feasibility Study and Basic Design concerning the renovation and upgrade of the Synthetic facilities was addressed to achieve the following performances:

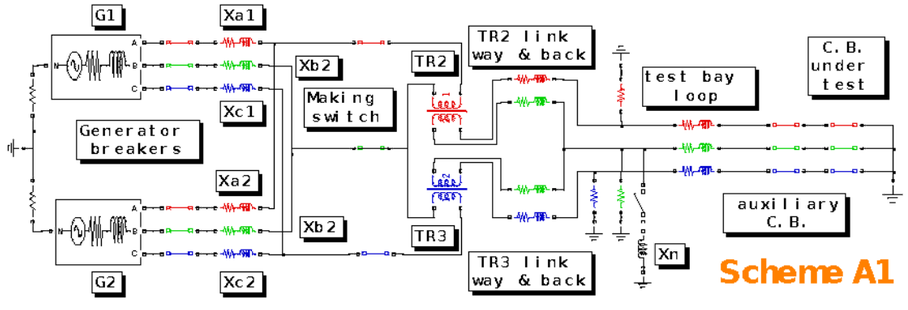
- Full pole 245 kV, 63 kA, 50/60 Hz for three phase short-circuit and capacitive switching tests,
- Full pole 550 kV, 63/80 kA, 50/60 Hz for single phase short-circuit and capacitive switching tests,
- Full pole 800 kV, 63/80 kA, 50/60 Hz for single phase short-circuit tests,
- Half-a-pole 1200 kV, 63/80 kA, 50/60 Hz for single phase short-circuit and capacitive switching tests.

Tasks performed:

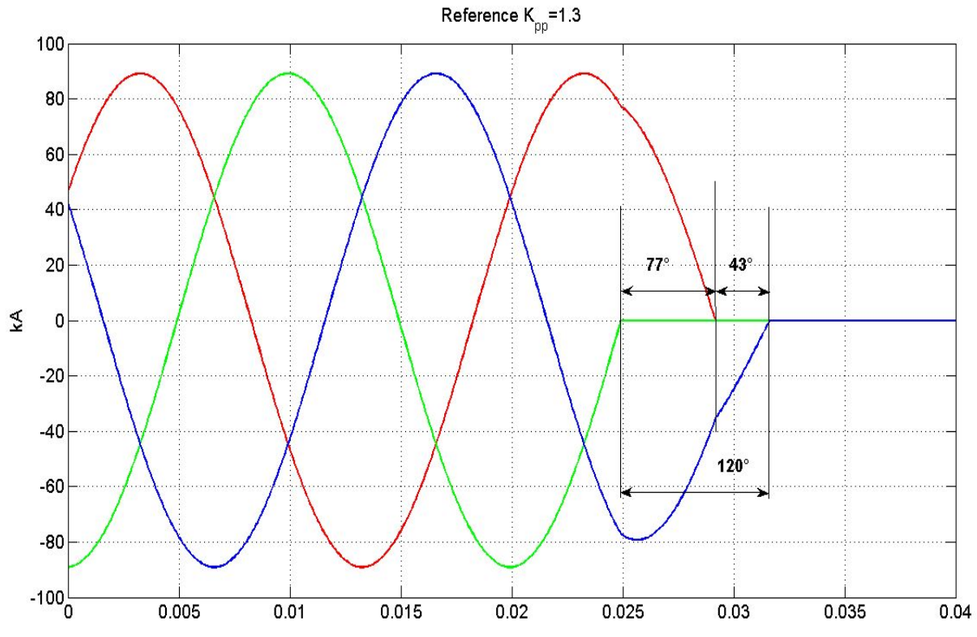
- Study of the more appropriate test circuit scheme for the different test duties in order to meet the higher testing capability (63 kA and 80 kA), both for short-circuit and capacitive tests,
- Calculation of the requested circuit parameters and evaluation of component stresses of the main equipment taking into account the whole range of the voltage and short-circuit current,
- Evaluation of the most appropriate connection of the existing Short-circuit Generators and a new 2500 MVA SCG with the existing Short-circuit Transformers to obtain the requested short-circuit currents,
- Preliminary layout of the New Synthetic Test Bay,
- Sizing of the generator building for the housing of the additional 2500 MVA Short-circuit Generator.



Scheme A



Scheme A1



* as CESI subcontractor