

KONČAR Electrical Industries, Zagreb, Croatia	Basic Design of a Testing Laboratory	2014-2015
Testing Facilities and maximum ratings of equipment to be tested		
<p>KONČAR - Electrical Industries requested the basic design of a Laboratory able to perform type tests on its catalogue manufactured products and including:</p> <ul style="list-style-type: none"> ● High Voltage Synthetic test bay for short-circuit, capacitive and reactor switching tests on HV circuit-breakers and disconnectors with rated voltage up to 550 kV and short-circuit current up to 63 kA, ● MV test bay for short-circuit, capacitive and reactor switching tests, internal arc tests and load tests on MV equipment with rated voltage from 7,2 kV up to 38 kV and short-circuit current up to 63 kA, Instrument Transformers with short-circuit current up to 100 kA, ● HV outdoor test area and MVTR Test Bay for: <ul style="list-style-type: none"> ○ Short-circuit tests on Distribution and Power Transformers up to 40 MVA, 123 kV (3-phase) and 200 MVA, 400 kV (1- phase), ○ Short-time current tests on HV Disconnectors rated voltage up to 550 kV, short-circuit current up to 63 kA, ● Temperature Rise test bay for HV-MV Switchgear and Controlgear, LV Bus-Bar with rated current up to 12 kA, ● Environmental and Mechanical test bay for HV-MV Switchgear and Controlgear. 		
Tasks performed:		
<ul style="list-style-type: none"> ● Assessment of testing requirements, ● Laboratory Configuration, ● Single –line diagram, preliminary calculation of circuit parameters, testing capabilities of the different test bays considering two different Power supply: by 420 kV HV Network (1600 MVA available short-circuit power) and by a 2000 MVA Short-circuit Generator, ● Short-circuit Laboratory Transformers bank configuration and ratings, ● Basic ratings of the Laboratory main testing equipment, ● Preliminary Laboratory layout, ● Budgetary evaluation of the involved investment. 		

