

- 1 SYSTEM GROUNDING
 - 1.1 EARTHING OF GENERATORS
 - 1.2 GRID EARTHING
- 2 PROTECTION OBJECTS AND THEIR DATA
 - 2.1 MOTOR AND GENERATOR
 - 2.2 TRANSFORMERS, REACTANCES AND CABLES
- 3 PROTECTIVE FUNCTIONS – NECESSITY AND PRINCIPLES
 - 3.1 DIFFERENTIAL PROTECTION
 - 3.2 OVERCURRENT PROTECTION
 - 3.3 START UP SUPERVISION
 - 3.4 BLOCKED ROTOR PROTECTION
 - 3.5 RESTART INHIBIT
 - 3.6 REVERSE POWER PROTECTION
 - 3.7 OVERLOAD PROTECTION
 - 3.8 FREQUENCY PROTECTION
 - 3.9 OVER AND UNDER VOLTAGE PROTECTION
 - 3.10 SENSITIVE EARTH FAULT PROTECTION
 - 3.11 LOAD SHEDDING / DECOUPLING
- 4 SHORT CIRCUIT CALCULATION AND SETTING
 - 5.1 CALCULATION BASICS
 - 5.2 IMPORTANT EQUATIONS AND TOOLS
 - 5.3 EXAMPLES
 - 5.4 DYNAMIC BEHAVIOR
- 5 COMMISSIONING
 - 6.1 CT'S
 - 6.2 SHORT CIRCUIT TESTS
 - 6.3 EARTH FAULT TESTS AND ZERO SEQUENCE MEASUREMENTS
 - 6.4 PRACTICAL MEASUREMENTS AND EXPERIENCES

The knowledge of GSC power engineering is based on successfully completed projects regarding conception, calculation and commissioning. The participant will receive well-founded basics and useful background information as well as extensive long time experiences.