

Generators: Engineering Approach to Modernization and Rehabilitation of Hydropower

Short description of the course: Voith experts, present project case studies to demonstrate the engineering approach and proven solutions for modernization and rehabilitation of hydro generators. A recommended framework for rehabilitation schedules and modernization solutions will be reviewed in relation to the lifecycle of various hydro systems and equipment. The course goal is to present solutions, based on real projects, which can be used to inform and optimize the project outcomes for power plant operators including engineering, maintenance and operations.

Course Outline:

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Module 1 – Modernization, Condition Assessment, Rehabilitation – Working Definitions

- What is Aging and Life Extension?
- Modernization
- Rehabilitation
- Condition Assessment
- Uprate

Module 2 - Condition Assessment and Study (how)

- Aging Mechanisms, Causes for Generators
- Case Study - Rehabilitation due to winding failure
- Case Study - Modernization/Upgrade of Generators

Who Should Attend?

- Engineers, Maintenance, Service and Technical staff responsible for modernization and rehabilitation of generators
- Management responsible for planning and scheduling modernization and rehabilitation of generators

Key Benefits:

Upon completion of this course, attendees will be able to:

- Explain basic failure mechanism of hydro generator
- Learn inputs to perform evaluation and engineering study of hydro generators
- Become familiar with different engineering approaches for modernization and rehabilitation
- Tours, hands-on workshops, samples, models

Instructor(s):



Inna Kremza, P.Eng

Principle Engineer

Inna Kremza has held various engineering positions for the past 27 years, 23 of which with Voith. Engineering roles include generator design and rehabilitation, site assessment, R&D, and winding insulation technology. She has published technical paper in conference and actively participated in the IEEE standard working groups