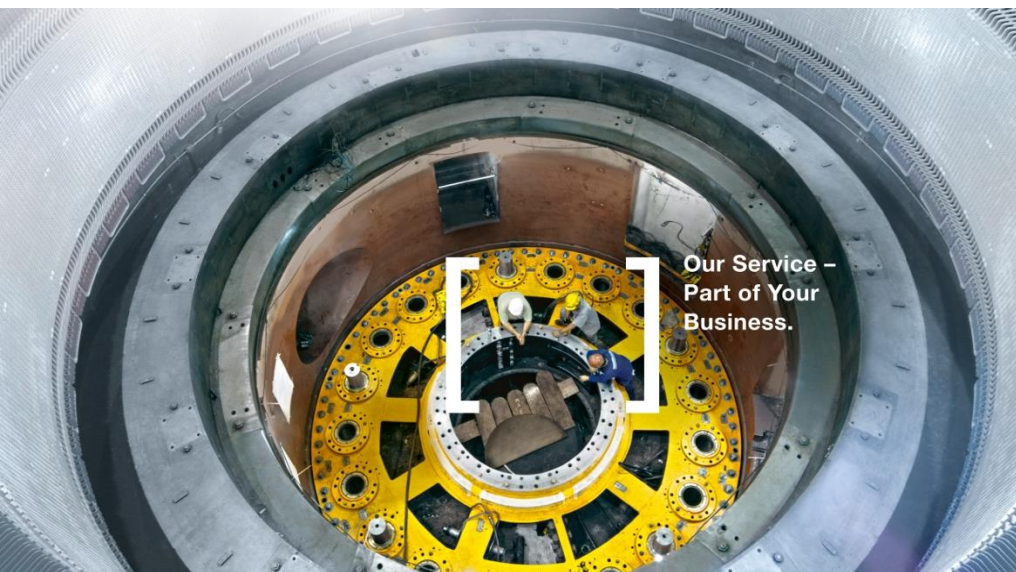


HyService™ – Education & Training Turbine Design



Our Service –
Part of Your
Business.



Overview

Voith experts will present an engineering approach and in depth review of turbine hydraulics including design basics, design process, model testing, transient conditions as well as new developments in hydraulic design. Additional topics include turbine mechanical information such as hydraulic inputs, physics and load cases, component design, dynamic phenomena and fatigue

considerations. The goal is to provide understanding of turbine design and to present solutions and field capabilities, based on real projects, which can be used to inform and optimize the project outcomes for power plant operators.

Training

Turbine Hydraulic

- Hydraulic Design Basics
 - Spiral case design
 - Draft tube design
 - Turbine types
 - Efficiency
 - Cavitation
 - von Karman Shedding
 - Hill charts and operating limits
 - Velocity triangles and impact on blade design
 - Hydraulic thrust and influencing factors
- Hydraulic Design Process and Model Testing
- Transient Conditions and simulation
- New Developments in Hydraulic Design

Turbine Mechanical

- Hydraulic Inputs
- Turbine Physics and Load Cases
- Components Design
 - Embedded Parts
 - Distributor
 - Rotating Parts
- Dynamic Phenomena
- Fatigue Considerations

Modernization

- Modernization of Turbines
- Modernization Case Study

Case Studies

- Case studies such as a turbine uprate

Target group

- Engineers, Maintenance, Service and Technical staff responsible for design, modernization and rehabilitation of hydro turbines

Benefits

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

- Understand the different turbine types and their design and application range.
- Get an overview about the factors for a turbine rehabilitation and the benefits it brings.
- Understand the design process of a turbine
- Learn from case studies and practical solutions based on field examples
- Certificate of attendance for Continuing Education and Professional Development

Facts

Duration: 2 days

Price [USD/trainee]: 1,500

Language: English / French

Trainer



Luc Deslandes, Eng., Manager of Turbine Engineering, Montreal (Brossard), Quebec

Stuart Coulson, Vice President, Modernization Technology, York, Pennsylvania

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