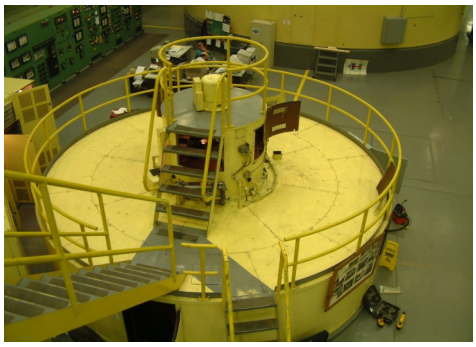
Hydrogenerator Maintenance Course

August 22-24, 2023
Toronto, Canada



OVERVIEW

Stator winding problems have been identified in over 40% of all hydrau-lic generators having modern ther-moset windings. This coupled with less frequent but equally expensive rotor winding failures means that almost 50% of hydrogenenerator failures are caused by the deteriora-tion of rotor and stator windings. To capture additional failures related to the fixation of mechanical components (bearings, rim, poles, foundations joints) modern monitoring systems include vibra-tion and air gap monitoring along with electrical parameters and process parameters (temperatures, pressures, flow) for a broad understanding of machine behavior during operation, both electrically and mechanically.

Preventing machine failures involves a thorough understanding and appreciation of the design, function and interaction of all major components that make up typical machine. Proper training and education on machine component function, specification, testing, monitoring, maintenance and preparing effective repair specifications is the first step in prevention.

SEMINAR OBJECTIVES

The course focuses on hydro-electric generators. Although much of the discussion relates to synchronous machines rated greater than 10MVA and 6.9kV the principles apply equal-ly to generators of all sizes down to 4kV. Discussion will concentrate on stators (frames, windings and laminated cores), rotors (windings, rims and spiders), as well as brackets, bearings and cooling. The course is presented from an end user perspective, rather than that of a machine designer.

WHO SHOULD ATTEND?

This course is directed at engineering and maintenance personnel responsible for the purchase, installation, maintenance, testing and repair of hydrogenerators.

AGENDA TOPICS

Hydrogenerating group
- turbine overview,
- generator overview,
- maintenance strategies

Stator frame and core
- stator brackets
- bearings
- frame
- core

Stator winding
- design
- failure mechanisms

Stator winding tests
- online and offline testing in maintenance

Stator winding repairs
- common preventative and corrective repairs in maintenance

Rotor
- components and failure mechanisms

Rotor testing
- online and offline tests on rotor winding

Stator rewind specification
- what to consider in a spec

Registration form on page 2

Course Instructors

Mladen Sasic has more than 35 years of international experience in design, production, installation, testing and maintenance of Power generation, transmission and distribution equipment. He is a Fellow member of IEEE and contributed to creation of many IEEE Standards. He was one of co-authors of Handbook of Electrical Motors published in 2004 and has co-authored and presented more than 100 technical papers at various international conferences.

Nick Stranges has more than 20 years of experience in the design and development of high voltage motors at the GE Large Motors Plant in Peterborough, Canada where he was a Principal Engineer. This was followed by a few years as a hydrogenerator Design Engineer at the Andritz facilities also in Peterborough before he joined Iris Power. Nick has authored or coauthored over 35 transactions and conference papers. He has been and active member of the IEEE Standards Association and has participated in the development and revision of various standards.

Aaron Doyle completed his Bachelor of Science (B.Sc.) in Mechanical Engineering from the University of Calgary Schulich School of Engineering in 2008 and became a recognized as a Professional Engineer (P.Eng.) by APEGA (Association of Professional Engineers and Geoscientists of Alberta) in 2011. His specialty is vibration analysis including impact testing and modal analysis, Operating Deflection Shape (ODS) and Motion Amplification (MA) analyses, transient analysis for startups/shutdowns, dynamic balancing, as well as torsional measurement and analysis.

IRIS POWER
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www.irispower.com

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To register for the seminar please send completed form with credit card information and e-mail to khoward@qualitrolcorp.com.

Name: __ _____

Title:___ _____

Company: _____

Address: _ _____

City & Province/State: _____

Postal/Zip Code: __ _____

Telephone:_____ _____

E-mail: _____

Special Dietary needs: _____

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Please print email address clearly

Payment made via:

P.O. # _____

Visa ☐ MasterCard ☐

Card #: _____CVS #_____ Exp,Date: _____

Card Holder Name: _____

Signature: _____

REGISTRATION
Only 10 seats available, so register now.

Registration includes lunch and breaks daily.

A complete set of notes is also included.

PRICE DOES NOT INCLUDE HOTEL ACCOMMODATIONS.

Confirmation will be issued upon receipt of payment.

COST
$1730.00 USD

Send registration to:

Karen Howard

khoward@qualitrolcorp.com

Phone: 905-364-4568

Location

Iris Power
3110 American Dr
Mississauga, Ontario
Canada, L4V 1T2

Accommodation

Four Point Sheraton Airport
6257 Airport Rd.
Mississauga, Ontario L4V 1E4

905-678-1400

Room Rate: $169.00 CAN

Book Room

CANCELLATION POLICY

Cancellation received 30 days prior to date of seminar will result in a $75.00 US processing fee. Withdrawal received up to one week prior to the seminar will be subjected to a charge of $150.00 US. There will be no refunds a week prior to the seminar. Delegations substitution is permitted.