

CHRISTIAN AHLHOLM

SHORT RESUME

Christian has more than 10 years' experience in the field of high voltage technology. He has been involved in inductive coordination studies including effects of transmission line earthing and step and touch voltages. He has also works frequently with pollution severity assessments and dimensioning of insulation with respect to pollution. From numerous field inspections Christian has inspected hundreds of composite insulators in service.



MAIN FIELDS OF COMPETENCE

- Pollution severity assessment
- Dimensioning of insulation with respect to pollution
- Corona and field effects
- Assessment of composite insulators
- Inductive coordination
- Step and touch voltages
- Earthing
- Software development involving Inductive coordination, Step and touch voltages, earthing

WORK EXPERIENCE

- 2017 – **Independent Insulation Group Sweden AB**
Specialist
- 2011 – 2017 **STRI AB**, Ludvika, Sweden
Senior Engineer, High voltage technology
Employed as engineer with focus on insulation. Involved in a range of projects including dimensioning of outdoor insulation, field and laboratory inspections and failure cause investigations of outdoor insulation especially composites. Software responsible of the STRI developed TPE software used for calculation of induction and earthing effects.
- 2009 – 2011 **ABB Components AB**, Ludvika, Sweden
Design engineer at the bushing department
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EDUCATION

2004-2008	Master of Science in Physics University of Lund, Lund, Sweden.
2006-2007	Exchange studies University of Waterloo, Canada
2001-2004	High school degree – Science with focus on energy and technology Forsmarks gymnasium owned by Forsmarks kraftgrupp AB which is a part of Vattenfall AB

LANGUAGES

Swedish (native), English (professional level)

LIST OF PROJECTS

2019	<i>Review of earthing study</i> Review of report for evaluating of step and touch voltages after reconstruction of earthing system.
2019	<i>Software development</i> Update of VBA macro for reading overhead line database files to automatically create case files Tower/Pole earthing program which is used for calculation of induction and earthing impact on low voltage systems.
2019	<i>Evaluation of site pollution severity in Germany</i> Evaluation of pollution measurement and service experience in to determine the site pollution severity
2019	<i>Dimensioning DC cable terminations, Germany</i> Evaluation of pollution measurement and service experience in to determine required specific creepage distance for DC cable termination insulators.
2019	<i>Development and verification of software for motion detection</i> Validation and creation of software for analyzing vibration from video recordings of overhead line conductors.
2019	<i>Biological growth on composite insulators</i> Inspection of composite insulators with biological growth and evaluation of performance of composite insulator with biological growth.
2018	<i>Evaluation of site pollution severity at Haugesund, Norway</i> Evaluation of pollution measurement and service experience in to determine the site pollution severity.
2018	<i>Course instructor</i> Course instructor on induction and earthing calculations with Tower/Pole earthing program which is used for calculation of induction and earthing impact on low voltage systems
2018	<i>Software development</i> Software development project the Tower/Pole earthing program which is used for calculation of induction and earthing impact on low voltage systems.

2018	Minimum clearance between HV-cables and low voltage systems Determination of required minimum clearance between HV-cables and low voltage systems due to induction and earthing.
2011-2017	Failure analysis of insulators (several projects) Testing, dissection and analysis of insulator design to find root cause of failure
2014-2017	Inductive coordination and earthing studies (several projects) Mitigation of circulating currents in earthing systems. Induced voltage in pipelines and low voltage systems.
2015	Electromagnetic shielding Mitigation of excessive magnetic field at ground level above HV cable joint
2011-2016	Site pollution severity assessment (several projects) Measurements and analysis, creation of pollution maps
2013-2015	Feasibility study – AC to DC conversion of transmission lines (several projects) Corona and field effects and dimensioning of insulation
2011-2016	Dimensioning and selection of insulation with respect to pollution (several projects) Both for AC and DC
2012	Worldwide survey of client's composite insulators in polluted environments Visual inspections and collection of pollution data at several different substations around the world
2011-2017	Inspections of composite insulators (several projects) Close-up inspections of composite insulators in substations

LIST OF PUBLICATIONS

- M. Radosavljevic, I. Gutman, **C. Ahlholm**, P. Sidenvall
Ageing and deterioration of composite post insulators exposed to high electric field in 220 kV and 400 kV switchyards in Swedish network
CIGRE SC B3 Colloquium in Recife, Brazil, 18-20 September, 2017
- B. Thorsteinsson, K. Halsan, M. Abraha, P. Hagen, W. Troppauer, **C. Ahlholm**, D. Loudon
Design and engineering of a new 525 kV HVDC line in Norway
Cigré B2-113, 2016
- I. Gutman, **C. Ahlholm**, K. Halsan, L. Carlshem, W.L. Vosloo, J-F Goffinet
Application of weather models for the evaluation of design ESDD for harsh pollution conditions
Cigré D1-212, 2014
- I. Gutman, **C. Ahlholm**, U. Akesson, A. Holmberg, D. Wu, L. Jonsson
Long-term service experience and inspection results of HV equipment made of silicone rubber insulators
Cigré Symposium 2013, 412