HIGH TEMPERATURE LOW SAG OVERHEAD LINE CONDUCTORS

SAIEE-1225-V : 2 CPD credits : Category 1

OVERVIEW
As growing demand for electricity continues to stress the electrical transmission grid, many transmission lines have become thermally constrained. The constraints are due to the subsequent sag that occurs as bare overhead conductors are operated at higher loads and temperatures, due to their high coefficients of thermal expansion.

Many utilities are utilizing High Temperature Low Sag conductors (HTLS) such as CTC Global’s ACCC Conductor to alleviate problems allowing networks to increase their transfer capability significantly.

This 2 day course will provide a comprehensive review of HTLS conductors. Topics include a review of the different types of HTLS conductors available on the market, case studies on a number of projects and a review of experience from around the world. The course will also cover design, conductor selection, fittings, installation and testing protocols. This is an excellent opportunity to get an in depth understanding of this maturing technology.

CONTENTS
HTLS CONDUCTORS – AN OVERVIEW:
• General principles
• Basic structure
• Envelope & core materials
• The four basic types
• Advantages & disadvantages

EXPERIENCE OF HTLS USE IN OTHER COUNTRIES
AN ECONOMIC CASE – HTLS IN THE ARABIAN GULF
• Dealing with local climate & corrosion
• Reducing power losses
• Pay back periods

APPLICATIONS FOR SOUTH AFRICA
• Re-conductoring
• New build
• Alternative ways of increasing power capacity
• Advantages of re-conductoring with minimal or no structure modifications
• Conductor choice
• Line design
• Wood pole lines
• Tower lines
• Span lengths

ACC IN NETWORK USE
• Dealing with annealed aluminium
• Load shifting between core & aluminium
• Sag under electrical & mechanical loads
• N-1 capabilities
• Vibration
• Noise
• Pre-tensioning effects

FIELD EXPERIENCE WITH ACCC IN SINGLE & BUNDLED FORMAT

THE SOUTH AFRICAN INSTITUTE OF ELECTRICAL ENGINEERS

• Field testing : vibration, ice loads
• Single conductor examples
• Bundled conductor applications

FITTINGS FOR HIGH TEMPERATURE USE
INSTALLING HTLS
• Special training
• Installation equipment & procedures
• Pre-tension
• Pulling up the conductor
• Bull wheel
• Fittings
• Sagging
• Maintenance

TARGET AUDIENCE
• Consultants, network planners, designers, asset managers and operation & maintenance engineers.

COURSE DATES:
5-6 August 2014 : JOHANNESBURG
21-22 October 2014 : DURBAN
Registration : 08:00 – 08:30
Workshop : 08:00 - 17:00

COST : R4200.00 - includes teas, lunches and course material : 20% discount for active SAIEE Members

INTERNATIONAL PRESTIGIOUS SPEAKER (USA)

BRIAN WAREING BSc, PhD, MIEE, CEng EA Technology

Brian who hails from the USA worked at EA Technology for thirty years as a Senior Consultant in the Overhead Lines Services & Consultancy Division. He retired in August 2002 and formed his own company, Brian Wareing Tech Ltd as an Overhead Lines and Lightning Protection Consultancy. Current activities include snow/ice and wind effects on overhead lines, field testing (galloping, vibration), lightning protection systems, risk analysis, environmental & safety aspects of electricity supply, resistivity variations, overhead line design, surge arresters, insulators, bare and covered conductors, insulation co-ordination, substation protection, lightning protection, procurements and OHL manual writing and delivery various courses in the UK and internationally. He is a recognised expert in Overhead Lines.

Brian has worked on covered conductor specifications EATS 43 120-122. He is a member of IEC TC11 WG11 on IEC technical reports 826 and 1774 (Meteorological Data for Assessing Climatic Loads), is a member of Cigré Committees TF22.06.01 (Ice Loads on Overhead Lines and Structures) and SCB2 WG11 (Conductor Dynamics). He is the Chairman of the International Committee IWAIS 2000, and Secretary of the Cigré SCB2 WG16 (Meteorology for Overhead Lines). He is involved in delivering course on Overhead Line Power Engineering, Wood Pole Overhead lines and Lightning Protection and MSc course in Power Distribution Engineering at Manchester University, UK, where he is an Associate Fellow.

REGISTRATION : CONTACT DETAILS
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