



CIGRE AP A2 Transformers Panel Presents:
“Transformers - Condition Assessment with a Focus on Bushings – An Interactive Workshop”

MONDAY, 16 APRIL 2018
 8:00am - 5:00pm



“PROGRAMME”			
Time	Speaker	Company	Topic & Notes
8:00am	REGISTRATION		
8:30 – 8:45	Kerry Williams & Ross Willoughby	CIGRE Australia	
8:45 – 10:15	Jon Brown	Transpower CIGRE Working Group A2:43 member	CIGRE Tutorial - A2.43 - Transformer Bushing Reliability This tutorial will cover the work done in the WG A2:43 and discuss the bushing failure mechanisms, some failure prevention methods, off-line & on-line testing, storage and lots more. It will cover some recommendations for bushing reliability improvements and possible changes to standards.
10:15 – 10:45	MORNING TEA BREAK		
10:45 – 12:15	Peter Cole	Convener - CIGRE Working Group A2.49	CIGRE Tutorial - A2.49 - Condition Assessment of Power Transformers This Tutorial will cover the work done in the WG A2:49 The tutorial will discuss the types of transformer assessment indices that can be developed and the critical steps to develop an index to suit the user’s needs. The tutorial will also briefly discuss how to deal with uncertainty in information, the use of on-line monitors and criticality and other considerations.
12:15 – 13:00	Wenyu Guo	Omicron	HV Bushing Testing & Condition markers This presentation discusses the various bushing tests that can be performed and presents an overview of off-line bushing diagnostics by dissipation factor and capacitance measurement at different frequencies. What this means and how it can be used to determine bushing condition and help with asset decision making.
13:00 – 13:45	LUNCH BREAK		
13:45 – 14:20	Terence Lee	FM Global	Considerations for HV bushing failures & the impact on Insurance risk The presenter will loss history where bushings have resulted in transformer failures and discuss recommendations for managing this risk. Presenting what FM Global see end users doing in terms of best practice and talk about how these practices can be used as a guide on the best way to manage bushing risks. There will be some insight into the use of spare bushings as a risk mitigation and how insurers underwrite companies who manage this risk well vs those that don’t.
14:20 – 15:00	Peter New	Snowy Hydro	HV Bushing Case Study & Scenarios This presentation will focus on a case study of a bushing failure and the consequences of that failure. What is the aftermath and what it means to the company. What changes are made to mitigate further failures. Also, posing some scenarios for discussion in the Panel session.
15:00 – 15:30	AFTERNOON BREAK		



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Time	Speaker	Company	Topic & Notes
15:30 – 16:45	Panel Workshop & Discussion – Audience interactive open discussion - Explain Afternoon proceedings - Facilitator		
16:45 – 17:00	Summation of the Day, Lessons Learnt – Ross Willoughby		
17:00	CONFERENCE CLOSE by 5:00pm – Kerry Williams		

For ALL attendees to consider the questions below for preparation for the Open panel session:

Questions on notice for the OPEN DISCUSSION PANEL SESSION:

1. What should an Asset Manager be doing (or not doing) to manage their bushings and reduce the risk of failure?

Thought provokers: Cost of replacement vs risk of failure, testing regimes, spares management, what is the life span of a bushing, is do nothing an option?

2. Which tests should be performed on a bushing & how often to determine the bushing condition?

Thought provokers: Testing regimes, On-line vs Off-line, Thermal imaging, too much testing vs too little?

3. When it comes to bushing replacements what are the key considerations an Asset Manager needs?

Thought provokers: Is run to fail an option? What about different types of bushings, like for like or change the mounting, spares management, People -who should change a bushing, and do you need to consider how it is stored or handled?

Note: Attendees are encouraged to bring additional questions and issues for discussion and if desired, can send any questions that they want raised by the Chair to: anc@cigreaustralia.org.au