

# ATC Meeting, 2019 AUB2 Overhead Lines Report

Convenor: John McCormack  
November 2019



**cigre**

For power system expertise

# AUB2 2019 Activities

## Strategy:

- ✓ Engage with broader industry (eg DNSP, Research Establishments, Asset Management Council)
- ✓ Seek opportunities to interact with OHL Asset Manager/Owner representatives (eg invitations at next panel meeting)
- ✓ Encourage NGN participation

## Panel Meeting – Sydney, 10-12<sup>th</sup> September 2019

- Technical Tour: OH/UG line re-route for new airport; Noise mitigation of 330kV line.
- New WG's – UAV's, MV/LV conductor, OHL assets & fire, Condition Monitoring at Remote sites (JWG B2/D2)
- Key presentations:
  - Ice Loading on OHL (Snowy 2.0 project)
  - NCI insulator failures
  - Design/construction of new line connections in far north of South Australia
  - Tower replacement in NSW; Line re-routing for West Gate Bridge, Melbourne
  - Lightning Performance of OHL
- 28 panel members; 34 attendees including 14 invited guests

## Next Panel Meeting – Queensland, Sept/Oct 2020

## Technical Seminar - Sydney, 10-12<sup>th</sup> September 2019

- Electrical clearance criteria for OHL structure geometry design
- Conductor vibration effects and mitigation
- Live Work safe systems of work evaluation
- Covered Conductor to mitigate bushfire risk



## SCB2 WG & Publications - 2019

WG	Title	Status	Publication	AUB2 Rep
<b>JWG13 C3/B1/B2</b>	Environmental issues of high voltage transmission lines for rural and urban areas	Complete	With Publishers	Tim de Grauw
<b>B2.23</b>	Geotechnical and structural design of foundations for HV & UHV Lines	Final draft due 2019		Graeme Paterson
<b>B2.24</b>	Qualification of HV and UHV OHL Line Supports under static and dynamic loads	TB issued for review		Elias Elkhoury, Robert Lake, Henry Hawes Asif Bhangor (reviewer)
<b>B2.40</b>	Calculations of the electrical distances between live parts and obstacles for OHL	Final draft due 2019		Robert Lake (convenor) John McCormack
<b>WG45</b>	WG B2.45 Bushfire characteristics and potential impacts on OHL Performance	Complete	TB 745 (issued 2019)	Francis Lirios (WG) Michael Lee (WG) Peter Dulhunty (WG)
<b>WG50</b>	WG B2.50 Safe handling of fittings and conductors	TB issued for review		Peter Dulhunty (convenor)
<b>WG55</b>	WG B2.55 Conductors for the Uprating of Existing Overhead Lines	Complete	TB 763 (issued 2019)	Glenn Ford
<b>WG56</b>	WG B2.56 Ground Potential Rise at AC OHL Structures during Faults	Complete	TB 694 (issued 2019)	Charles Crew
<b>WG57</b>	Survey of operational Composite Insulator Experience and Application Guide for Composite Insulators	target complete?		Steve Redhead

## SCB2 WG & Publications – 2019 (cont)

WG	Title	Status	Publication	AUB2 Rep
WG58	Vibration Modelling of HTLS conductors - Self damping characterization	target complete 2018/19		Jack Roughan
WG59	Forecasting Dynamic Line Ratings	target complete 2018/19		Michael Lee
WG60	Affordable Overhead Transmission Lines for Sub-Saharan Countries	target complete?		Michael Lee
WG61	Transmission Line Structures with Fibre Reinforced Polymer (FRP) Composites	Final draft reviewed		Francis Lirios
WG62	Design of Compact HVDC Overhead Lines	Final draft reviewed		Asif Bhangor
WG63	Compact AC Transmission Lines	Final draft reviewed		not represented
WG64	Inspection & Testing of Equipment and Training for Live-Line Work on OHL	Active		Alexandra Price (WG) Simon Leitch / John Mc
WG65	Detection, Prevention and Repair of Sub-surface Corrosion in OHL Supports, Anchors and Foundations	Active		Elias Elkhoury
WG66	Safe handling and installation guide for high temperature low sag conductors	Active		Michael Wilson, Transpower



## SCB2 WG & Publications – 2019 (cont)

WG	Title	Status	Publication	AUB2 Rep
WG67	Assessment and testing of wood and alternative material type poles	Active		Nathan Spencer (convenor), Glen Ford, Peter Dulhunty (WG)
WG68	Sustainability of Conductor & Fittings	Active		Andrew Taylor
WG69	Coatings for Power Networks	Active		Francis Lirios
WG 70	Aerial Warning Markers	Active		Jack Roughan, Sara Sun
WG 71	Inter-phase spacers	Active		Indhran Pillay (tbc)
WG 72	Condition Monitoring of OHL In Uninhabited Areas	Active		Robert Lake, Stephen Brooks
WG 73	The role of OHL electrical assets with respect to the initiation and prevention of bushfires	Active		Peter Dulhunty (convenor) David Mate, Grant Bailey, Francis Lirios,
WG 74	UAV for maintenance of OH distribution lines	Active		Francis Lirios, Ergon (tbc)
WG 75	Guide for application of insulated conductors on overhead MV & LV distribution lines	Active		Linden Bronleigh

SCB2 Proposed WG – 2019 (cont)

	Proposed WG	Status	TAG	AUB2 Rep
	Lightning Performance of OHL	CAG review	TAG 04 Electrical	
	Audible Noise of OHL	CAG review	TAG 04 Electrical	Jitesh Raniga
	Foundations for Difficult Soils	CAG review	TAG 05 Structures	Frank Yao Graeme Paterson
	HTLS for new lines	CAG review	TAG 05 Structures	
	Ice on OHL	CAG review	TAG 05/06 Structure/Mechanical	Brett McKillop
	Risk of OHL	CAG review	TAG 07 Asset Mgt	Asif Bhangor (proposed convenor)
	Construction methodology	Under Development	TAG 05 Structures	
	Asset Management Principles	Under Development	TAG 07 Asset Mgt	Francis Lirios (proposed convenor)
	Performance of elastomer fittings - life expectancy	Under Development	TAG 06 Mechanical	
	Damping for long spans	Under Development	TAG 06 Mechanical	
	Inspection & repair of OHL structures	Under Development	TAG 05 Structures	
	Live Work: Review of Safe Systems	proposed	TAG 07 Asset Mgt	