

**Presented by Crina Costan - Convener**

**Hobart – 15/11/2018**



**cigre**

For power system expertise

# B3

Substations and  
electrical installations



# SC B3 Overview

## Our Mission

- SC B3 aims to facilitate and promote the progress of engineering and exchange of information and knowledge in the field of substations and electrical installations. SC B3 acts to add value to this information and knowledge by means of synthesizing state-of-the-art practices, developing recommendations and providing best practice.

## Scope SC B3

- The activities cover the design, construction, maintenance and ongoing management of substations and the electrical installation in power stations excluding generators.
- SC B3 serves a wide range of target groups in the Electric Power Industry whose needs include the technical, economic, environmental and social aspects in varying degrees.
- Major objectives include increased reliability and availability, cost effective engineering solutions, managed environmental impact, effective asset management and the adoption of appropriate technological advances in equipment and systems to achieve these objectives.

# 2018 Paris Session

- 7 Working Group (WG) Meetings:
- SF<sub>6</sub> Green Book on Sat - Sun Aug 25-26
- B3 Annual **Study Committee Meeting**, 40 countries represented.
- B3 **Poster Session**, 35 posters displayed : **484** visitors
- B3 **Tutorial** “*Low-Cost Substations in Developing Countries*” : **206** registered attendees
- B3 **Discussion Meeting**: **568** attendees, 56 prepared, plus 89 spontaneous contributions
- The AP.B3 had **7** contributions
- B3 Workshop “**Safe Working in Substations**” : **70** attendees

# Paris B3.46 Workshop – August 31

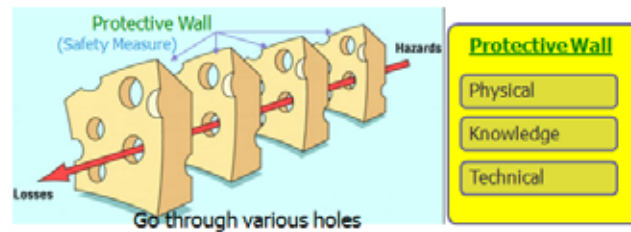
## “Safe Working in Substations”

- 70 attendees
- combined into 8 working teams



### Swiss Cheese Model

Swiss Cheese model  
Accident = Not only one Factor, Various factor occurring in Chain



ATC Seminar 2018

# B3 Working Group Meetings in Paris

WG.B3.34: Expected impact of future grid concept

WG.B3.38: Management of risk in substations

WG. B3.43: Contemporary solutions for low cost substations

WG.B3.45: Application of non-SF<sub>6</sub> gases or gas-mixtures in MV and HV GIS

WG.B3.46: Guidelines for Safe Work Methods in Substations

WG.B3.49: Review of substation busbar component reliability

WG.B3.53 (new): Guidelines for fire risk assessment and mitigation in substations

SF<sub>6</sub> Green Book

ATC Seminar 2018

# B3 Current and Future Meetings and Events

AP. B3 Substation Conference – Hunter Valley Nov-Dec 2019

Chairing IEEE Power and Energy Society in Victoria

Contribution to IEEE standards

## Future B3 meetings:

- 2019 Symposium in Chengdu, China - with C6; and also B5, C1, C3, and D2
- 2021 Symposium in Bucharest, Romania – with A2
- 2023 – New Delhi, India or Cairns, Australia?

## Other Future events:

- IEC Conference on UHV AC/DC Trends – Hakodate, Japan April 23-26, 2019
- Conference on Condition Monitoring – Bucharest, Romania Sept 7-13, 2019

# B3 Deliverables

B3 has 26 active WG's, 3 recent Technical Brochures, with the Substation Green Book now published and available for sale or download:

- ü TB 723 “SF<sub>6</sub> Measurement Guide” WG 40
- ü TB 734 “Management of Risk in Substations ” WG 38
- ü TB 740 “Contemporary Design of Low Cost Substations in Developing Countries” WG 43



# AP.B3 New WG Members

WG B3.52 Neutral Grounding Method Selection and Fault Handling for Substations in the Distribution Grid

Bill Carman as Correspondent Member

WG.B3.53 (new): Guidelines for fire risk assessment and mitigation in substations

Michael Verrier, Terry Lee as Members and Derek Perkins as Correspondent Member

Created a Mirror Panel for WG.B3.53 in AP comprising: Robert Li, Dan Tang, Michael Verrier, Kerry Williams

WG.B3.54 Earthing System Testing Methods

Stephen Palmer WG Convener

WG B3.55 Design guidelines for substations connecting battery energy storage solutions (BESS)

Crina Costan: as Correspondent Member

WG B3.56 Application of 3D Technologies in Substation Engineering Works

Todd Margitich: Member

WG.B3.46: Guidelines for Safe Work Methods in Substations

Perry Tonking as Correspondent Member



# Australian Contributions to WG.B3

Adams	Bob	Full Member	M	WG B3.43
Addison	Gabriel	Young Member	M	WG B3.43
Arora	Nipun	Young Member	M	WG B3.43
Carman	Bill	Convener	M	WG B3.35
Carman	Bill	Corresponding	M	WG B3.52
CHEANG	Andrew	Full Member	M	WG B3.38
Cole	Peter	Corresponding	M	WG B3.48
Costan	Crina	Corresponding	F	WG.B3.55
Dantalis	James	Corresponding	M	WG B3.47
KLEPAC	Angela	Full Member	F	WG B3.38
KRIEG	Terry	Corresponding	M	WG B3.43
KRIEG	Terry	Corresponding	M	WG B3.46
KRIEG	Terry	Corresponding	M	WG B3.47
KRIEG	Terry	Corresponding	M	WG B3.49
Laubi	Andreas	Corresponding	M	WG B3.50
Lee	Terry	Full Member	M	WG.B53
LI	Yi	Corresponding	M	WG B3.47
LOPEZ-ROLDAN	Jose	Full Member	M	WG B3.24
Margitich	Todd	Full Member	M	
MCCORMACK	John	Corresponding	M	WG B3.39
Palmer	Stephen	Secretary	M	WG B3.35
Palmer	Stephen	Convener	M	WG B3.35
Perkins	Derek	Corresponding	M	WG.B3.53
QUACH	Minh	Corresponding	M	WG B3.39
RAYAPROLU	Ram	Corresponding	M	WG B3.39
Ridgley	Matthew	Corresponding	M	WG B3.42
Tonking	Peregrine	Convener	M	WG B3.43
Tonking	Peregrine	Corresponding	M	WG B3.46
Verrier	Michael	Corresponding	M	WG B3.48
Verrier	Michael	Member	M	WG.B3.53

ATC Seminar 2018