

Report to the CIGRE Australian Technical Council

Study Committee SC D2 and Australian Panel AU D2 Activities



Louise Watts

Convenor CIGRE AU D2

AU D2 Report 2025

louise.watts@sapowernetworks.com.au



cigre

For power system expertise

D2

Information systems
and telecommunication



SC D2 Overview

Information Systems

Extracting value from information and data through decision support tools and techniques



Telecommunications

Next-generation telecommunications technologies to support grid decarbonisation and digitalisation



Cyber Security

Comprehensive approaches to managing cybersecurity in energy applications



To develop, facilitate collaboration, and disseminate knowledge within the power industry in the areas of Information Systems, Telecommunications, and Cybersecurity

SC D2 Major Achievements

- SC D2 Roundtable Barcelona
- Trondheim Symposium
 - SC D2 Annual Meeting
 - Cyber security Workshop
- Montreal Symposium
- DER Focus Group
- Greenbook
 - **16** members of **10** countries as chapter leads



SC D2 Key Focus Areas – Working Groups

Working groups formed in 2025

WG number	Working Group Name
WG 2.62	Efficient spectrum allocation and utilisation for electric power industry private communication networks
WG 2.63	Inter-Control Centre Communications Protocol (ICCP) Security and Resilience for Grid Reliability
WG A3 / D2.52	Application of Digital Twin in Switchgear
WG 2.64	Application of AI in Cybersecurity Defence of Power Systems
WG 2.65	Optical Transport Communication Networks for Electric Power Utilities
WG 2.66	Low Voltage Power Line Carrier Communications Application

Australian D2 Panel 2025



AU/NZ D2 Panel

28 Regular Members, 5 Observers



Increase in female representation (5)

Increased representation in information systems and cyber

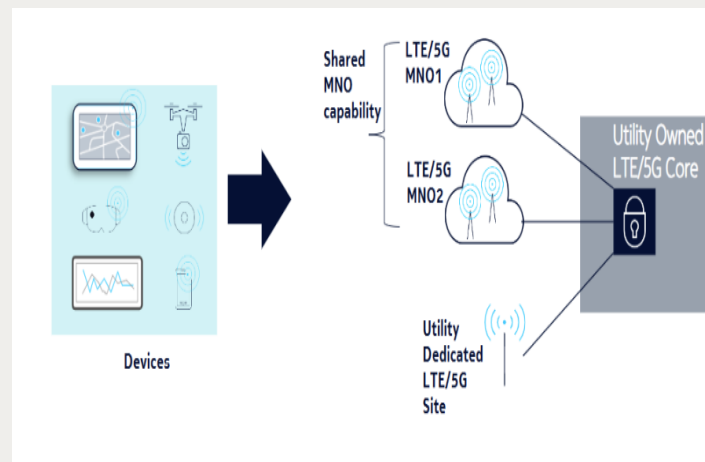
Australian D2 Webinar Wireless Communications

SPECTRUM CHALLENGES

Apparatus Licence	Spectrum Licence	Class Licence
- Usually specific licence type for specific purpose (e.g. "Point to Point") - Each device or system requires a licence - Over the counter / quick	- Legislated 'rights' to a spectrum block - Expensive, lengthy process, usually auction based, long term	- Existing instrument permits 'all' to operate - e.g. <u>Wifi</u>, ISM

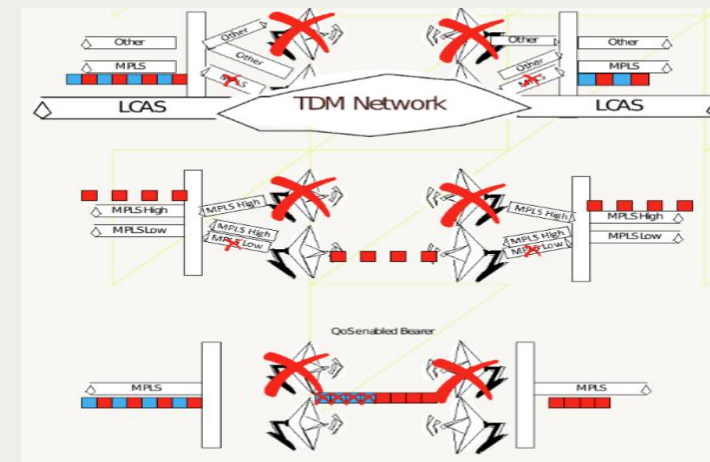
ACMA Overview and Strategies
Andrew May – Spectrum Engineering Australia

CELLULAR RESILIENCY



Private Wireless for Power Utilities
Abhilash Goswami - Nokia

RADIO DESIGN



Designing MW Radio for Packet Switched HV Protection
Todd Cameron - ElectraNet

Australian D2 Panel Meeting Key Themes

Digital Transformation

- Digital twins and 3D site capture
- AI and predictive analytics for asset management
- Community battery solutions and DER integration
- Migration from legacy systems to MPLS and cloud-native platforms

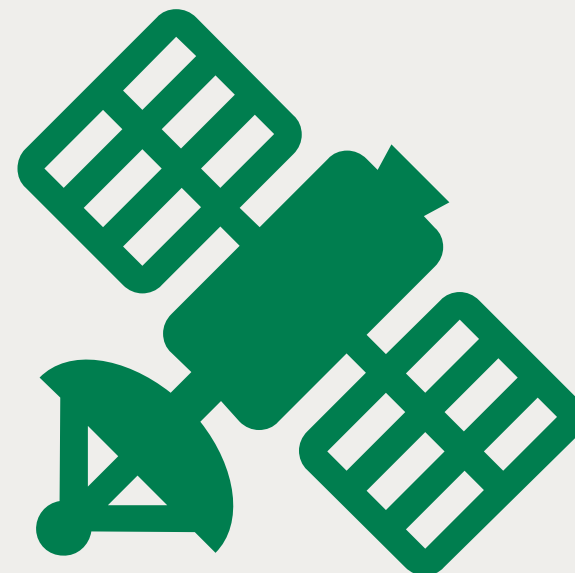


Ausnet Services – Digital Twin Trials

Australian D2 Panel Meeting Key Themes

Resiliency and Redundancy

- LEO satellites for backup SCADA paths
- Carrier-agnostic SIMs for IOT in utilities
- Hitless failover and redundancy in MPLS networks
- Microwave radio licensing challenges



THANK YOU



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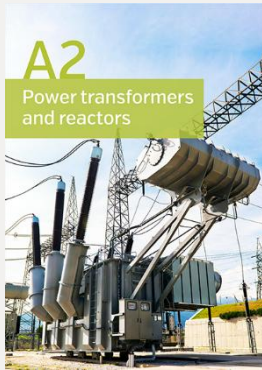
For power system expertise

APPENDIX

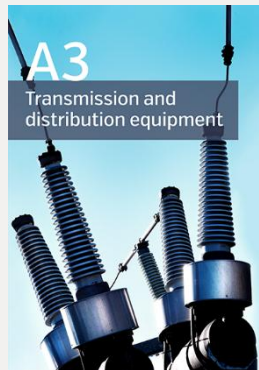
For reference only



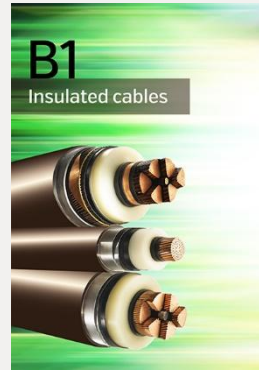
A1
Rotating electrical machines



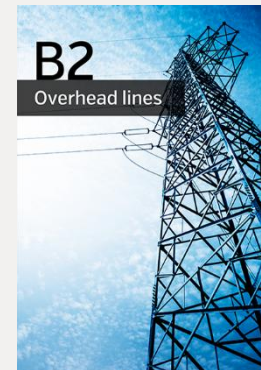
A2
Power transformers and reactors



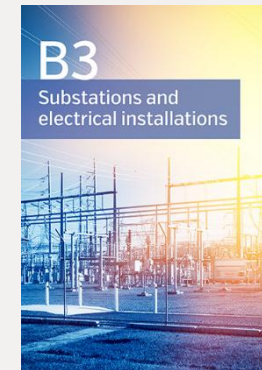
A3
Transmission and distribution equipment



B1
Insulated cables



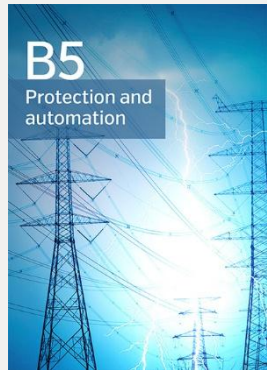
B2
Overhead lines



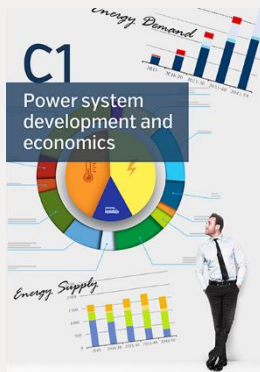
B3
Substations and electrical installations



B4
DC systems and power electronics



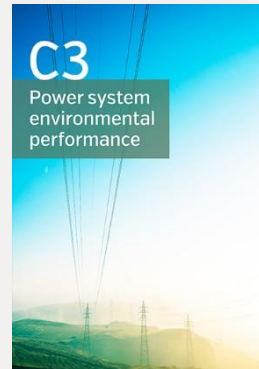
B5
Protection and automation



C1
Power system development and economics



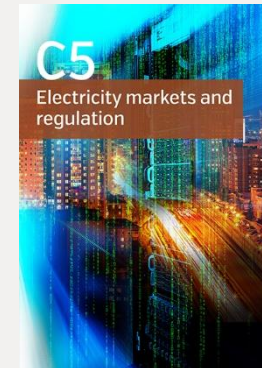
C2
Power system operation and control



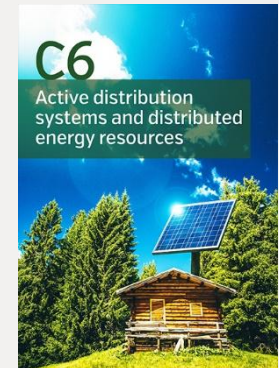
C3
Power system environmental performance



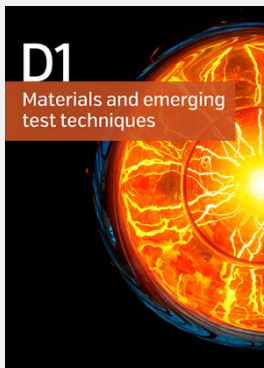
C4
Power system technical performance



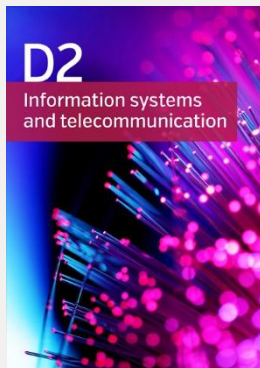
C5
Electricity markets and regulation



C6
Active distribution systems and distributed energy resources



D1
Materials and emerging test techniques



D2
Information systems and telecommunication