



2022 Autumn Workshops Ōtautahi Christchurch

Insulated Cables

Protection and Automation



Series 1 of 2

In person and online



Meridian, 287-293 Durham Street
CBD, Ōtautahi Christchurch



www.cigre.org.nz

An interactive workshop
for power system practitioners

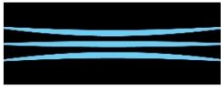
engineers, consultants, contractors, technicians
generation transmission and distribution owners
system operators, academics, vendors

to explore current practices and future initiatives for
implementing end-to-end renewable power systems

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ENGINEERING
DEPARTMENT OF ELECTRICAL,
COMPUTER, AND SOFTWARE ENGINEERING

ABOUT CIGRE



CIGRE (International Council on Large Electric Systems) is a permanent, non-governmental and non-profit international association.

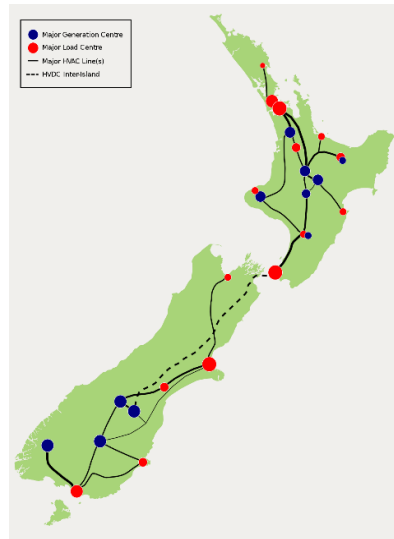
Based in France, CIGRE was founded in 1921 celebrating its Centennial in 2021. CIGRE is an international organization dedicated to the development of the power supply sector through the identification and the development of solutions to industry issues. With members in more than 80 countries, it is the leading worldwide organization on Electric Power Systems, covering their technical, economic, environmental, operational, organisational, and regulatory aspects.

CIGRE counts more than 3,500 experts from all around the world working actively together in structured work programmes coordinated by the CIGRE 16 Study Committees, overseen by the Technical Council. Their main objectives are to design and deploy the end-to-end power system for the future, optimize existing equipment and power systems, respect the environment, and facilitate access to information.

CIGRE NEW ZEALAND NATIONAL COMMITTEE

The New Zealand National Committee (NZNC) was accepted as a full CIGRE National Committee by the CIGRE Administrative Council at its meeting held during the 2006 Paris Session. Since then we have been active nationally and internationally through engagements of:

- Disseminating CIGRE information and maintain communication with local NZ members regularly
- Providing a platform for presenting NZ expertise and experience to the New Zealand and International power systems community
- An active point of contact for CIGRE Paris, the ANC and other National Committees
- Taking our place on the world stage at CIGRE Paris with the other CIGRE National Committees
- Invitations and hosts to CIGRE Study Committees to hold meetings in NZ
- Participate as a member of the Asia Oceania Regional Council (AORC) of CIGRE
- Participating in, and providing internationally recognised keynote speakers for EEA2018, EEA2019, and EEA2020 annual conferences
- Arranging and hosting Regional/Global Conferences and Symposia such as CIGRE Auckland Symposium 2013, B5 Colloquium 2017, AORC 2017, Administrative Council Meeting 2017, and CIGRE ANZ 2018 in conjunction with AUPEC 2018
- Presenting A2 Power Transformers and Reactors technical webinars (2020)
- Presenting B1 Insulated Cables technical webinars (2019, 2020)
- Hosting AU and NZ online B1 Power Cables web tutorials (2020)
- Presenting CIGRE NZ annual Conferences in alignment with EEA NZ, inaugurally in 2020 featuring venue and online international and local power systems experts inclusive of CIGRE President, Study Committee convenors, CEO EEA NZ
- Providing formal links to other national and international bodies such as IEEE to benefit NZ industry



ORGANISATIONAL STRUCTURE

The 16 international CIGRE Study Committees are mirrored as three Panels and four Interest Groups within CIGRE NZ.

CIGRE NZ Mirror Panel / Group		
Panel	Convenor	Associated Study Committee
NZ.A2	Dr Dan Martin, ETEL	A2: Power Transformers and Reactors
NZ.B1	Andre Cuppen, Powerco	B1: Insulated Cables
NZ.B3	Doug Ray, Vector	B3: Substations and Electrical Installations
NZ.B5	Stephen Chiu, Powerco	B5: Protection and Automation
NZ.C6	Nasser Farooqui, Amplitude Consultants	C6: Distribution Systems and Dispersed Generation
NZ.D2	Abhinav Chopra, HCC	D2: Information Systems and Telecommunication
NZ.IG3	Helen Gilbert, Beca	B2: Overhead Lines
NZ.IG4	High Voltage and HVDC	A3: High Voltage Equipment B4: HVDC and Power Electronics D1: Materials and Emerging Technologies
NZ.IG5	System Performance	C1: System Development and Economics C2: System operation and Control C3: System Environmental Performance C4: System Technical Performance C5: Electricity Markets and Regulation
NZ.IG6	Generation and Distribution	A1: Rotating Electrical Machines D1: Materials and Emerging Technologies

Since 2019 Study Committee Mirror Panels are being formed from our Interest Groups to best develop and reflect our CIGRE aims and objectives.

CIGRE NZ NATIONAL COMMITTEE (NZNC) COMPOSITION

Member	Position	Collective Organisation
Doug Ray	Chair / AORC Member	Vector
Nick Lee	Secretary	Transpower
Dr Dan Martin	Treasurer	ETEL
Dr Nirmal Nair	Technical Chair / Events Manager / AORC Member	University of Auckland
Rebecca Marx	Membership Manager	Mitton ElectroNet
Vaughan Evans	Publicity and Media	Preformed Line Products
Sanjib Mishra	Next Generation Network Chair	Aurecon Amplitude
Leonie Bule	Women in Energy Chair	Transpower
André Cuppen	B1 Insulated Cables Convener	Powerco
Andrew Renton	Executive Member	Transpower
Brent Rees	Executive Member	Hitachi Energy
Trevor Lord	Executive Member	Individual
Waqar Qureshi	Executive Member	Horizon Networks

WELCOME FROM CIGRE NEW ZEALAND



Doug Ray

CIGRE New Zealand Chair

Kia ora koutou katoa

On behalf of our CIGRE NZ Organising Committee, our CIGRE NZ Executive and members, it is a privilege and pleasure to welcome you to our inaugural Technical Workshops series.

Our Workshop Convenors and their Technical Panel members have established a topical program to give us an informative, collegiate experience for all.

Our Panel forums are bringing together proven power systems and industry expertise from across New Zealand. We are indebted to these, our hosts, and sponsors: thank you for enabling our knowledge sharing.

As we build our new energy future, we believe the importance of building successful partnerships within the energy sector, commerce and customers is paramount. Our customers drive our business direction.

Collaboratively these cross-sector power systems discipline workshops aim to develop techniques and drive efficacy in considering how new technology can efficiently improve existing often legacy systems and develop new approaches that these no longer effectively deliver for our sustainable investment and operational outcomes. This is also set within the context of seeking equitable energy access and resilience of supply toward a net zero carbon end game. Insights and action, we all are working towards now for our customers and industry.

We are looking forward to your valuable participation in this series of technical workshops to better resolve these opportunities and gain insights for increasingly reliable, resilient, diversified energy connection and supply. From this we assure continued success for the wellbeing of our electricity sector infrastructure and our customers.

Nga mihi, and thank you for being with us

WELCOME FROM AUTUMN WORKSHOPS CHAIR



Abhinav Chopra

CIGRE NZ 2022 Autumn Workshops Chair

Kia ora everyone,

On behalf of the CIGRE NZ 2022 Autumn Workshops Organising Committee, it is my great pleasure to extend a warm welcome to all our online delegates, invited keynotes and guests, and our sponsors Transpower, HV Power and SGS ECL.

Our attendees come from throughout New Zealand with diverse life-long experiences within the end-to-end power sector as well as online attendees from abroad. A special welcome to all our invited presenters.

Our Study Committee mirror CIGRE NZ Technical Panel convenors, their Panel members and the Workshop convenors chosen from the Panels are spearheading the delivery of a diverse and topical mix of technical sessions throughout the programme for you.

To all our attendees, I thank you sincerely for also sharing your knowledge and expertise with us all.

Thank you to the exceptional performance of our organising team to successfully bring these inaugural Workshops together, including as a venue and online event to allow personal choice of attendance wellbeing within the current virus-induced situation.

Our Autumn Workshops bring us together to again share our knowledge and immense experience to continue our journey of achieving sustainable, resilient, and equitable end-to-end renewable power systems for the wellbeing of our people, communities, and economy.

Welcome to our CIGRE NZ 2022 Autumn Workshops series

WORKSHOP COMMITTEE



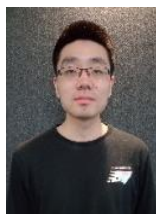
Doug Ray
CIGRE NZ Chair
Workshop Finance
Chair
B3 Workshop
Convenor



Dr. Nirmal Nair
Event Manager
Workshop Finance
Committee
Mentor



Abhinav Chopra
Workshop Chair
Digital Delivery
Coordinator
D2 Workshop
Convenor



Xin Liu
E-booklet
Coordinator



Mohanad Al-Hasani
B1 Workshop
Convenor



James Qian
B5 Workshop
Convenor



André Cuppen
B1 Panel Convenor



Stephen Chiu
B5 Panel Convenor



Vaughan Evans
Publicity Manager

INSULATED CABLES PROGRAMME



2022 Autumn Workshops
Ōtautahi Christchurch
8 April Programme

 **cigre**
New Zealand

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B1 Panel Workshop

Workshop Convenor **Mohanad Al-Hasani, Vector**

Insulated Cables

10:00	Opening welcome, workshop introduction, CIGRE guidelines	Mo Al-Hasani (in person), Sujay Orpe
10:10	Participants' self-introductions in break out rooms	All
10:20	Presentation / demo session cable accessory preparation do's and don'ts	Russell Harper, PLP (in person)
11:00	<i>Break</i>	
11:10	Break out room discussion	All
11:20	Utility experience with cable testing to detect problems	Kewen Kueh, Powerco (in person)
11:40	Demonstration / presentation on testing to detect problems	Gary Catlin, HV Diagnostix (in person)
12:15	<i>Lunch</i>	
13:00	Break out room discussion	All
13:15	Utilities experience with cable accessory specifications	Graeme Barnewall, Essential Energy
13:35	Manufacturer tips on specifications for cable accessories	Paul Godfrey, TE (in person)
14:00	<i>Break</i>	
14:10	Break out room discussion	All
14:35	Presentations from breakout groups	All
15:20	Day summary	Mohanad Al-Hasani
15:35	Closing / next steps	Andre Cuppen, Powerco (in person)
15:35	Equipment display, demonstration, networking	All

Join us by registering at www.cigre.org.nz

2022 Autumn Workshops Ōtautahi Christchurch 8 April

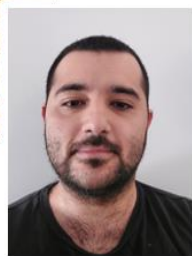


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meet the workshop conveners



Mohanad Al-Hasani **Vector**

Mohanad Al-Hasani (Mo), is Vector's asset performance engineer for underground cables. He is responsible for all aspects of power systems cable lifecycle from design to disposal, including specification, procurement, installation and faults investigation challenges. Mohanad developed his initial interest and expertise in cable systems working on cable reticulation projects for windfarms as a graduate at Meridian Energy

Mohanad is our B1 Panel Workshop Convenor, **Christchurch in-person and online session 10:00 to 15:30 NZST 8 April 2022** followed by equipment display, demonstration, refreshments and networking

A single registration fee provides you entry to this event and the 6 May Auckland B3 Substations and Electrical installations and D2 Information Technology and Communications event

Join us at CIGRE NZ 2022 Autumn Workshops by registering at www.cigre.org.nz



Insulated Cables

CIGRE NZ B1 Panel is the expert industry group for insulated cable technology in New Zealand. Its aim is to promote the learning and sharing of best industry practice and developments within the topic of insulated cables. Each year the Panel arranges panel meetings, webinars, symposiums and workshops including cable design, construction, installation, commissioning, failure, maintenance, testing and condition assessment. Established in 2020 the Panel's industry contribution is continually increasing.

OPENING WELCOME



Mohanad Al-Hasani

Asset Performance Specialist, Insulated Cables, Vector

Mohanad Al-Hasani (Moh), I am currently working at Vector as an asset performance engineer for underground cables. My role requires me to be involved in all aspects of power systems cable lifecycle from design to disposal including specification, procurement, installation, and faults investigation challenges involved in these stages. I developed my interest and expertise in cables working on cable reticulation projects for windfarms as a graduate at Meridian Energy.

Workshop presentations

Cable accessory preparation do's and don'ts

Russell Harper

Product Manager, Preformed Lines Products



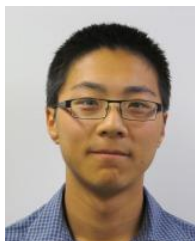
Russell Harper is experienced across most OEM LV & MV manufacturers. He has seen it, installed it all and knows the pluses and minuses of most brands.

With more than 40 years' experience from installation, training, mentoring across and being an expert witness covering 11kV-33kV. Russell has installed LV & MV across UK networks of Scottish Power, North Wales, Midlands, and East Midlands Networks as an employee and with his own Cable jointing business.

Russell and family moved to New Zealand in 2006 and helped set-up the National Qualification for NZQA in the art of cable jointing conducting cable jointer training 2006-2011 with the Vector owned, Utilitech training centre. Russell was instrumental in re-starting the national jointers competition and was the event organiser between 2007 to 2010, also the Work Type Competency Assessor for Wellington Electricity, Unison and Vector Networks. Russell is a strong advocate for continual training and re-assessment of cable jointers.

Russell has worked with 3M, Raychem and for the last 3 years with German manufactured Cellpack supported by Preformed Line Products, (PLP).

Utility experience with cable testing to detect problems



Kewen Kueh

Power Assets Fleet Manager, Powerco

Since graduating in 2009, Kewen has worked for Powerco which supplies gas and electricity to towns and communities in networks stretching from the bottom of the Wairarapa to the top of the Coromandel. He has been in a number of technical roles developing tools and standards in areas of Network Automation, Arc Flash, Transformer Dissolved Gas Analysis and Underground Cable ratings; Project Manager for substation upgrade projects; and as an analyst leading asset failure investigations and asset management plans. He now manages a passionate team of engineers looking after maintenance, condition assessment and renewal strategy of Powerco's HV substations and underground networks.

Demonstration/presentation testing to detect problems

Gary Catlin

HV Diagnostix



Gary Catlin is a graduate electronic engineer. He started his career at Eskom in 1991 after graduating from The University of Natal and then performing his national service. Gary has worked as an engineer in electronic design companies and has owned and operated a number of small businesses as well as lecturing at the University of Natal for seven years.

In 2008 he found himself back in the power industry and has specialised in electrical test equipment specifically insulation testing and diagnostics. Gary has his own company HV Diagnostix which provides specialist high voltage testing products and complements the equipment with test services, training, consulting and support in insulation testing and diagnostics.

His markets extend from New Zealand and Australia to SE Asia and the Middle East. Gary travels extensively every year and is fortunate to be exposed to the operations of utilities in many parts of the world.

Utilities experience with cable accessories



Graeme Barnewall

Principal Engineer, Essential Energy, Australia

For the past 10 years I have been working for Essential Energy as the Principal Engineer Underground Construction Standards, looking after all things related to underground cable networks.

Prior to that, for over 30 years, I was with Olex Cables (now Nexans) in areas covering cable manufacturing, cable design, system design, electrical testing, as well as installation of cables and accessories.

I am interested in developments in electrical testing, assessment of remaining life, material developments, and innovative installation techniques. Throughout the electricity industry today I increasingly see a distinct lack of understanding of basic principles and skills to do with cables and their accessories and I am happy to share my thoughts and experiences in forums such as this to assist in addressing this deficiency.

Manufacturer tips: specifications for cable accessories

Paul Godfrey

Technical Sale Manager, TE Connectivity



Paul Godfrey is based in the Wellington office of TE Connectivity. Paul is the Technical Sales Manager for New Zealand and the South Pacific Islands for the Energy Division products. Paul has worked in the Power Industry for 36 plus years and is very experienced in LV, MV distribution and HV transmission systems, specializing in cable accessories for all types of cable up to 145 kV, including gas and oil-filled cables. In addition to being a registered Electrical Service Technician, Paul is also a certified Line Mechanic.

CLOSING / NEXT STEPS



André Cuppen

Senior Electrical Asset Engineer - Cables, Powerco

André Cuppen possesses thorough knowledge of cable asset management, with 15+ years of experience in managing primary assets in electricity distribution and transmission networks in Australia, New Zealand, and the Netherlands.

Through 5 years of asset management consultancy working for the world leader in power asset consultancy and testing, DNV KEMA (now DNV Energy and previously KEMA), André developed an innovative mindset and a keen interest in extending the life of primary power assets, particularly cables. He takes a whole-network view with experience in modelling electricity networks, managing and testing various items of primary equipment, such as transformers, switchgear, surge arrestors, power cables and accessories.



PROTECTION AND AUTOMATION PROGRAMME



2022 Autumn Workshops
Ōtautahi Christchurch
8 April Programme

 **cigre**
New Zealand

www.cigre.org.nz

B5 Panel Workshop

Workshop Convenor James Qian, Powerco

Protection and Automation

10:00	Opening welcome	James Qian, Powerco
10:05	Participants' self-introductions in break out room	All
10:20	Experiences with arc hazard assessments and mitigations on LV networks in industrial sites	Rebecca Shaw, AECOM
10:40	Arc Flash incidents – what happened and learning from the protection perspective?	Oliver Pronk, Powerco
11:05	<i>Break</i>	
11:15	Arc Flash protection – presentation and demonstration	Brett Hampson, SEL (in person)
12:15	<i>Lunch</i>	
13:00	Arc Flash protection from a Transpower perspective	Jin Phoon, Transpower
13:20	An Arc Flash protection scheme for distribution systems	Daniel Han, WEL Networks
13:40	<i>Break</i>	
13:50	Arc Flash protection – presentation and demonstration	Howard Wardley, HV Power (in person)
14:50	Group discussion	All
15:20	Day summary and closing	Stephen Chiu, B5 Convenor, Powerco
15:35	Equipment display, demonstration, networking	

Join us by registering at www.cigre.org.nz

2022 Autumn Workshops Ōtautahi Christchurch 8 April



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New Zealand

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meet the workshop conveners



James Qian
Powerco

B5

Protection and Automation

CIGRE NZ B5 Panel has been active since late 2020. Its aim is to promote the learning and sharing of best industry practice and developments within protection and automation. Each year the Panel arranges panel meetings, webinars, symposiums and workshops on topics such as protection asset management, protection of large-scale DER, detection of high impedance faults, and more. Like each of our Panel's, CIGRE B5 forms Working Groups with International Panels to study topics of common interest and gain local power system improvements our work within the NZ power industry

James Qian received his Master of Electrical and Electronic Engineering from the University of Auckland in 2019. He has 16 years of experience in electricity distribution and generation and process control. James works for Powerco as a Senior Design Engineer focusing on substation design including protection and control systems. James is the CIGRE NZ B5 Panel secretary

James is our B5 Panel Workshop Convenor, **Christchurch in-person and online session 10:00 to 15:30 NZST 8 April 2022** followed by equipment display, demonstration, refreshments and networking

A single registration fee provides you entry to this event and the 6 May Auckland B3 Substations and Electrical installations and D2 Information Technology and Communications event

Join us at CIGRE NZ 2022 Autumn Workshops by registering at www.cigre.org.nz

OPENING WELCOME



James Qian

Senior Design Engineer - Substations, Powerco

James Qian received his Master of Engineering in Electrical and Electronic Engineering from the University of Auckland in 2019. He has 16 years of work experience in electricity distribution and generation. James presently works for Powerco as a Senior Design Engineer where he focuses on substation design including protection and control systems. James is the existing CIGRE New Zealand B5 (Protection & Control) Panel secretary.

Workshop presentations

hazard assessment experiences and mitigations on industrial LV networks

Rebecca Shaw

Principal Electrical Engineer,
Transmission and Distribution, AECOM



Rebecca is a principal electrical engineer within the Auckland AECOM Transmission and Distribution team, with over 12 years of experience in the New Zealand power industry since graduating from Auckland University at the end of 2007.

Rebecca specialises in protection and secondary systems engineering and has worked with AECOM on a wide variety of projects for clients in many locations including New Zealand, Western Australia, Europe, Singapore, and the Philippines, covering transmission, distribution, generation, and industrial clients.

Rebecca is passionate about furthering her knowledge and that of the industry. She is currently a member of the CIGRE New Zealand B5 Panel and was previously the co-secretary of the CIGRE Working Group B5.54 "Protection and Automation Issues of Islanded Systems during System Restoration/Black Start", which was published as a Technical Brochure.

Arc flash incidents: what happened and learning from the protection perspective



Oliver Pronk

Graduate Electrical Engineer, Powerco

My name is Oliver, I am a graduate Electrical Engineer from the University of Auckland. Since completing my degree in 2020, I spent a year working in engineering consulting in the oil & gas industry before joining Powerco's graduate programme in December 2021. As a graduate engineer I am rotated through different departments within Powerco to develop my understanding of the company and industry.

Arc flash protection: presentation and demonstration

Brett Hampson

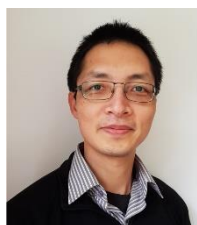
Senior Application Engineer
Schweitzer Engineering Laboratories (SEL)



Brett has worked for more than 35 years in the electrical industry. He obtained his degree in Electrical and Electronic Engineering from the University of Auckland in 1997. Prior to this Brett worked as an electrician in petrochemical, steel production and telecommunications fields. After graduation, Brett moved into a consulting role and has provided power systems services in the USA, UK, Australia, and NZ.

Brett began working for SEL in 2000 in the Engineering Services division in the USA. A year or so later he accepted an application engineering role and continues to provide training and technical application support for power systems utilities and projects across the Asia-Pacific region.

Arc flash protection from a Transpower perspective



Jin Phoon

Principal Engineer Secondary Systems, Transpower

Jin is a 2002 graduate from Auckland University. On completion of university studies in 2001, he joined the Transmission and Distribution studies group in Maunsell (now AECOM). Jin has had extensive experience in secondary

electrical detailed design work including protection, relay settings, SCADA, and auxiliary systems.

Jin joined Transpower in November 2007 as a Planning and Development Engineer where he provided power system analysis to support new investments and grid augmentations.

In January 2013, Jin changed to his present role within Transpower in the Asset Planning Team. Jin is currently involved with the asset management of secondary assets including protection assets, revenue metering assets, and 125 V batteries and DC systems. He also provides input into the strategy for replacement of secondary assets and the annual Transpower Asset Management Plan.

An arc flash protection scheme for distribution systems

Daniel Han

Principal Protection Engineer, WEL Networks

Daniel Han graduated from the University of Auckland with a BE and a MEngSt. He worked as a power system protection engineer at Tesla Consultants Ltd for 14 years. In 2021, Daniel joined WEL Networks Ltd as a principal protection engineer and leads the protection portfolio including standards development, project initiations, designs review, commissioning supports and fault event analysis.



Arc flash protection - presentation and demonstration

Howard Wardley

Sales Engineer

HV Power Measurements & Protection Limited



Howard has significant industry experience locally and abroad in the roles of protection relay sales, support, and power systems engineering.

He joined HV Power in 2017 as 'Sales Engineer - Protection' to focus on the sales and support of Siemens SIPROTEC relays, RMS and other IED products in the lower South and upper North Islands.

CLOSING / NEXT STEPS



Stephen Chiu

Principal Engineer - Protection, Powerco

He is a Chartered Professional Engineer (CPEng) and has over 15 years' experience in planning, design and operation of protection and control systems.

Stephen's work involves studying power system modelling, fault analysis and detection of high impedance faults. He has presented his work on the analysing and detection of electricity distribution faults at IET APSCOM, EEA(NZ) and IEEE APAP conferences. Stephen holds a ME in electrical and electronic engineering from the University of Canterbury, and an MBA from Massey University. He is currently the inaugural CIGRE NZ B5 Panel convenor.



2022 Autumn Workshops Tamaki Mākaaurau Auckland

Substations and Electrical
Installations

Information Systems and
Telecommunications



Series 2 of 2
In person and online



University of Auckland,
Khyber Pass Rd, Newmarket
www.cigre.org.nz

An interactive workshop
for power system practitioners

engineers, consultants, contractors, technicians
generation transmission and distribution owners
system operators, academics, vendors

to explore current practices and future initiatives for
implementing end-to-end renewable power systems

2022 Autumn Workshops
Ōtautahi Christchurch
8 April
Tāmaki Makaurau Auckland
6 May



www.cigre.org.nz

Collective members

Celebrating our Individual and Collective members



Join us by registering at www.cigre.org.nz

CIGRE PREVIOUS EVENTS



INTERNATIONAL COUNCIL
ON LARGE ELECTRIC SYSTEMS
NEW ZEALAND NATIONAL COMMITTEE INC.

CIGRÉ AUCKLAND 2017
11-15 September



Conference Includes: CIGRÉ Women In Engineering Forum
CIGRÉ Next Generation Forum
Technical Tours
Paper Sessions
Trade Exhibits
Tutorials

**HV
Equipment
and
Substations**

**Distribution
Systems
Dispersed
Generation**

**Information
Systems
and
Communications**

**Materials
and
Emerging Test
Techniques**

**Protection
Automation
and
Control**

Your Invitation to a Major International CIGRÉ Event in Auckland, New Zealand

With Thanks to Our Sponsor




Visit www.cigreaukland2017.org.nz for more information

Sponsorship and Trade Exhibit opportunities are available and welcome

CIGRÉ AUCKLAND 2017
University of Auckland, New Zealand
10th – 15th September 2017

**Secure and Efficient Delivery of Energy: Enabled
by World Forum for Power Systems**



CIGRÉ Programme

- Study Committee B5 Colloquium and Annual Meeting
- Asia-Oceania Regional Council Technical Meeting
- Administrative Council Meeting


Plenary & Paper Sessions

Tutorial & Poster Sessions

Administrative & Working Group Meetings

Women in Engineering & Next Generation Network Forums

Trade Exhibits, Tours & Networking



INTERNATIONAL COUNCIL
ON LARGE ELECTRIC SYSTEMS
NEW ZEALAND NATIONAL COMMITTEE INC.

>



CIGRE NEW ZEALAND 2018

Tuesday 19 June 2018



Cigré New Zealand 2018 – One day event

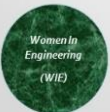
Venue: SkyCity Convention Centre, Auckland

“Secure and efficient delivery of energy”

CIGRE New Zealand 2018 brings together experts and key players from the power system industry across New Zealand. The key events are:

- Keynote Speech by Rob Stephen, President of CIGRE
- Discussion on planned participation by NZ delegates for BIENNIAL CIGRE 2018 PARIS SESSION.
- Workshop / tutorial on emerging technology
- Meeting of CIGRE NZ's six interest groups (encompassing all the 16 CIGRE study committees)
- Women In Engineering (WIE) and Next Generation Network (NGN) meeting

This one day event is wholly sponsored by CIGRE NZ. This event is free subject to registration. A certificate of attendance will be given to participants to use as a Continuing Professional Development (CPD) benefit.



For registration and more information

CIGRE ANZ 2018



Presented by
Platinum Sponsor
of AUPEC 2018

29 November 2018
07:00 - 17:30

Science Centre, 23 Symonds St
University of Auckland



Transitioning New Zealand to a Low-Carbon Energy Future



Meet industry and academia professionals, practitioners, colleagues

Hear from and work with:

- Industry Executives
- Industry Operatives
- Innovation Leaders
- CIGRE Practitioners

Develop your expertise from their progressive experiences in moving towards a low carbon future

In association with AUPEC 2018
(Australasian Universities Power Engineering Conference)



CIGRE 2019 FORUM



Asset Resilience within Electricity Networks

Hear from and network with

- ◆ Industry Executives
- ◆ Industry Operatives
- ◆ Innovation Leaders
- ◆ CIGRE Practitioners

Meet industry and
academia professionals,
practitioners, colleagues

Develop your expertise
from their progressive
experiences in moving
towards a more integrated
asset resilient future

📍 SkyCity Convention Centre
Auckland

📅 24 June 2019
9:00 – 17:00

🔗 CIGREANZ 2019 exemplar

CIGRE NZ Webinar Series 2019, 2020

2019

1. Remote indicating overhead line sensors for fault indication, Kate Murphy
2. The Electricity Distribution Sector for Tomorrow, Thahirah Jalal

2020

1. Cable Diagnostics to support Asset Management, Andre Cuppen
2. Enhancing your transformer asset safety and resilience, Dan Martin
3. Transmission Protection With Increased Penetration of Renewables and Distributed Generation, Sheila Matthews

CIGRE NZ 2020 SPECIAL EDITION – PANEL & PODCAST

COVID-19 Power Systems Resilience Response
CIGRE NZ Conversations - April 2020



CIGRE NZ 2020 Conference

CIGRE centennial 2021

**Shaping the power sector
beyond 2020**

5th-6th August 2020

Auckland, New Zealand, and online

CIGRE NZ B1 Symposium

CIGRE NZ A2 Symposium

CIGRE NZ Study Committee updates

CIGRE International selected Study Committee
updates

Presentations on Industry experiences

CIGRE NZ New Generation Network /
Women in Engineering program

Tutorial and Panel Session
on selective topics

Tours and
networking



2021 Conference

**November
24-26**

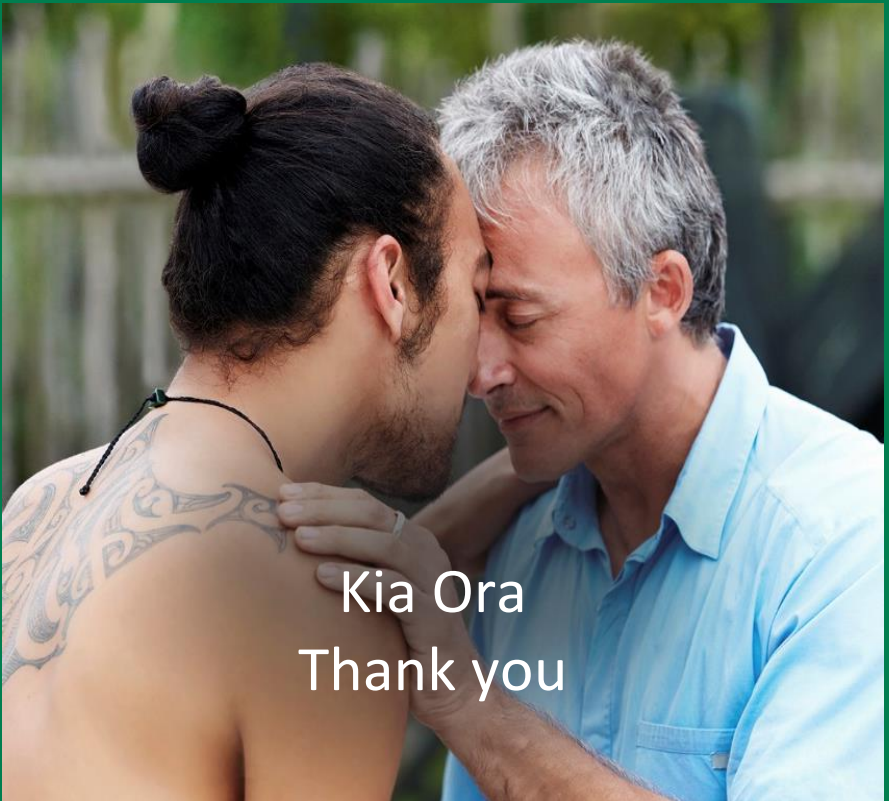
**Building partnerships for
end to end renewable
power systems**





cigre

New Zealand



Kia Ora
Thank you