cigre New Zealand

CIGRE NZ 2020 CONFERENCE

CIGRE Centennial 2021 shaping the power sector beyond 2020

Auckland, New Zealand 5 - 6 August

advancing our energy future

CIGRE NZ B1 Symposium

CIGRE NZ A2 Symposium

- International and New Zealand keynotes
- Executive Plenary
- Tutorial and Industry presentations
- International Study Committee updates
- Women in Engineering program
- New Generation Network program
- Industry Tours and Networking

CIGRE NEW ZEALAND 2020 CONFERENCE

CIGRE NZ 2020 brings together experts and key players from the power system industry across New Zealand and Internationally to illuminate and address current challenges for the reliable and resilient supply of secure and efficient energy to our customers.

This two day event is an online and venue based platform for power system industry practitioners, service providers, engineers and consultants, generation, transmission and distribution asset owners, system operators, policy makers, regulators, researchers and vendors to share and discuss current challenges and future directions referencing international and local developments in the asset resilience electricity distribution and consumer space.

The conference is a precursor to our New Zealand contributions along with other participants from across the globe to CIGRE's 2020 signature Paris digital e-Session 48 in late August 2020.

Whether you are participating online or attending in person at our Auckland venue

Welcome to CIGRE NZ 2020

ABOUT CIGRE & CIGRE NEW ZEALAND

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. CIGRE is an international organisation 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 Power Systems for the future, optimize existing equipment and power systems, advance sustainability, respect the environment and facilitate access to information.

CIGRE Session 2020

CIGRE has announced a reorganisation of its 2020 signature Paris event into a digital e-session in 2020 over two weeks from 24 August to 3 September 2020.

CIGRE's 2021 Centennial Session is scheduled for August 2021 as 'the leading global event for sharing power system expertise' with a similar format as previous sessions of plenaries, tutorials, poster sessions, and a technical exhibition. https://www.cigre.org/GB/events/cigre-e_session

CIGRE New Zealand

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 the following engagements:

- Providing a platform for presenting NZ expertise and experience to international community
- Provide point of contact for CIGRE Paris, the ANC and other National Committees
- Presenting on the world stage at CIGRE Paris with other CIGRE National Committees
- Dissemination of CIGRE information and communicating with local NZ members
- Engaging in and hosting CIGRE Study Committee and Working Group meetings
- Arranging and hosting Regional/Global Conferences and Symposia
- CIGRE Auckland Symposium 2013, B5 Colloquium 2017, AORC 2017, Administrative Council Meeting 2017, CIGRE 2018 Forum, CIGRE ANZ 2018 alongside AUPEC 2018, CIGRE 2019 Forum, webinars and webtutorials
- Participating member of Asia Oceania Regional Council (AORC) of CIGRE
- Participating in, and providing internationally recognised keynote CIGRE speakers for the EEA2018 and EEA2019 annual conferences
- Provide formal links to other national and international bodies to benefit NZ industry

CIGRE New Zealand Structure

The 16 International Study Committees are now mirrored for A2 Power Transformers & Reactors B1 Insulated Cables and as two new 2020 CIGRE NZ Panels.

We are also formulating a B5 Protection and Automation panel and a B3 Substations Panel from CIGRE NZ 2020. These mirror panels will now replace our original six Interest Groups (IG) created at the 2006 inauguration of CIGRE NZ.

ID	CIGRE Study Committee	CIGRE NZ mirror Panel or Interest Group
A2	Power Transformers & Reactors	Power Transformers & Reactors
B2	Insulated Cables	Insulated Cables
IG3	Overhead Lines	B2: Overhead Lines D1: Materials and Emerging Technologies
IG4	Substations	A3: High Voltage Equipment B3: Substations B4: HVDC and Power Electronics B5: Protection and Automation D1: Materials and Emerging Technologies D2: Information Systems and Telecommunication
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
IG6	Generation and Distribution	A1: Rotating Electrical Machines C6: Distribution and Dispersed Generation D1: Materials and Emerging Technologies

CIGRE NZ National Committee

Member	Position	CIGRE Collective
Doug Ray	Chair	Vector
Duncan Maina	Secretary	AECOM
Dr Nirmal Nair	Events Manager / AORC Member	University of Auckland
Rebecca Marx	Membership Manager / WIE Chair	Mitton ElectroNet
Nasser Farooqui	Net Generation Network Chair	AECOM
Andre Cuppen	B1 Insulated Cables Convener	Unison Networks
Robert Deller	B3 Substations Convener	Individual
Brent Rees	Executive Member	ABB NZ
Stephen Jay	Executive Member	Individual
Trevor Lord	Executive Member	Individual
Waqar Qureshi	Executive Member	Horizon Networks

CIGRE NZ 2020 Conference Committee

Leonie Bule	Conference Chair	University of Auckland
Duncan Maina	Technical Chair / MC	AECOM
Dr Nirmal Nair	Event Manager / Finance Chair	University of Auckland
Doug Ray	Mentor / Finance Convener	Vector
André Cuppen	CIGRE NZ B1 Convener	Unison Networks
Dr Daniel Martin	CIGRE NZ A2 Convener	ETEL
Reshma Jose	Conference NGN/WiE Chair	AECOM
Ebad Rehman	Digital Delivery - CIGRE NZ B1 / NGN	University of Auckland
Lakshita Lakshita	Venue Co-chair / NGN / WiE Co-chair	University of Auckland
Harsh Suresh	Digital Delivery Chair	University of Auckland
Abhinav Chopra	Digital Delivery Co-Chair	University of Auckland
Safa Al-Sachit	Registration / CIGRE NZ A2 Secretary	University of Auckland
Sainbold Saranchimeng	Venue Chair / Technical Co-chair	University of Auckland
Samad Shirzadi	Publicity	University of Auckland
Katherine Warrender	Graphics Design	University of Auckland
Rizki Rahayani	e-Handbook	University of Auckland
Xin Liu	e-Handbook	University of Auckland
Mohammed Aldarwesh	Volunteer	University of Auckland
Amanda Yang	Volunteer	University of Auckland
Bhabak Hadavandy	Volunteer	University of Auckland

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Welcome from CIGRE NZ Chair, Doug Ray

Kia ora koutou katoa

On behalf of the CIGRE NZ it is a privilege and great pleasure to extend a warm welcome to this CIGRE 2020 Conference themed as "Shaping the Power Sector beyond 2020".

We bring this inaugural dual format Conference and Symposium to you on the strength of previous CIGRE NZNC events of hosting the biennial International CIGRE Auckland 2017 Symposium, inaugural CIGRE ANZ 2018 Forum alongside AUPEC 2018, CIGRE 2018, 2019 Forums and EEA Panel sessions within EEA Conferences.

New Zealand's COVID-19 lockdown ironically gave us watershed opportunities: from our inaugural technical webinars of late 2019 we increased our presence online with multiple monthly technical sessions, a panel conversation on "power system resilience in a pandemic", forged inaugural *insulated cables* and *power transformer* Technical Panels aided by our CIGRE Australia counterparts, and from that collegiate collaboration created the first of several Australia – New Zealand on-line web tutorials. All while within our remote Work from Home online bubbles, logistically challenging yet immense fun.

In an unfortunate and difficult time of isolation within a pandemic we've continued to share CIGRE developments and their local application for the advancement of us all as electricity sector practitioners, professionals, and tertiary scholars.

Thank you for joining us and our industry experts. The event is open to all, not only those affiliated with CIGRE. This is a precursor to the upcoming e-CIGRE 7-day 2020 conference and CIGRE's 2021 Centennial Conference next year.

We are delighted to now bring together the comprehensive and varied strands of CIGRE's global and local membership research, experience and expertise, to meet the needs of you our CIGRE NZ 2020 conference attendees with presenters representing New Zealand and International institutions, companies and individuals, as a blended venue and online experience.

We're exploring what's current, where CIGRE and our electricity industry is headed, our part in this changing world of sustainability, asset resilience, and technology. We look forward to your active participation and feedback.

Our Next Generation Network and Women in Engineering were instrumental in all these things and in leading CIGRE NZ 2020 they are aptly heralding the conference theme of "advancing our energy industry" beyond 2020: they will be among the people who make this happen. I thank Leonie Bule and her competent organisers along with Dr Nirmal Nair, keynote speakers Rob Stephens, Peter Berry, and John MacDonald and all our presenters, internationally and locally who are sharing their time and expertise with us over these two days. Kia ora rawa atu, many thanks

Welcome from CIGRE NZ 2020 Conference Chair, Leonie Bule

Kia Ora everyone

On behalf of the inaugural CIGRE NZ 2020 Conference Organising Committee, it is my privilege and great pleasure to extend a warm Auckland welcome to all the online and venue delegates, invited keynotes/guests and our sponsors. Our attendees come from all around New Zealand and have different life-long experiences from the power sector as well as our online attendees locally and from abroad. A special welcome to all our invited plenaries.

This is the first CIGRE NZ Conference which is blended online and venue. It was a challenge for our Next Generation Network and Women in Engineer (NGN/WiE) to spearhead this first ever conference and deliver a quality experience for our online attendees as well as our venue-based attendees. I am very pleased with our performance and the exceptional effort which the entire organising team has displayed to bring this Conference together from the birth of this Conference idea just in April 2020. The idea came about due to the current global situation and New Zealand was also affected which resulted in the entire country 'Lockdown'. This conference was a way to bring together our online attendees abroad as well as within the country and our international presenters with immense experience in power systems to share.

Welcome to CIGRE NEW ZEALAND 2020
Leonie Bule
CIGRE NZ 2020 Conference Chair

CIGRE NZ Event Manager vote of thanks, Dr Nirmal Nair

First off, we would like to thank the CIGRE NZ Collective volunteers from AECOM, Vector, Unison, ETEL and University of Auckland to help incubate and develop a unique blended confluence meeting in the true CIGRE spirit. It definitely does set the tone of future interactions amongst power system professionals in the coming decades as we embark upon addressing the challenges of low-carbon transitions aided by deeper electrification. This 2-day conference is a template of how we would like to develop our annual meeting in the coming years. We would like to personally thank all the international global CIGRE experts who are participating in this NZ inaugural event online. In particular we give a shout out to our financial sponsors TransNet, Hitachi-ABB, HV DiagnostiX and HV Power for supporting CIGRE NZ in this new initiative. Finally, a big thanks to all our attendees both venue-based and online. We hope the program is enriching and serves as bellwether for advancing our industry.

Nirmal Nair
CIGRE New Zealand Treasurer and Event Manager
CIGRE B5 Convenor for TM53: New Network Requirements
CIGRE Distinguished Member 2018 (NZ)

CIGRE NZ 2020 Conference Committee

Leonie Bule
Conference Chair
University of Auckland

Dr. Nirmal Nair
CIGRE NZ Event Manager
Conference Finance Committee &
Mentor
University of Auckland

Doug Ray
CIGRE NZ Chair
Conference Finance Chair &
Mentor
Vector

Andre Cuppen
CIGRE NZ B1 Convener
Unison Networks

Dan Martin
CIGRE NZ A2 Chair
ETEL Transformers

Harsh S Suresh
Digital Delivery Chair
University of Auckland

Abhinav R Chopra
Digital Delivery Co-Chair
University of Auckland

Reshma Jose
NGN/WiE Chair
AECOM

Lakshita Lakshita
NGN/WiE Co-Chair
University of Auckland

Duncan Maina
Technical Chair
AECOM

Safa Al-Sachit
CIGRE NZ A2 Secretary
Registration Coordinator
University of Auckland

Ebad Rehman
CIGRE NZ B1 NGN
Digital Delivery
Co-coordinator
University of Auckland

Sainbold Saranchimeg
Conference Venue
Coordinator
Technical Co-chair
University of Auckland

Samad S D Kohneh
Publicity
University of Auckland

Rizki Dian Rahayani
E- Handbook Coordinator
University of Auckland

Xin Liu
Publicity
University of Auckland

Katharine Warrender
Graphic Design

Mohammed Al Darwish
Volunteer
University of Auckland

Amanda Yang
Volunteer
University of Auckland

Bhabak Hadavandy
Volunteer
University of Auckland

General Information

Local Information

Time Zone
UTC/GMT + 13

Telephone code
New Zealand +64
Auckland 09

Climate
In August the average temperature in Auckland is between 26°C (79°F) and 7.5°C (45.5°F). Some rain may occur

Emergency
Emergency
Dial 111
(Ambulance, Fire, Police)

Auckland City
Transportation Planner
https://at.govt.nz/

Useful Information

Registration desk
Registration and information support

Hilton Hotel
Wednesday
5 August
1:00 pm start

Newmarket Campus, UoA
Thursday
6 August
7:30 am start

Conference WiFi

Hilton Hotel
Domain: uoa guest
User ID: TBA at conference
Password: TBA at conference

Newmarket Campus, UoA
Domain: uoa guest
User ID: TBA at conference
Password: TBA at conference

Technical Presentation Guidelines

Oral presentations should typically be no more than 10 minutes and 3 minutes for questions at the end of the presentation when there are 6 presenters in a session. There will be computers, projectors and speakers in all of the conference rooms, but you may also connect your own laptop. Mac users will need to bring their own VGA adapters.

Chairs and presenters are asked to be in the room 10 minutes before the scheduled start time so they can get organised with presentation files, laptop hook-ups.

Instructions for Session Chair

The Chair of a session has the essential task of making sure that the session runs smoothly. This entails more than just keeping time, although this is an important aspect of being a Chair. The Chair is charged with making sure that the presenters feel welcome and that all technical issues are resolved.

Time

Since time is limited, it must be watched, and all scheduled presenters should have the same opportunity to present their material. Presentations exceeding the time limit not only interfere with other presentations in the same session, but may also cause delays in other sessions, or prevent the audience from moving on to following sessions in a timely manner. Each presenter has 10 minutes for their presentation and 3 minutes for questions.

- The Chair should not allow a speaker to receive questions after the full 13 minutes for the presentation are up. However, the Chair can suggest that any further questions be addressed after all speakers have concluded, in the interest of time
- In order for the Chair to communicate the time remaining in a non-obtrusive way, note cards marked “5 minutes,” “1 minute,” and “Please finish” will be provided for all session Chairs (available in the room of the session). Make sure the presenter acknowledges these warnings
- It may be a good idea to sit in the front row, facing the presenter during the presentation. Do not hesitate to ask someone to conclude if they ignore the final note card
- Please inform the presenters about these procedures before the session begins

Before the session:

- Make sure you know which session you are to chair; check for any scheduling clashes with any other commitments and notify the Program Committee if you cannot serve as session chair
- At the conference, arrive at the room of the session at least 10 minutes prior to the start of the session
- Check the technology and alert any of the technicians or student volunteers of any problems
- Greet the speakers and make sure that everyone scheduled to speak is present, and that all presentations have been loaded on to the computer (including your own if you are to present in the session)
- Explain your role to the presenters, so they know to look at you for cues

During the session:

- Introduce yourself to the audience and give a brief introduction of the speakers and the overall topic
- Explain the time allocation – each presenter has 10 minutes to present, and 3 minutes for questions. Explain also that after 13 minutes have passed the next presenter will be introduced
- Introduce the first presenter. Check the time when the presentation starts
- Place yourself so that the presenter can see you without any trouble
- Be ready to assist with any technical problems
- Make sure the presenter adheres to the time limit
- After the presentation, ask if there are any questions, and make sure the questions do not cause the presentation to be too long. If questions remain after the time is up, suggest that the discussion resume after the session. Make sure more than one person gets to ask questions if they want to

After the session:

- If there is time left, suggest a discussion of topics relevant to the presentations
- Thank the presenters and the audience for their attention and conclude the session

CIGRE NZ 2020 General Programme

Day 1 - 5th August

8:30-10.30	CIGRE NZ A2 Closed Panel Meeting	CIGRE NZ A2 Panel Meeting	CIGRE NZ B1 Closed Panel Meeting	CIGRE NZ B1 Panel Meeting
10:30-11:30		Site Visit at ETEL		Site Visit at TransNet
11:45-13:00	Conference Registration at Hilton Auckland			
13:00-14:00	Opening Remarks CIGRE President Address (Online)			
	EEA Executive Speech (Venue)			
14:00-15:00	Tutorial Session: Grid Modernization: Technological Advancements beyond Smart Grid (Online)			
15:00-15:15	Coffee Break			
15:15-15:45	Updates from CIGRE International SC C6 & SC B5(TBC)			
15:45-16:45	Executive Panel Session (Venue)			
16:45-18:00	Pre-Dinner Appetiser			
18:00-21:00	Conference Dinner			

Day 2 - 6th August

8:30-10:45	B1 Symposium	Welcome and PS3: LV Cables Presentation	A2 Symposium	Welcome and Introduction
				EV's Batteries and the Future Grid
		Break		EV's and distribution transformer loading
		PS1: Cable Ratings		Impact of high frequency harmonics generated by grid-connected inverters on transformers
		PS3: MV Cables		Network and distribution transformer condition monitoring
10:45-11:15		Morning Tea Break		Morning Tea Break
11:15-12:30		PS2: Cable Ratings		Digital distribution transformers - Redifining distribution transformer asset management
		Panel Discussion		Advanced analytics for power transformer asset management
12:30-13:30	Lunch & Forming other NZ Panels (CIGRE NZ B5 Protection and Automation)			
13:30-14:30	Technical Session Track 1		Technical Session Track 2	
14:30-14:45	Break out and join for the Panel Session			
14:45-15:45	NGN/WiE Session: How our organisation and industry is shaping the power sector beyond 2020?			
15:45-16:30	Best Presentation Award Gift Giving Ceremony & Closing Remarks			

CIGRE New Zealand
CIGRE NZ 2020 CONFERENCE
advancing our energy future

Venue Legend

- ETEL, Auckland
- TransNet, Auckland
- Hilton Auckland
- Newmarket Campus, University of Auckland

Locations and Floor Plans

DAY 1 : CIGRE NZ B1 PANEL MEETING

TransNet NZ

Address
78 Cryers Road, East Tamaki
Auckland 2013

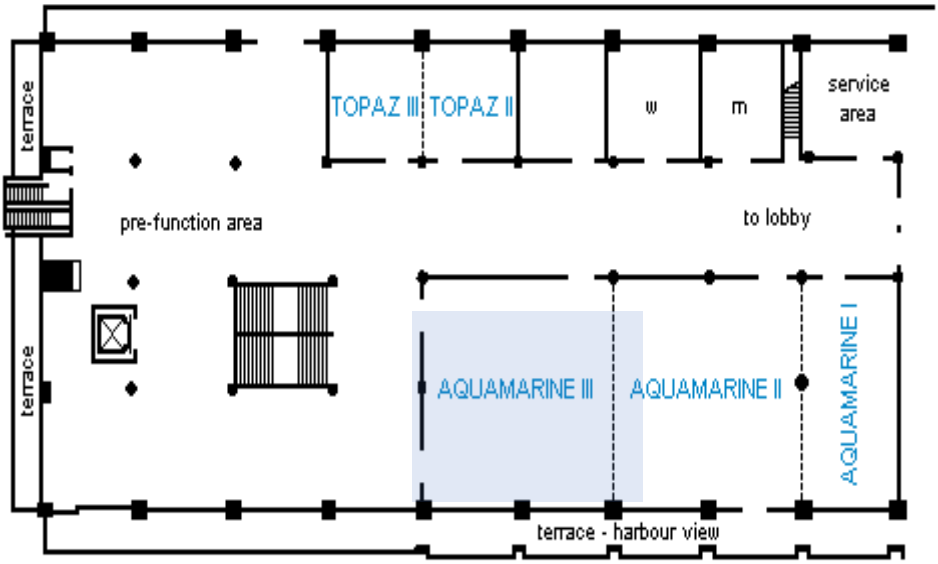
DAY 1 : CIGRE NZ A2 PANEL MEETING

ETEL

Address
550 Rosebank Road, Avondale
Auckland 1026

DAY 1 : CONFERENCE & TUTORIAL

Aqua Marine III Hilton Hotel



Address
Princes Wharf, 147 Quay Street
Auckland 1010

The Hilton Auckland is on the waterfront a 10-minute walk west of Britomart Train Station

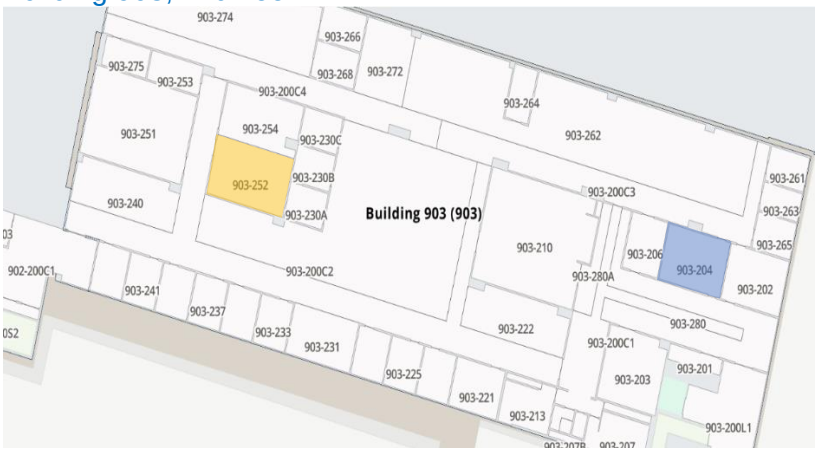
DAY 2 : CIGRE OPEN SYMPOSIUM & CONFERENCE

Newmarket Campus University Of Auckland

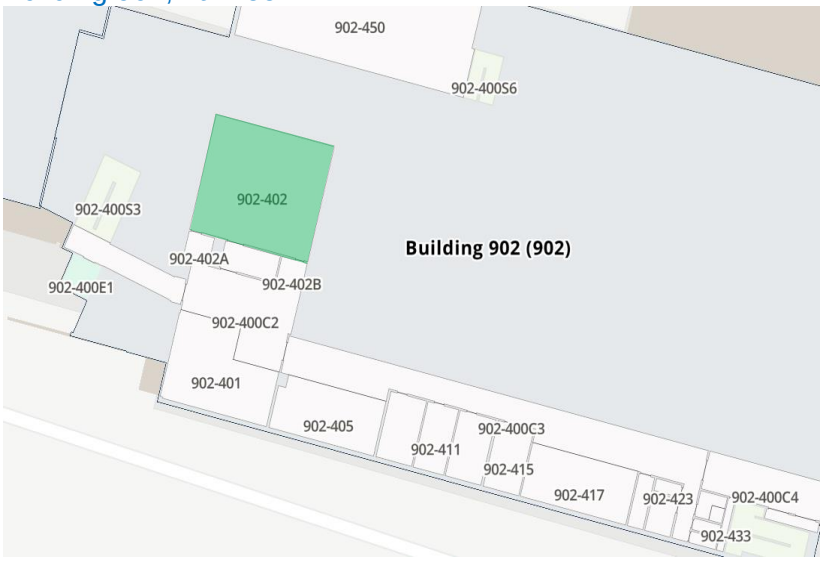
Address

Reception, Building 902
314-390 Khyber Pass Road (Gate3)
Newmarket, Auckland 1023

Building 903, 2nd floor



Building 902, 4th floor



A2 Open Symposium & Technical Session

B1 Open Symposium & Technical Session

NGN / WiE Session

Conference Schedule : Day 1

Wednesday, 5 August 2020 **HILTON AUCKLAND** Room: Aqua Marine II		
11:45 - 13:00	Registration	
13:00 – 13:20	CIGRE NZ Chair welcome	Doug Ray
	Conference Chair welcome	Leonie Bule
13:20 – 13:35	CIGRE President	Rob Stephen
13:35 – 13:45	NZ B1 Symposium Chair	André Cuppen
	NZ A2 Symposium Chair	Dr Daniel Martin
13:45 – 14:00	EEA Executive Speech	Peter Berry
	vote of thanks	Dr Nirmal Nair
14:00 – 15:00	Tutorial Session	John D McDonald
15:00 – 15:15	Coffee Break	
15:15 – 15:30	CIGRE International C6 SC Chair	Prof. Ing. Christine Schwaegerl
15:30 – 15:45	CIGRE International B5 SC Chair	Rannveig S J Loken w Lakshita Lakshita
15:45 - 15:50	Executive Panel Convener	Reshma Jose
15:50 - 16:10	Executive Panel Session	Richard Hobbs, Transpower
16:10 – 16:30		Andrew Booth, SolarCity
16:30 – 16:45	Panel Session Q&A	Richard Hobbs, Andrew Booth
16:45 – 16:50	vote of thanks	Harsh S Suresh, Sainbold Saranchimeg
16:50 - 17:00	Close of Day 1 Invitation to Day 2	Leonie Bule
18:00 -19.00	Pre-Dinner Appetisers	
19:00 - late	Conference Dinner - Hilton Auckland	

Conference Opening Welcome Session

Opening with a traditional Maori welcome, from the land of Tāmaki Makaurau, this session will include introductions from the key local organizing members along with information for the two days of the conference programme including industry executive sessions, industry forums and various technical presentation tracks, inclusive of a best paper award.

Duncan Maina, AECOM, is our Conference Master of Ceremonies

Doug Ray, CIGRE NZ Chair, will introduce CIGRE NZ

Leonie Bule, CIGRE NZ 2020 Conference Chair will address the conference welcoming all delegates and share a brief overview of the conference

André Cuppen, CIGRE NZ B1 Panel Convener will highlight the insulated power cables industry round table session and symposium

Dan Martin, CIGRE NZ A2 Panel Convenor will highlight the power transformer technical session and symposium

Duncan Maina will introduce our keynote guest speakers, Rob Stephen, CIGRE President, followed by Peter Berry, EEA Executive Director, both setting the scene of "advancing our energy future" beyond 2020 to close the opening session.

John D MacDonald, GE Grid Solutions, USA with a deep dive forward looking tutorial sets the technical tone for our CIGRE New Zealand 2020 Conference presentations

CIGRE NZ 2020 keynote : Dr Rob Stephen, CIGRE

Dr. Rob Stephen
CIGRE President

Rob Stephen was born in Johannesburg, South Africa. He graduated from the University of the Witwatersrand in 1979 with a BSc Electrical Engineering degree. He joined Eskom the electrical utility in 1980. He holds both MSc and MBA degrees as well as a PhD in overhead line design. He is currently a master specialist in the technology group in Eskom and is responsible for transmission and distribution technologies of all voltages covering both AC and DC. He was responsible for the smart grid strategy for Eskom.

He is past chairman of CIGRE Study Committee B2 on overhead lines and has held positions in CIGRE of Special Reporter and Working Group chair and has authored over 100 technical papers. He was elected International President of CIGRE in 2016. He is a Fellow of the South African Institute of Electrical Engineers and was awarded the Presidents Awards 2016

CIGRE NZ 2020 keynote : Peter Berry, EEA

Peter Berry
EEA Executive Director

Peter joined the industry in 1986 as the Executive Officer for the Electricity Supply Association of NZ and has been actively involved in the reform of the NZ electricity supply industry from its beginnings in 1987. In 1993, he was appointed Executive Director of the EEA and has refocused the organisation to meet the needs of its members in a changing environment.
Previously, Peter held positions within the University of Waikato, the NZ Army (Royal New Zealand Engineers), the Ministry of Civil Defence, and a leading NZ market research company. Educated at Waikato University and Victoria University, he has two Masters Degrees and a post-graduate diploma in business management. He is a Member of the Institute of Directors in NZ and has held a number of directorships. He is a founding member of the Electricity Supply Industry Training Organisation (ESITO) and the Electric Power Engineering Centre at the University of Canterbury.

CIGRE NZ 2020 Tutorial session : John D McDonald

John D. McDonald, P.E.

Smart Grid Business Development Leader
GE Grid Solutions

John D. McDonald, P.E., is Smart Grid Business Development Leader for GE's Grid Solutions business. John has 46 years of experience in the electric utility industry. John joined GE on December 3, 2007 as General Manager, Marketing for GE Energy's Transmission and Distribution business. In 2010 John accepted the new role of Director, Technical Strategy and Policy Development for GE Digital Energy. In January 2016 John assumed his present role with the integration of Alstom Grid and GE Digital Energy to form GE Grid Solutions.

John was elected to the Board of Governors of the IEEE-SA (Standards Association), focusing on long term IEEE Smart Grid standards strategy. John was the Chair of the

Smart Grid Interoperability Panel (SGIP) Governing Board for 2010-2015 (end of 1Q) coordinating Smart Grid standards development in the US and global harmonization of the standards. John is a past member of the NIST Smart Grid Advisory Committee and Chair of its Technical Subcommittee.

John is Past President of the IEEE Power & Energy Society (PES), Finance Committee Chair of the Smart Energy Consumer Collaborative (SECC) Board, the VP for Technical Activities for the US National Committee (USNC) of CIGRE, and the Past Chair of the IEEE PES Substations Committee. He was on the IEEE Board of Directors as the IEEE Division VII Director. John is a member of the Advisory Committee for the annual DistribuTECH Conference, on the Board of Directors and Executive Committee of the GridWise Alliance and Finance Chair, Past Vice Chair of the Texas A&M University Smart Grid Center Advisory Board, and past member of the Purdue University Strategic Research Advisory Council. John received the 2009 Outstanding Electrical and Computer Engineer Award from Purdue University.

John teaches a Smart Grid course at the Georgia Institute of Technology, a Smart Grid course for GE, and substation automation, distribution SCADA and communications courses for various IEEE PES local chapters as an IEEE PES Distinguished Lecturer (since 1999). John has published 150 papers and articles in the areas of SCADA, SCADA/EMS, SCADA/DMS and communications, and is a registered Professional Engineer (Electrical) in California, Pennsylvania and Georgia.

John received his B.S.E.E. and M.S.E.E. (Power Engineering) degrees from Purdue University, and an M.B.A. (Finance) degree from the University of California-Berkeley. John is a member of Eta Kappa Nu (Electrical Engineering Honorary) and Tau Beta Pi (Engineering Honorary), a Life Fellow of IEEE (member for 49 years), and was awarded the IEEE Millennium Medal in 2000, the IEEE PES Excellence in Power Distribution Engineering Award in 2002, the IEEE PES Substations Committee Distinguished Service Award in 2003, the IEEE PES Meritorious Service Award in 2015, the 2016 CIGRE Distinguished Member Award and the 2016 CIGRE USNC Attwood Associate Award.

John has co-authored five books and has one US Patent: Automating a Distribution Cooperative from A to Z: A Primer on Employing Technology (National Rural Electric Cooperative Association – 1999); Electric Power Substations Engineering (Third Edition) (CRC Press – 2012); Power System SCADA and Smart Grids (CRC Press – 2015); Big Data Application in Power Systems (Elsevier - 2017); Smart Grids: Advanced Technologies and Solutions (Second Edition) (CRC Press – 2018); and US Patent (9,853,448) on Systems and Methods for Coordinating Electrical Network Optimization (December 26, 2017)

Update from CIGRE International

Rannveig S.J. Loken
CIGRE SC B5 Chair

Rannveig received her Master of Science in Electric Power engineering from the Norwegian University of Science and Technology (NTNU) in 1992. She works in Statnett, the TSO of Norway, currently the project manager in Statnett R&D project related to Digital substation. In August 2012, she became the secretary of Cigre SC B5. She has been the Chair of SC B5 from September 2018. Her special field of interest is protection and control for the transmission system. In addition, working in Cigre Working groups is of great interest - she is currently a member of WG B5.69. Rannveig is in the Advisory board of PAC world, Committee member of DPSP, and Member of the International Advisory Committee APAP

Christine Schwaegerl
CIGRE SC C6 Chair

Christine Schwaegerl received her Diploma in Electrical Engineering at University of Erlangen, Germany, in 1996, and her PhD from Dresden Technical University, Germany, in 2000, where she has been working in the field of energy management and dispersed generation.
In 2000 she joined Siemens AG with development of substation automation. Since 2002 she works as consultant with Siemens Power Technologies International, responsible for the several national and international research and development activities on power transmission and distribution networks.
Christine is CIGRE Study Committee C6 since 2016.

Executive Panel session

Richard Hobbs
General Manager of Strategy
Transpower

Richard joined Transpower in July 2019 to head up the Strategy division.
At Transpower he is responsible for the development and implementation of the company's strategy, as well as its innovation program and its New Ventures business. Prior to this role, Richard was based in Sydney where he worked as Investment Manager for Spark Infrastructure.
Previously, he held roles at the Boston Consulting Group, Bloomberg New Energy Finance and the Australian Government's Clean Energy Markets. Richard holds a Masters in Business Administration with distinction from the University of Oxford's Saïd Business School.

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Andrew Bootth
Founder and Chief Executive Officer
SolarCity

Andrew Booth is the Executive Director of SolarCity, New Zealand's leading solar energy services company.

Andrew founded SolarCity in 2008, growing the business from start-up to one of the fastest-growing green companies in New Zealand. Andy's passion for the environment and commitment to helping New Zealand move to 100% renewable energy, provides the vision and values SolarCity is built on.

In 2017 Andrew was named Industry Person of the Year by Sustainable Energy Association New Zealand (SEANZ) for his commitment to innovation and sustainability.

Conference Schedule : Day 2

Thursday, 6 August 2020 Newmarket Campus University of Auckland Room : 902-402		
14:45 – 15:00	NGN/ WiE Session	Bernadette, Transpower
15:00 – 15:15		Daniel Robertson, PowerCo
15:15 – 15:30		Cigre ANC NGN/WiE
15:30 – 15:45		Cigre ANC NGN/WiE
15:45 – 16:00	Best Presentation Award	
16:00 – 16:30	Gift Giving Ceremony & Closing Remarks	

NGN & WIE session

Nikki Newham
Regional Services Manager
Transpower

Nikki represents the transmission sector in the Power Engineering Excellence Trust and has been a member of the EPECentre Advisory Board since January 2019. Nikki is chartered professional engineer with 16 years' experience, currently working for Transpower NZ Ltd. as their Regional Services Manager, based in Auckland. She is responsible for delivery of grid services for the Northern North Island region including maintenance planning and delivery, contract management, fault response and service provider relationships.

Nikki graduated with BE(Hons) in Electrical Engineering from the University of Canterbury and joined Transpower as a graduate before taking up a role in System Operations. She completed her PhD at the University of Canterbury in Electrical Engineering in 2008 and returned to Transpower, specialising in transmission investment analysis and power system planning.

Prior to her current role Nikki has worked as CEO's advisor, concentrating on strategic projects and programme coordination. She has also led the System Planning team in studying transmission system capability issues and long-term investment planning.
Prior to her current role Nikki has worked as CEO's advisor, concentrating on strategic projects and programme coordination. She has also led the System Planning team in studying transmission system capability issues and long-term investment planning.

Madeline Binet
Graduate Electrical Power Engineer
TasNetwork

I'm currently a second-year graduate electrical power engineer at TasNetworks and graduated in 2018 with a Bachelor of Electrical Engineering with Honours from the University of Tasmania. 2020 is my first year on the CIGRE NGN committee.

During my time in industry thus far, I have spent six months in the Asset Strategy team, where I worked on the design and initial scope for the company's IEC 61850 strategy. From there, I moved to the Network Performance team, where I have been mainly looking at the grid connection process of generators, and the technical performance of generators in the context of the wider Tasmanian power system.

At the moment, I am most interested in the technical performance of power systems and how this is effectively managed in order to integrate a wide range of different types of generator technologies

Bernadette Robertson
Protection & Automation Engineer
Transpower

"Malo le soifua and greetings, my name is Bernadette Robertson and I am a Protection & Automation Engineer at Transpower based in Wellington. I have been working for Transpower for four years and

started off as a Graduate Electrical Engineer for two years. I also have had experience in a secondment with Opera
tions planning, working for the System Operator at Transpower. I studied Engineering at the University of Auckland and am proud to be one of the few female Samoan Engineers in the industry, born and raised in South Auckland. My passion is working hard in my career to provide for my family and inspire those from my community to be successful in Engineering or in anything they aspire to."

Matthew Overton
Counties Power

Matt is currently a Product Manager at Counties Power. His experience has predominately been gained in technology roles in the Rail, Telecommunications, Education and Utilities sectors in Europe, Canada and New Zealand. The need to innovate and speed at which we are able realise our ideas makes this such an exciting time to be involved in the Energy industry.

Daniel Robertson
Technology and Innovation Engineer
Powerco

Daniel completed his graduate engineer programme with Vector where he gained experience in network planning, designing grid scale battery systems, analysing EV impacts on the LV network and power system modelling.
Daniel then became a New Technology Engineer working on smart EV charging and vehicle to home. Daniel now works for Powerco as a Technology and Innovation Engineer in the Network Transformation team working on projects covering distributed energy resources, electric vehicles, LV monitoring and LoRaWAN deployment.

Daniel also has the following qualifications:

- Bachelor of Engineering Technology (Electrical) & Top Graduating Student Award
- Post Graduate Certificate in Engineering (Power Systems)

Bingxiang Lin
Senior Transmission Lines Engineer
ElectraNet

Bing joined the transmission line industry in 2011, took learnings in the first 6 years working in ElectraNet, South Australia's transmission service provider; Bing was also seconded to Aurecon and ETSA/SA Power Networks (now named Enerven Energy Infrastructure) to gain design and construction experience. During this period, Bing has developed substantial knowledge on all civil and structural aspects of the transmission lines industry.

In January 2018, Bing joined Jacobs Australia power group and is currently the South Australia transmission lines team lead engineer. During this period, Bing has led a list of overhead line projects for clients within Australia, Malaysia, Philippine and UK, and built strong client relationships. Bing is also a Chartered Professional Engineer recognised by Engineers Australia.

Bing is an active member of CIGRE (International Council on Large Electric Systems) Australia NGN (Next Generation Networks), Bing was the panel liaison for APB2 (Australian panel on Overhead Lines) from 2015-2017 and is currently the CIGRE Australia NGN Co-chair since 2018.

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CIGRE NZ 2020 B1 Symposium

B1

Insulated cables

Highlights include

NZ B1 panel meeting

Experts discussion on contemporary issues and solutions

Technical brochures review

Presentations on CIGRE Paris 2021 SC preferential subjects

TransNet tour

Conference dinner

Meet industry and academic professionals, practitioners, colleagues in a hybrid mode conference (online and venue)

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

Day 1: TransNet Auckland
CIGRE B1 member session

5th August 8:30 – 17:00

Day 2: University of Auckland
Open Session

6th August 8:30 – 17:00

cigrenz2020@gmail.com

Click here to register

CIGRE NZ B1 Panel Meeting schedule : Day 1

Day 1 5th August 2020
TransNet Auckland

08:30 - 08:45	Coffee with B1 panel members
08:45 - 10:00	B1 panel welcome Safety briefing Introduction of new representatives Compliance regulations for CIGRE meetings Panel discussions
10:00 – 10:30	Coffee break
10:30 – 11:30	Facility tour
11:30 – 12:00	Lunch
12:00 – 13:00	Delegates proceed to Hilton hotel venue for 1pm conference start
18:00 – late	Conference dinner

CIGRE NZ B1 Symposium schedule : Day 2

Day 2 6th August 2020
University of Auckland, Newmarket campus

8:30 – 8:35		Welcome	Convener
8:35 – 9:35	PS3 (LV)	What's happening in my patch at Unison	André Cuppen
		Investigations into LV distribution pedestals	Alan Wood
		Testing of LV pillars	Goran Stojadinovic
		Roadmap to risk-based maintenenance of LV underground systems (cables and pillars)	André Cuppen
9:35 – 9:45		break	
9:45 – 10:15	PS1	Fundamentals of cable ratings	Russel Cathcart
		Using statistics to choose load profiles for cable ratings	David Paul
10:15 – 10:45	PS3 (MV)	Cable maintenance strategy: From reactive to proactive	Vikram Sen
		Seismic performance of underground cables	Ebad Rehman
10:45 – 11:15		Coffee break	
11:15 – 12:00	PS2	Pondering the application of Bayes theorem to cable diagnostics	Gary Catlin
		Transpower's investigation of 11-33kv cable termination failure	Nicholas Lee
		Leak location in an oil filled cable	Michael Blass
12:00 – 12:15		Panel discussion	

B1 Symposium session : Insulated Cables

What's happening in my patch at Unison

André Cuppen
Unison Network

André Cuppen electrical engineer with 14 years' experience in the energy industry. André Cuppen has a keen interest in extending the life of primary power assets, particularly cables, by specialist knowledge of insulation properties and diagnostics to reduce the life cycle cost of the electricity supply network. André Cuppen possesses thorough knowledge of cable asset management, with 10 years' experience in electricity distribution and transmission networks in Australia and New Zealand. André Cuppen possesses a commercial and innovative mindset gained through 5 years' asset management consultancy experience at DNV KEMA (now DNV GL Energy and previously KEMA), a world leader in power assets consultancy and testing. André Cuppen takes a whole network view with experience in modelling electricity networks and managing and testing various items of primary equipment, such as transformers, switchgear, surge arrestors, and in particular power cables and accessories.

08:35 – 08:50

Investigations into LV distribution pedestals

Nurzhan Nursultanov
University of Canterbury

Nurzhan Nursultanov is a Research Engineer at the Electrical Power Engineering Centre (EPECentre) at the University of Canterbury. His research interests include advanced heat transfer, conduction characteristics and modelling of non-uniform materials, and control and optimisation of heating processes.
He has a PhD degree from University of Canterbury in Chemical and Process Engineering. The subject matter of his thesis was computational modelling of Joule heating of *Pinus radiata* logs.

Testing of LV pillars

Goran Stojadinovic
TransNet

Goran Stojadinovic is currently the Product & Innovation Manager at TransNet, New Zealand, working on various innovations for the Company and

implementing new technologies. He has worked in the electricity industry for thirty-six years in various engineering roles. He spent the last eight years with Northpower, and previously fifteen years with Vector, New Zealand.
Goran brings a wealth of technical knowledge and practical experience across many aspects of HV and MV network design and maintenance.
With a passion for innovations and new technologies, Goran applies his engineering expertise and innovative technical solutions to solve industry problems. He has made dozens of innovations and network improvements and obtained two international patents. He has written and presented nine Papers - two at EEA and seven at International Conferences.
Goran holds a Master of Commercialisation and Entrepreneurship from the University of Auckland, New Zealand, and a Master of Electrical Engineering from the University of Belgrade, Serbia.

10:15-10:45

Roadmap to risk-based maintenance of LV underground systems (cables and pillars)

André Cuppen
Unison Network

André Cuppen electrical engineer with 14 years' experience in the energy industry. André Cuppen has a keen interest in extending the life of primary power assets, particularly cables, by specialist knowledge of insulation properties and diagnostics to reduce the life cycle cost of the electricity supply network. André Cuppen possesses thorough knowledge of cable asset management, with 10 years' experience in electricity distribution and transmission networks in Australia and New Zealand. André Cuppen possesses a commercial and innovative mindset gained through 5 years' asset management consultancy experience at DNV KEMA (now DNV GL Energy and previously KEMA), a world leader in power assets consultancy and testing. André Cuppen takes a whole network view with experience in modelling electricity networks and managing and testing various items of primary equipment, such as transformers, switchgear, surge arrestors, and in particular power cables and accessories.

09:20 – 09:35

Fundamentals of cable ratings

Russel Cathcart
Tesla Consultants

I have worked extensively around the power generation, transmission and distribution fields and an engineering consultant. I am a primary design engineer with good project management experience. I have worked on a very broad range of projects and voltages including: HV grid connections and substations, MV plant reticulation and LV plant auxiliaries. I joined Tesla Consultants in 2017 after working for 11.5 years for an Internation Design Consultant

09:45-10.00

Using statistics to choose load profiles for cable ratings

David Paul
Vector Limited

David Completed my Bachelor of Engineering (Hons) specialising in Electrical and Electronic Engineering from in University of Auckland in 2010. He worked at Vector Ltd in various roles for the past 10years.

- Part of the CIGRE AUB1 panel for the past three years
- Part of the NZB1 panel

10.00-10.15

Cable maintenance strategy: From reactive to proactive

Vikram Sen
WEL Networks

Working as a Maintenance Engineer (Strategy) with WEL Networks , Hamilton.
Actively working on the maintenance strategy development of network asset classes, by performing FMECA modelling.
Recently introduce Cable System maintenance strategy (Diagnostic based) for WEL Networks cables to mitigate the long term asset performance risk.

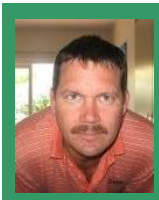
09:45-10.00

Seismic performance of underground cables

Ebad Rehman
University of Auckland

Ebad Ur Rehman is currently a PhD researcher at the University of Auckland. His research is focused on Asset Management of underground cables factoring resilience. Ebad worked as an electrical sales engineer in Pakistan before gaining his Masters in Electrical Engineering with Power Electronics from the University of Bradford, UK. He is also conducting research on 'Resilience to Nature's Challenges' project for fulfilment of his PhD at the University of Auckland.

10.30-10.45



Fundamentals of cable ratings

Gary Catlin
HV Diagnostix

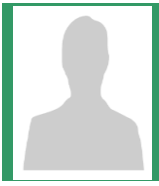
11:15-11.30

Transpower's investigation of 11-33kv cable termination failure

Nicholas Lee
Transpower

Nicholas Lee received his B.E (Hons) from University of Auckland in 2009 and Master degree in Engineering Asset Management from University of Wollongong in 2016. He has worked in the Transmission and Distribution electricity industry in both New Zealand and Australia for nearly 12 years. He has worked in the asset management, failure investigation and the operational engineering of underground power cables, overhead lines, poles and substation assets.

11.30-11.45



Leak location in an oil filled cable

Michael Glass

11:45-12.00

Technical Session 1

Kiran Nanu

Technical Authority
Contact Energy

Kiran Nanu is an electrical engineer at Contact Energy Ltd and since 2018 has held the role of Technical Authority - Electrical. His responsibilities include moderating asset management requirements across Contract's electricity 30 years generations fleet. Kiran has experience working on thermal and gas turbine power plant.

Dr. B Don Russell

Professor
Texas A&M University

Dr. B Don Russell is a Regents Professor and Distinguished Professor at Texas A&M University where he is director of the Power System Automation Laboratory. His research work spans 40 years, focused on using advanced digital signal processing and waveform analytics in real-time diagnostic and protection applications to electric distribution systems. Dr. Russell is a member of the United States National Academy of Engineering and a fellow of six technical societies. He is past president of the IEEE Power & Energy Society and currently serves as vice president for administration and secretary of the US national committee of CIGRE.

Carl L. Bener

Research Professor
Texas A&M University

Carl Benner holds B.S. and M.S. degrees in Electrical Engineering from Texas A&M University in 1986 and 1988. He serves as Research Professor in the Department of Electrical and Computer Engineering at Texas A&M University. His work centers on the application of advanced technologies to the solution of challenging power system problems, with an emphasis on waveform analytics. Mr. Benner is a registered Professional Engineer in the state of Texas. He is a Fellow of IEEE and a member of the IEEE Power and Energy Society, the IEEE Industry Applications Society, and CIGRE.

Dr. Jeffrey A. Wischkaemper

Asst. Research Professor
Texas A&M University

Jeff Wischkaemper received his B.S. and Ph.D. degrees from Texas A&M University in Electrical Engineering in 2003 and 2011 respectively. Dr. Wischkaemper is a Research Assistant Professor in the Power System Automation Laboratory and has worked on a variety of research projects including investigating arcing on low-voltage networks, characterizing transient response behavior for alternative distribution sensor technologies, and electrically characterizing vegetation contacts with conductors.

Ebad Rehman

Researcher
University of Auckland

Ebad Ur Rehman is currently a PhD researcher at the University of Auckland. His research is focused on Asset Management of underground cables factoring resilience. Ebad worked as an electrical sales engineer in Pakistan before gaining his Masters in Electrical Engineering with Power Electronics from the University of Bradford, UK. He is also conducting research on 'Resilience to Nature's Challenges' project for fulfilment of his PhD at the University of Auckland.

David James

Management Advisor
Waugh Infrastructure

David has 25 years of experience in water services management and project delivery. He has comprehensive skills and in-depth knowledge of the local government water services business.

His expertise includes

- Strategic Planning and Asset Management;
- Financial and budget management;
- Programme planning and project delivery;
- Resource Consent management;
- Stakeholder engagement;
- Asset data systems and processes.

David is passionate about promoting and establishing robust asset management systems process and practices that help ensure public assets are well managed to ensure safe, effective and sustainable service delivery.

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CIGRE NZ 2020 A2 Symposium

A2

Power Transformers and Reactors

Highlights include

NZ A2 panel meeting

Experts discussion on contemporary issues and solutions

Technical brochures review

Presentations on CIGRE Paris 2021 SC preferential subjects

ETEL Transformers tour

Conference dinner

Meet industry and academic professionals, practitioners, colleagues in a hybrid mode conference (online and venue)

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

Day 1: ETEL Transformers CIGRE A2 member session

5th August 8:30 – 17:00

Day 2: University of Auckland Open Session

6th August 8:30 – 17:00

cigrenz2020@gmail.com

Click here to register

CPD / PDH certificates issued

CIGRE NZ A2 Panel Meeting schedule : Day 1

Day 1 5th August 2020
ETEL Transformers, Auckland

08:30 - 08:45	Welcome and opening session
08:45 - 10:00	A2 panel welcome Safety briefing Compliance regulations for CIGRE meetings Panel discussions start
10:00 – 10:30	Coffee break
10:30 – 11:30	Facility tour
11:30 – 12:00	Lunch
12:00 – 13:00	Delegates progress to Hilton hotel venue for 1pm conference start
18:00 – late	Conference dinner

CIGRE NZ A2 Symposium schedule : Day 2

Day 2 6th August 2020
University of Auckland, Newmarket campus

8:30 – 8:45		Opening of session and introduction	Dan Martin & Safa Al-Sachit
8:45 – 9:15	1	EVs, batteries and the future grid	Russell Watson, Northpower
9:15 – 9:45	2	Electric vehicles and distribution transformer loading	Michael Bunn, AUT
9:45 – 10:15	3	Network and distribution transformer condition monitoring	Paul Guy, Smart Grid Solutions
10:15 – 10:45	4	Impact of high frequency harmonics generated by grid-connected inverters on transformers	Dr Dan Martin, ETEL & Prof. Firuz Zare, University of Queensland
10:45 – 11:15		Tea & coffee break	
11:15 – 11:45	5	Digital distribution transformers – Redefining distribution transformer asset management	Dr Bhaba Das, Hitachi ABB Power Grids
11:45 – 12:15	6	Advanced analytics for power transformer asset management	Dr Bhaba Das, Hitachi ABB Power Grids
12:15		Finish for lunch	

A2 Symposium session : Power Transformers & Reactors

EVs, Batteries and the Future Grid

Russell Watson
Northpower

Russell Watson is currently the Principal Engineer at Northpower. Russell has a Master's degree in Electrical & Electronic Engineering from the University of Canterbury. Russell has had 37 years of experience with Northpower and has had a number of engineering and engineering management roles covering most aspects of electrical distribution. A key aspect of his current role involves the potential impact and application of new and emerging technologies on the electrical distribution network, including electric vehicles, photo voltaic and battery storage.

08:45 – 09:15

EV and Distribution Transformer Loading

Michael Bunn
Auckland University of Technology

Michael Bunn received the B.E. (first class Hons.) degree in electrical and electronic engineering in 2017 from the Auckland University of Technology, Auckland, New Zealand, where he is currently working towards his PhD. He was a finalist in the 2016 Project of The Year Category for all fourth-year electrical and electronic engineering students at AUT. His background includes serving as an Avionics Technician in the Royal New Zealand Airforce from 1997 to 2007 and various roles within the ICT industry until deciding to return to study full-time to complete his degree in 2015. He is presently researching in collaboration with ETEL Limited and supported by the New Zealand Government agency, Callaghan Innovation.

09:15-09:45

Network and Distribution Transformer Condition Monitoring

Paul Guy
Smart Grid Solution

Paul Guy is a senior manager who has extensive global experience from within the wider electrical industry. A keen observer and follower of smart grid initiatives - such as data acquisition, communications, analytics, visualisation, digital twins, distributed generation, energy storage, electric vehicles and waste-to-energy. He has, in the past, managed Power Systems in New Zealand for ABB, as well as service and Oil &Gas for Alstom Grid - out of Brisbane and Singapore. Most recently, he managed the Southeast Office in Singapore for Wilson Transformer Company, including setting up TechCon SEA Conference, and works with Dynamic Ratings and TJH2b. Since Feb 2020, he established a business called Smart Grid Solutions, based in Brisbane, Australia. A regular contributing member to CIGRE, including A2.43 Technical Brochure on Transformer Bushing Reliability, and Team Leader for almost complete A2.55 Technical Brochure on Transformer and Shunt Reactor Life Extension

10:15-10:4

Impact Of High Frequency Harmonics Generated By Grid-Connected Inverters On Transformers

Dr Dan Martin
ETEL

Dan Martin is an engineer and consultant at ETEL transformers in Auckland, where he is responsible for managing and completing innovation projects related to transformers.

He has twenty years of engineering experience, mostly on transformers which includes a PhD from the University of Manchester on vegetable oils as transformer dielectrics.

Before joining ETEL he was a lecturer and researcher at the University of Queensland, where he conducted R&D with the utilities to improve transformer lifecycle management. Prior to UQ he was the director of the Centre for Power Transformers at Monash University.

He has published over 100 technical articles, and his work on determining the residual life of transformer insulation has been referenced in the new IEC 60076/7 transformer loading guide. Two years ago, he published the Australian power transformer reliability survey, which is being used by the utilities to justify

replacement investment to the regulator. His current interests are on adapting grids for future customer energy requirements. He is a Senior Member of the IEEE, a member of Engineering New Zealand, and is currently the convener of the new CIGRE NZ.A2 power transformers and reactors group.

Prof Firuz Zare
University of Queensland

Prof. Firuz Zare (S'98-M'01-SM'06) received his PhD in Power Electronics from Queensland University of Technology in Australia in 2002 and Technology Leadership certificate from Harvard Business School in 2015. He has spent several years in industry as a team leader and a researcher working on power electronics and power quality projects. Prof Zare has received several awards such as an Australian Future Fellowship, Symposium Fellowship by the Australian Academy of Technological Science, early career academic excellence research award and John Madsen Medal from Engineers Australia. He has published over 270 journal and conference papers and 40 technical reports in the area of Power Electronics and Harmonics. He is a discipline leader at the University of Queensland in Australia and a Task Force Leader of Active Infeed Converters project - to develop the first international standard IEC61000-3-16 - at the IEC standardization TC77A committee. Prof Zare is a senior member of IEEE, associate editor of IEEE Access journal, associate editor of IEEE Journal of Emerging and Selected Topics in Power Electronics and Associate Editor of IET Generation Distribution and Transmission. He has been invited as a Guest Editor of IEEE journals. His main research areas are a) Power Electronics Topology, Control and Applications, b) Power Quality and Standardization and c) Pulsed Power Applications.

09:45-10:15

Digital Distribution Transformers - Redifining Distribution Transformer Asset Management

Dr Bhaba Das
Hitachi ABB Power Grids

Dr. Bhaba P. Das is the Lead Digital Business Developer for Transformers Business Line, HUB (Asia-Pacific, Middle East and Africa), Hitachi-ABB Power Grids, based in Singapore. He is part of the Application Engineering Team and spearheads the digital transformation efforts of transformers. Prior to Hitachi-ABB Power Grids, he worked as the R&D engineer for a major transformer manufacturer in New

Zealand. He was awarded the Young Engineer of the Year 2017 by the Electricity Engineers Association of New Zealand for his work on the design and development of smart distribution transformers, fibre optics-based sensors for transformers, and diagnostic software for fleet condition monitoring. He is a Senior Member of IEEE and Young Professional of IEC. He completed his PhD in Electrical Engineering from the University of Canterbury, New Zealand.

11.15-11.45

Advanced Analytics for Power Transformer Asset Management

Dr Bhaba Das
Hitachi ABB Power Grids

Dr. Bhaba P. Das is the Lead Digital Business Developer for Transformers Business Line, HUB (Asia-Pacific, Middle East and Africa), Hitachi-ABB Power Grids, based in Singapore. He is part of the Application Engineering Team and spearheads the digital transformation efforts of transformers. Prior to Hitachi-ABB Power Grids, he worked as the R&D engineer for a major transformer manufacturer in New Zealand. He was awarded the Young Engineer of the Year 2017 by the Electricity Engineers Association of New Zealand for his work on the design and development of smart distribution transformers, fibre optics-based sensors for transformers, and diagnostic software for fleet condition monitoring. He is a Senior Member of IEEE and Young Professional of IEC. He completed his PhD in Electrical Engineering from the University of Canterbury, New Zealand.
11.45-12.15

Technical Session 2

Michael Whaley

Chief Engineer
Powerco

Michael is the Chief Engineer within Powerco's electricity division, where he leads the formation of the electricity network policies and standards, as well as arbitrating over troublesome technical problems. Michael has been at Powerco for around 14 years in various engineering management roles and has 30 years' experience in the electricity industry.

Michael is passionate about being an engineer, specialising in the distribution sector where there seems to be no end of new situations and things to solve. He takes a special interest in how infrastructure organisations organise themselves to fulfil their stated objectives.

For the past five or six years, he has chaired the EEA's Asset Management Group, a committee that exists to provide leadership in Asset Management within the electricity supply industry.

Tony Auditore

Principal Engineer Director
Voltoni Limited

Tony obtained a Ph.D. at the University of Stellenbosch (South Africa) & a Laureates (Doctorate) in Technology at the Vaal Triangle Technical University (South Africa). Tony has more than 40 years of experience in high voltage design, maintenance, & operating. He is currently active in Cigre WG B1 C4.69 (Insulation Coordination of Cables), & JWG D1-B1.75 (Corrosion of Cables). He has been employed within diverse organisations and across a diverse range of projects. In addition, he has extensive experience as a specialist in the areas of electromagnetic field compatibility (EMC) and extra-high voltage (EHV) cables.
New Zealand cable projects include the Taranaki 220 kV cable replacement & Manapouri 220 kV cable bonding design. Australian cable projects include Larapinta 110 kV. Numerous LFI & EPR risk assessment & mitigation projects on both water & gas pipelines have been completed in New Zealand & Australia. Tony was the design engineer for the earthing of the two largest wind farms in the Southern Hemisphere – MacArthurs & Coopers Gap (Australia). He is an RPEng, RPEQ & CEng.

CIGRE NZ Previous Events


CIGRE ANZ 2018
Presented by Platinum Sponsor of AUPEC 2018
cigre New Zealand
www.cigre.org.nz
29 November 2018
07:00 - 17:30
Science Centre, 23 Symonds St
University of Auckland
Transitioning New Zealand to a Low-Carbon Energy Future
Executive Plenary on 'Risk, Resilience and Sustainability'
Technology Leaders on 'Low-Carbon Technologies & Workforce'
Technical Presentations from CIGRE NZ Industry Practitioners
CIGRE Industry Forum with Innovation Leaders of NZ
AUPEC 2018
Auckland, New Zealand
Meet industry and academia professionals, practitioners, colleagues
Hear from and work with:
Industry Executives
Industry Operatives


cigre New Zealand
www.cigre.org.nz
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
CIGRE ANZ 2018 exemplar
chairman@cigre.org.nz
Click here to register
Attendance is free
CPD Certificates issued
Sponsorship Opportunity Available

Things to do in Auckland

Shopping

Auckland offers a diverse, world-class shopping experience. Queen Street tops the list of shopaholics. Every shop, café and restaurant is different, but there's a strong sense of community in Karangahape Road (K' Road). Ponsonby Road Auckland's retail heaven have plenty of stores offering exclusive New Zealand-made gifts, jewellery and crafts – always a great buy. Takapuna a north Auckland suburb, only 15 minutes from the city, has an enviable beach lifestyle and shopping to match. It's a great place to shop for Kiwi designs and New Zealand-made handicrafts. Sylvia Park is arguably the biggest and best Auckland has to offer in the way of all-in-one malls. Ticking all the boxes, Sylvia Park has a cinema, a variety of dining, cafe and fool hall options available, as well as a wide range of stores suitable for most budgets and ages, some of which are exclusive outlets found only in Sylvia Park. Dressmart (Arthur Street, Onehunga), Smith and Caughey's (Queen St, CBD), Lynn Mall and Albany Westfield are some of the other popular shopping centres.

Dining

Whether it is fine dining or casual, Auckland has a plethora of options that can be found all over the city. Choose from a great selection of cafés and restaurants at popular waterside precincts Wynyard Quarter and Viaduct Harbour. Discover eclectic eateries and bars at the stylish Britomart precinct, enjoy a casual bite and award-winning cuisine on Federal Street or visit City Works Depot for food and craft beers with a kiwi twist. The inner suburbs also have much to offer. Don't miss the hip Ponsonby Central area, with its laneway of stylish bars and street vendor-style eateries and an organic produce market. If you're keen to pick up fresh gourmet treats, head to Parnell's French Style Farmers' Markets every Saturday and Sunday morning. For the serious foodies, there's no better way to uncover the city's superb cuisine than with a behind-the-scenes guided food tour – you'll visit the best foodie spots, meet local producers and enjoy tastings as you go. For more information visit http://www.newzealand.com/int/plan/business/the-auckland-tastebud-tour/

Adventure in the City

Leave Auckland with no regrets and having pushed all your limits. Try a Sky Jump from the iconic Sky Tower, or walk it's edge - 192 metres above ground level! And if that's not

enough, head to the Auckland Harbour Bridge for New Zealand's only Bridge Climb or bungy into the Waitemata Harbour. Epic!

Rangitoto Island

It is a dormant volcanic cone that sits just off the coast from the central city. Take a short ferry from the city to walk or do a guided tour to the summit for spectacular views, or glide across the harbour via paddle power on a sunset kayak tour.

Waiheke Island

Waiheke Island is the ultimate island retreat, just a 35-minute ferry ride from downtown Auckland. Known as the 'island of wine' for its many wineries and vineyards, a wine tasting tour is a must. Enjoy a day trip and explore the beaches, restaurants and other activities on the island.

Great Barrier Island

A boating paradise, Great Barrier Island shelters Auckland's harbour from the relentless swells of the Pacific Ocean. Covered in lush native forest, hike the Aotea Track, visit the rare wildlife of Glenfern Sanctuary or relax on Medlands Beach. Either Go Great Barrier Island Tours or Sundancer Tours offer great ways to see the island.

Matakana

Matakana's beautiful beaches, boutique vineyards, local arts scene and picturesque village with a superb farmers' market make this region a divine destination. For a day of exploring and wine tasting, indulge in a deluxe vineyard tour with Great Tastes Matakana.

West Coast Beaches & Waterfalls

Less than an hour from Auckland City lie the wild west coast beaches, where the Tasman Sea meets long, vast stretches of black sand and rainforests featuring waterfalls just beyond. Visit Muriwai Beach to see the impressive clifftops and gannet colonies or head to Piha, a popular surf beach, and Karekare, made famous as the backdrop for the film *The Piano*.


Kia Ora
Nga Mihi, Thank you