

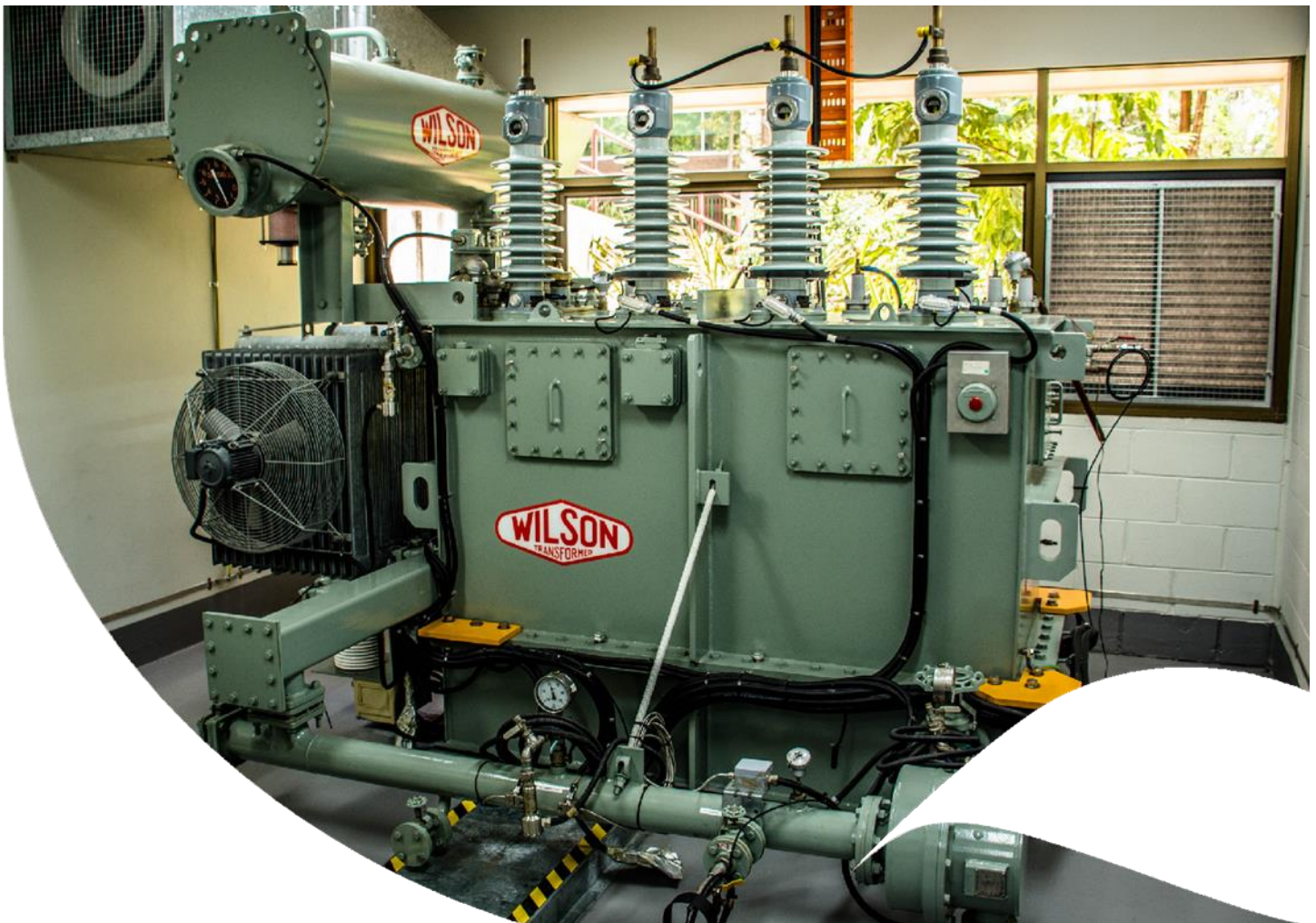
# Bushings for Power Transformers- Design, Maintenance and Testing

CPD Course, 28-29 November 2024

The University of Queensland's Australasian Transformer Innovation Centre (TIC) is pleased to announce a two-day face-to-face CPD course in Brisbane and focusing on Bushings for Power Transformer- Design, Maintenance and Testing.

This bushing course will deliver the theoretical

background information necessary along with "hands on" practical experience to understand the issues of bushings for power transformers faced by modern power systems and their operators. This course is aimed at procurement, asset strategies, operations and maintenance managers and engineers in generation, transmission and distribution, renewables manufacturing mining industrial and infrastructure organizations.



This two-day face-to-face course will bring industry professionals together for dialogue and sharing of knowledge to better understand the operation of bushings for power transformers, as well as the design, maintenance and testing thereof.

## Key outcomes

- Understand the basic principles of design of HV capacitively graded Bushings.
- Learn the differences in technology for bushing construction and how these differences influence your maintenance and asset strategies.
- Understand the mechanisms of HV bushing failure.
- Learn how to detect bushing failures using offline techniques such as advantages of dissipation factor and capacitance over different frequencies.
- Learn practical methods to improve your bushing testing methodology.
- Understand online bushing monitoring techniques, what they measure, and diagnostic tools in common use.
- Learn what other electrical utilities are doing in bushing life cycle management, testing, replacement practices and issues, determining end of life and justification to mitigate risks and case studies.

## Presenters

The presenters in this course will include industry experts from:

- Manufacturers of bushings for power transformers, including Hitachi Energy.
- Transmission and distribution companies including Powerlink Queensland, Energy Queensland and AusNet.
- Researchers from University of Queensland.

## Who should attend?

- Procurement, Asset Strategists, maintenance managers and engineers.
- Generation, transmission, and distribution personnel.
- Consultants, designers and operations staff in the renewables, manufacturing, mining, industrial and infrastructure groups.

- Yong engineers just starting out in their career in Power.

## Practical component

The course will have a half-day practical component at the end of Day 2, giving attendees the opportunity to witness firsthand a few concepts discussed during the course.

## PRICE

### TIC Members

#### TIC Industry Platinum Members

- One Complimentary attendee (Conditions Apply)
- Platinum Members additional attendees: \$1300 pp.

### Non-TIC Members

- \$2000 pp.

## PROGRAM

Day 1 – Thursday 28 November 2024	
8.30-9.00	Arrival/Registration
9.00-9.15	Welcome: Dr Shawn Nielsen TIC Manager
9.15-11.00	HV capacitively graded bushing fundamentals: Lars Jonsson/ Dr Henrik Löfås, Hitachi Energy
11.00 -11.30	Morning tea
11.00-13.00	Operational experience: Lars Jonsson/ Dr Henrik Löfås, Hitachi Energy
13.00-14.00	Lunch
14.00-15:30	Failure mechanisms: Lars Jonsson/ Dr Henrik Löfås, Hitachi Energy
15.30-16.00	Afternoon tea
16.00-17:30	Available techniques for monitoring and condition assessment: Lars Jonsson/ Dr Henrik Löfås, Hitachi Energy
17.30-17.40	Days close: Dr Shawn Nielsen TIC Manager
Day 2 – Friday 29 November 2024	
9.00-9.15	Arrival/Registration
9.15-10.45	Industry Experience: Tim Macklin, Powerlink Queensland.
10.45 -11.15	Morning tea
11.15-12.45	Industry Experience: Adam Suleiman, AusNet.
12.45-13.45	Lunch
13.45-15:15	Industry Experience: To be announced
15.15-17.00	Practical demonstrations: UQ HV Lab.
17.00-17.10	Course close and certificates of attendance: Dr Shawn Nielsen TIC Manager

## VENUE

Andrew N. Liveris Building (Building Number 46)  
Room 242 Collaborative Room  
The University of Queensland  
St Lucia Campus.

A link to venue on Google Maps is:

<http://maps.app.goo.gl/3wb5SRXLQKNwB8ar6>

## ENQUIRIES

For enquires please email us at [transformer@itee.uq.edu.au](mailto:transformer@itee.uq.edu.au) or contact Dr Shawn Nielsen, TIC Manager at [shawn.nielsen@uq.edu.au](mailto:shawn.nielsen@uq.edu.au)

## REGISTRATION

[http://payments.uq.edu.au/UQPCET104/booking?UDS\\_ACTION=S1I&UDS\\_ACTION\\_DATA=Fy1VBDQ0XXZOKf3REJDBC1RQgxPUjEblkNHKnYzV0QNMSStX](http://payments.uq.edu.au/UQPCET104/booking?UDS_ACTION=S1I&UDS_ACTION_DATA=Fy1VBDQ0XXZOKf3REJDBC1RQgxPUjEblkNHKnYzV0QNMSStX)

leave the "VOUCHER CODE" blank and click "Create Booking". Registrations close 27/11/2024 (Unless all places filled earlier).

Please note that the Program is subject to change, for further updates and venue information please follow the "Upcoming sessions" link on the TIC CPD website at:

<http://eecs.uq.edu.au/austalasian-transformruer-innovation-centre/professional-development>