

STEAM TURBINE AND GENERATOR USER GROUP 2015

Institution of
**MECHANICAL
ENGINEERS**

25-26 March 2015
Warwick Conferences, The University of Warwick, Coventry
www.imeche.org/events/C6170

Power Industries Division
Conference

**BOOK EARLY
AND
SAVE 15%**
OFFER ENDS
23 JANUARY 2015
TERMS AND
CONDITIONS APPLY

SPONSOR

SIEMENS

STEAM TURBINE AND GENERATOR USER GROUP 2015

25-26 March 2015

Warwick Conferences, The University of Warwick, Coventry



THE TWO-DAY STEAM TURBINE AND GENERATOR USER GROUP 2015 IS THE NEXT IN THIS POPULAR SERIES OF THE INSTITUTION'S POWER GENERATION USER GROUPS.

This event will enable those involved in the management, operation and maintenance of steam turbines and generators to discuss common problems and issues, exchange ideas, identify potential solutions and learn about new developments.

The Institution's User Groups encourage open debate and problem solving, using informal presentations and discussion forums to promote networking and sharing experiences among the steam turbine generator community.

BENEFITS OF ATTENDANCE:

- **Learn** from real-life case studies illustrating project experience and best practice
- **Improve** the performance of your plant
- **Discover** updates on the latest industry developments and technologies
- **Hear** advice from leading specialists on a wide number of issues
- **Understand** how to manage and minimise plant risks

KEY TOPICS COVERED INCLUDE:

- Plant operation and ownership
- Turbine and generator failures, case studies and repair methods
- Steam turbine technologies
- Generator technologies
- Turbine and generator auxiliary systems and condensers
- Turbine overhauls and life extension
- Generator overhauls and life extension
- Plant condition monitoring and control
- Industrial/CHP/renewables turbine generators
- Steam turbine and generator projects
- Steam turbine last stage blading

SPONSORSHIP AND EXHIBITION OPPORTUNITIES

GET INVOLVED

Attending this event as either an exhibitor or sponsor will give you the opportunity to display your solutions, services and products to the right people at the right time.

This is an excellent way to enhance your company profile and communicate effectively to your target audience.

BENEFITS OF SPONSORING

- **Showcase** new products
- **Raise** awareness of your operation
- **Improve** perception of your brand
- **Influence** other organisations' spending plans

For more information please call +44 (0)20 7973 1309 or email sponsorship@imeche.org

PROGRAMME

DAY 1

WEDNESDAY 25 MARCH 2015

08:30 REGISTRATION AND REFRESHMENTS

09:00 CHAIR'S WELCOME AND INTRODUCTION

SESSION 1 - PLANT OPERATION AND OWNERSHIP

09:10 **KEYNOTE: HIGH LEVEL POWER INDUSTRY INSURANCE**
Don Schubert, Senior Vice President, Marsh Energy Practice

09:30 **POWER PLANT PERFORMANCE ASSESSMENT PROCESS**
Tim Eastwood, Business Development Director, Alstom

09:50 **BLACKBURN MEADOWS RENEWABLE ENERGY PLANT - CHALLENGES DURING CONSTRUCTION AND COMMISSIONING OF THE STEAM TURBINE AND GENERATOR SYSTEMS**
Paul Housley, Steam Turbine Engineer, ETG, EON

10:10 Q&A SESSION

10:30 **NETWORKING REFRESHMENT BREAK**

SESSION 2 - PARALLEL SESSIONS

2A STEAM TURBINE TECHNOLOGIES

11:00 **RECENT ADVANCES IN COMBINED CYCLE STEAM TURBINE TECHNOLOGY**
Rainer Quinkertz, Product Manager, Siemens

11:20 **FORCED MISTUNING APPLIED TO FREE-STANDING LAST STAGE BLADES OF THE CP2-1300 MW LOW PRESSURE STEAM TURBINES**
Sébastien Roques, Senior Engineer, EDF

11:40 **LAST STAGE STEAM TURBINE BLADE VIBRATION ASSESSMENT AND DESIGN MODIFICATIONS TO ELIMINATE THE CRITICAL WHEEL RESONANCE**
Mehran Zanjani, Structural Analysis Engineer, ETG, EON

12:00 **STEAM TURBINE LOW PRESSURE LAST-STAGE BLADE ROOT NON-DESTRUCTIVE TESTING INSPECTIONS - PRACTICAL EXPERIENCE**
Paul Crowther, Group Head - Inspection Management, RWE npower

2B GENERATOR TECHNOLOGIES

LATEST GENERATOR TECHNICAL DEVELOPMENTS
Andrew Crosby, Section Head, Generator Engineering
Scott Robinson, Generator Frame Owner, Siemens

SHAFT-LINE MODELS AND TORSIONAL NATURAL FREQUENCIES FOR A GRID SUB-SYNCHRONOUS RESONANCE STUDY
Nik Zelenovic, Principal Engineer, Alstom

A CASE STUDY OF RETAINING RING CRACKS FROM GRID TRANSIENTS
Neil Kilpatrick, Principal Expert Engineer, Siemens

CONVERSION OF ROTATING EXCITATION SYSTEMS TO STATIC
Doug Cope, Electrical Engineer, Excitation and Engineering Services

12:20 Q&A SESSION

12:40 **NETWORKING LUNCH**

SESSION 3 - TURBINE DEGRADATION, FAILURES AND CASE STUDIES

- 13:40** **STRATEGIC SPARES INVESTMENT**
Joe Eckersley, Strategic Spares Manager, EDF Energy
- 14:00** **UNDERSTANDING VARNISH BUILD-UP MECHANISMS ON STEAM TURBINE AND GENERATOR LUBRICANTS**
Jo Ameye, European Sales and Marketing Manager, Fluitec
- 14:20** **IMPORTANT ASPECTS OF LP TURBINE OPERATION**
John Gilroy, Senior Design Engineer, Siemens
- 14:40** **IRONBRIDGE LP TURBINE LAST ROW BLADE FAILURE**
Ben Morrell, Rotating Plant Engineer, ETG, EON
- 15:00** **Q&A SESSION**
- 15:20** **NETWORKING REFRESHMENT BREAK**

SESSION 4 - GENERATOR DEGRADATION, FAILURES AND CASE STUDIES

- 15:50** **TOP TEN GENERATOR FAILURES AND WHAT YOU CAN DO TO PREVENT THEM**
Bill Moore, Director, National Electric Coil
- 16:10** **IMPACT OF NEW FLEXIBLE LOAD OPERATION AND GRID CODES ON TURBINE GENERATORS FOCUSING ON STATOR END WINDINGS**
Thorsten Krol, Generator Business Development and Marketing, Siemens
- 16:30** **GENERATOR FAULTS AND FAILURES - UTILITY/INSURERS' PERSPECTIVE**
Don Shubert, Senior Vice President, Marsh Energy Practice
- 16:50** **Q&A SESSION**
- 17:10** **CHAIR'S CLOSING REMARKS**
- 17:20** **CLOSE OF DAY ONE**
- 19:00** **NETWORKING DINNER**

DAY 2**THURSDAY 26 MARCH 2015**

- 08:30** **REGISTRATION AND REFRESHMENTS**
- 09:00** **CHAIR'S OPENING REMARKS**

SESSION 5 - MATERIALS AND INTEGRITY ANALYSIS

- 09:10** **MATERIALS FOR LARGE STEAM TURBINES**
Geoff Horseman, Chief Turbine Engineer, Torsten-Ulf Kern, Principal Engineer Materials, Siemens
Doug Gass, Section Manager Materials and Performance Testing, Siemens
- 09:30** **APPLICATION OF A NEW FRACTURE - MECHANICS BASED CREEP - FATIGUE PROCEDURE FOR STEAM TURBINE ROTORS**
Henning Almstedt, Principal Expert, Siemens
Shilun Sheng, Advisory Expert, Siemens
- 09:50** **THE INTERACTION BETWEEN SHOT PEENING AND EROSION NOTCHES ON LAST STAGE BLADE AEROFOIL SECTIONS: STRESS DISTRIBUTIONS AND FATIGUE RESISTANCE**
Katherine Soady, Structural Analysis Engineer, ETG, EON
- 10:10** **Q&A SESSION**
- 10:20** **NETWORKING REFRESHMENT BREAK**

SESSION 6 - TURBINE GENERATOR AUXILIARY SYSTEMS

- 11:00** **BASIC INTRODUCTION TO STEAM TURBINE GOVERNING REQUIREMENTS**
Stuart Rowe, Manager Controls and Auxiliaries, Alstom
- 11:20** **HYDRAULIC CONTROLS AND PROTECTION UPGRADES FOR GEC-ALSTOM STEAM TURBINES**
Wolfgang Warmuth, Technical Sales Manager, Siemens
- 11:40** **MAIN BOILER FEED PUMP TURBINE PIPEWORK REPLACEMENT**
Bob Thomson, Project Manager, EDF
- 12:00** **Q&A SESSION**
- 12:20** **NETWORKING LUNCH**

SESSION 7 - PARALLEL SESSION

7A TURBINE OVERHAULS AND LIFE EXTENSION

- 13:20** **EVENT RECOVERY – MANAGING AN UNPLANNED SHUTDOWN**
August Pandey, Turbine and Ancillaries Plant Manager, EDF
- 13:40** **DRAX IP RETROFIT - IDEA CONCEPT TO PROJECT INSTALLATION**
Richard Armstrong, Site Manager, Siemens
Mark Simmonds, Turbine Engineering, Drax Power
- 14:00** **OLKILUOTO LP TURBINE EXHAUST PERFORMANCE ENHANCEMENT PROGRAMME**
Phil Hemsley, Engineering Technology Manager, Alstom

7B GENERATOR INTEGRITY MANAGEMENT

- THE INFLUENCE OF AUXILIARY SYSTEMS ON MAIN GENERATOR AVAILABILITY AND RELIABILITY**
David Thompson, Plant Check-Up Manager, Alstom
- OFF-LINE PARTIAL DISCHARGE MEASUREMENTS ON LARGE GENERATION PLANT**
Chris Burtle, Senior Electrical Diagnostics Engineer, Siemens
- ABNORMAL OPERATION OF GENERATORS**
Steve Mitchell, Lead Electrical Machines Engineer, RWE Generation UK

- 14:20** **Q&A SESSION**
- 14:40** **NETWORKING REFRESHMENT BREAK**

SESSION 8 - INSPECTION AND MONITORING

- 15:10** **SMARTSIGNAL TECHNOLOGY: OVERVIEW AND USE BY SSE MONITORING CENTRE**
John Twiddle, Equipment Performance Centre Manager, SSE
Mark Bate, Solution Consultant, Smart Signal
- 15:30** **VIBRATION MEASUREMENTS OF TURBOGENERATOR STATOR END-WINDINGS**
Peter Arend, Principal Engineer, Alstom
- 15:50** **EXPERIENCE WITH ADVANCED NDT METHODS IN TURBINE FIELD SERVICE**
Hans Rauchenbach, Head of NDT Laboratory, Siemens
Michael Opheys, NDT Engineer, Siemens
- 16:10** **Q&A SESSION**
- 16:30** **CLOSING REMARKS**
- 16:40** **CLOSE OF USER GROUP**

Find out more about our speakers at www.imeche.org/events/C6170

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

Organising committee:

- Ben Adams, GDF Suez
- Nigel Carter, GDF Suez
- Paul Cooper, Alstom Power
- Alain Foote, Alstom Power
- Geoff Horseman, Siemens
- Andrew Laycock, Centrica Energy
- Richard Martin, Turbine Engineering Consultants Ltd
- Matthew Patch, SSE Engineering Centre
- Ian Rowntree, E.ON New Build and Technology Limited
- Richard Stewart, EDF Energy
- Dave Wallis, Rendcomb Consultancy Limited

SPEAKERS AND CONTRIBUTORS A-Z

HENNING ALMSTEDT
PRINCIPAL EXPERT, SIEMENS

JO AMEYE
EUROPEAN SALES AND MARKETING MANAGER,
FLUITEC

PETER AREND
EXPERT GENERATOR MECHANICAL AND
ELECTRICAL CALCULATION, ALSTOM

RICHARD ARMSTRONG
SITE MANAGER, SIEMENS

MARK BATE
SOLUTION CONSULTANT, SMART SIGNAL

CHRIS BURTLE
SENIOR ELECTRICAL DIAGNOSTICS ENGINEER,
SIEMENS

DOUG COPE
ELECTRICAL ENGINEER, EXCITATION AND
ENGINEERING SERVICES

ANDREW CROSBY
ELECTRICAL ENGINEER, SIEMENS

PAUL CROWTHER
GROUP HEAD - INSPECTION MANAGEMENT, RWE
NPOWER

TIM EASTWOOD
BUSINESS DEVELOPMENT DIRECTOR, ALSTOM

JOSEPH ECKERSLEY
STRATEGIC SPARES MANAGER, EDF ENERGY

DOUG GASS
MANAGER OF MATERIALS ENGINEERING,
SIEMENS

JOHN GILROY
SENIOR DESIGN ENGINEER, SIEMENS

PHIL HEMSLEY
ENGINEERING TECHNOLOGY MANAGER, ALSTOM

GEOFF HORSEMAN
CHIEF TURBINE ENGINEER, SIEMENS

PAUL HOUSLEY
STEAM TURBINE ENGINEER, E.ON

TORSTEN-ULF KERN
PRINCIPAL ENGINEER MATERIALS, SIEMENS

NEIL KILPATRICK
PRINCIPAL EXPERT ENGINEER, SIEMENS

THORSTEN KROL
GENERATOR BUSINESS DEVELOPMENT AND
MARKETING, SIEMENS

STEVE MITCHELL
LEAD ELECTRICAL MACHINES ENGINEER, RWE
GENERATION UK

BILL MOORE
DIRECTOR, NATIONAL ELECTRIC COIL

BEN MORRELL
ROTATING PLANT ENGINEER, E.ON

MICHAEL OPHEYS
NDT ENGINEER, SIEMENS

AUGUST PANDEY
TURBINE PLANT MANAGER, EDF

RAINER QUINKERTZ
PRODUCT MANAGER, SIEMENS

HANS RAUCHENBACH
HEAD OF NDT LABORATORY, SIEMENS

SCOTT ROBINSON
GENERATOR FRAME OWNER, SIEMENS

SÉBASTIEN ROQUES
SENIOR ENGINEER, EDF

STUART ROWE
MANAGER CONTROLS AND AUXILIARIES, ALSTOM

SHILUN SHENG
ADVISORY EXPERT, SIEMENS

DONALD SHUBERT
SENIOR VICE PRESIDENT, MARSH ENERGY
PRACTICE

MARK SIMMONDS
TURBINE ENGINEERING, DRAX POWER

KATHERINE SOADY
STRUCTURAL ANALYSIS ENGINEER, E.ON

DAVID THOMPSON
PLANT CHECKUP MANAGER, ALSTOM

BOB THOMSON
PROJECT MANAGER, EDF

JOHN TWIDDLE
EQUIPMENT PERFORMANCE CENTRE MANAGER,
SSE

WOLFGANG WARMUTH
TECHNICAL SALES MANAGER, SIEMENS

MEHRAN ZANJANI
STRUCTURAL ANALYSIS ENGINEER, E.ON

NIK ZELENOVIC
PRINCIPAL ENGINEER, ALSTOM

BOOKING FORM

EVENT CODE: C6170AB

EARLY BIRD ENDS 23 JANUARY 2015

STEAM TURBINE AND GENERATOR USER GROUP 2015

25-26 March 2015
Warwick Conferences,
The University of Warwick,
Coventry CV4 7AL

REGISTRATION Please complete in capitals.

Family Name	Title (Mr, Mrs, Miss)
First Name	Job Title
Membership No	Institution
Name of Organisation (for name badge)	
Address for correspondence	
Town/City	
Postcode	
Contact Telephone	
Email	
Do you have any special requirements?	

How did you hear about this event? Direct mail Website Colleague Other

We would like to keep you informed of relevant services that may be of benefit to you. Please tick the boxes below to let us know what you're interested in:

- Events and training opportunities
 News and updates from the Institution
 Services and offers from our preferred partners

FEES AND CHARGES Please complete the appropriate box.

Registration fees include entry to the sessions, refreshments and lunch.

	EARLY BIRD RATE Before 23 January 2015	STANDARD RATE	TOTAL
Member, Institution of Mechanical Engineers	£489.50+VAT	£575.00+VAT	£
Member, supporting organisation	£489.50+VAT	£575.00+VAT	£
Non-member	£555.00+VAT	£655.00+VAT	£
Student/retired	£168.30+VAT	£198.00+VAT	£

Please tick if you would like to attend the complimentary User Group Dinner. 25 March 2015 at 19:00, University of Warwick.

Please indicate any dietary requirements.

PAYMENT DETAILS

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

PLEASE INDICATE METHOD OF PAYMENT:

- Cheque** Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.
- Credit Card**
Card type: Visa MasterCard (please note we cannot accept American Express, Diners Club or Maestro)
Card No _____ Valid From _____ / _____ Expiry Date _____ / _____
Name of Cardholder _____
Billing Address of Cardholder (if different from above) _____
Postcode _____
Amount to be Deducted _____ Signature _____
- BACS** BACS bank transfers can be made to:
IMechE Current Account, NatWest Charing Cross Branch.
Sort Code: **60-40-05** Acc No: **00817767**
Swift Code: **NWBKGB2L** IBAN Code: **GB96NWBK60400500817767**
A copy of the draft must accompany this form.
- Invoice (UK residents only)** Delegates wishing to be invoiced must provide an order number. If your company does not use order numbers please include a formal request for invoicing on your company's letterhead. A charge of £10 +VAT will be made to cover additional administration costs. Invoices are payable on receipt and no alterations to these terms will be accepted.
- Order No _____
Contact Name _____
Name and Address for Invoicing _____
Postcode _____
Tel _____ Fax _____

FIVE WAYS TO BOOK

- 1 Online:
www.imeche.org/events/C6170
- 2 Email:
eventenquiries@imeche.org
- 3 Phone:
+44 (0)20 7973 1258
- 4 Post completed booking form to:
**Event Registrations
Institution of Mechanical
Engineers
1 Birdcage Walk
London SW1H 9JJ**
- 5 Fax:
+44 (0)20 7304 6845

Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

CONDITIONS OF BOOKING

Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie. dietary or access, on the relevant section of this form.

CANCELLATION

For a refund (minus £25 +VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid.

The Institution is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. The Institution shall assume no liability whatsoever if this event is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency.

Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, the Institution reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

ACCOMMODATION

Warwick Conferences
En-suite bed and breakfast @ £55 plus VAT per night
Superior en-suite bed and breakfast @ £80 plus VAT per night
Rooms can be booked via:
<https://venuesearch.vbookings.co.uk/b/im>

VENUE DETAILS:

Warwick Conferences
www.warwickconferences.com
The University of Warwick, Coventry, CV4 7AL

ENQUIRIES

For event enquiries please call
+44 (0)20 7973 1258 or email
eventenquiries@imeche.org

The Institution of Mechanical Engineers is a registered charity (no 206882) VAT No GB299930493.

FORWARD THINKING

We are the market leader among professional engineering bodies. We've been supporting engineers since 1847 and have 110,000 members in over 140 countries, working in the world's most dynamic and important industries. Our comprehensive events programme brings you the latest research and best practice from industry and academia.

OTHER EVENTS TO LOOK FOR:

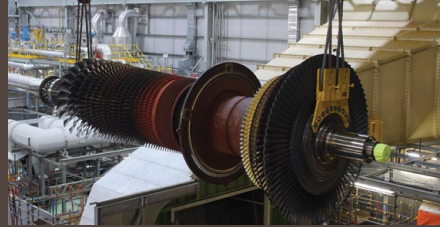


19 March 2015
Edinburgh

MARINE ENERGY PROJECTS: ENGINEERING OUT RISK

This event will provide further ideas on how to approach and deal with marine project risks.

www.imeche.org/events/S6181



20-21 May 2015
London

POWER GENERATION GAS TURBINE USER GROUP

Share operational experiences and best practice in the operation and maintenance of Gas Turbines across all OEMs.

www.imeche.org/events/S6199



15-17 April 2015
Coventry

ESSENTIAL MANAGEMENT SKILLS FOR ENGINEERS 2015

Do you know what it takes to be an effective manager? Our popular conference returns on 15-17 April 2015.

www.imeche.org/events/C1421

INFORMATION AND BOOKINGS

CALL: +44 (0)20 7973 1258

EMAIL: eventenquiries@imeche.org

VISIT: www.imeche.org/events

JOURNALS

Professional Engineering Publishing is the publisher for the Institution of Mechanical Engineers. For more information about our magazines, journals and conference proceedings visit www.uk.sagepub.com/imeche

To find out more contact **Subscriptions** on +44 (0)1952 214050 or email subscriptions@imeche.org

MEMBERSHIP

Whether you're a student, apprentice, graduate, qualified engineer or just have an interest in engineering, Institution membership offers the highest professional prestige. Professional registration is a valuable investment for any engineer who is serious about their career.

Find out which level you're best suited for at www.imeche.org/membership or email us on membership@imeche.org

GET INVOLVED

Whether you're new to the profession or well established, volunteering is a great way to gain new skills, knowledge and experience. As an Ambassador you have the chance to represent your profession and give something back to the engineering community as well as inspiring the next generation.

See www.imeche.org/volunteering for more information or go to <http://nearyou.imeche.org>

Institution of
**MECHANICAL
ENGINEERS**

1 Birdcage Walk
Westminster
London
SW1H 9JJ

T +44 (0)20 7222 7899

www.imeche.org

**Keep up
your CPD**

Continuing Professional Development (CPD)

Our online Career Developer tool can help you:

- **Plan** Create an Action Plan and identify targets
- **Record** Download a record of your learning activities
- **Review** Reflect on your professional development

Register for Career Developer and get more from your career www.imeche.org/careerdeveloper

For tailored advice contact cpd@imeche.org

Improving the world through engineering