STEAM TURBINE AND GENERATOR USER GROUP.

22-23 March 2011
University of Warwick, Coventry

Book now:
www.imeche.org/events/s1576

ATTENDING WILL HELP YOU:
• Improve the performance of your plant
• Utilise best practice in overhaul and repair
• Make better choices when making provisions for new plant and upgrades
• Gain awareness of failure mechanisms and rehabilitation methods
• Meet, greet and network with design specialists and plant users

Improving the world through engineering

Image courtesy of GE Energy
The next in the series of these popular user groups will incorporate steam turbines and generators, addressing issues relating to fossil, CCGT, nuclear, energy from waste and industrial applications, as well as insurance and risk.

The user group will promote open debate and problem-solving. Informal presentations and discussion forums are vital for sharing of experience among the steam turbine and generator communities.

Topics covered include steam turbines (including mechanical drive), generator design and technologies, failure mechanisms, upgrades and repairs, condensers and auxiliary systems.

The Steam Turbine and Generator User Group is your perfect opportunity to learn from your peers – by discussing common problems and exchanging ideas, you can identify potential solutions and learn about new developments.

**EXCELLENT EVENT THAT GIVES INSIGHT INTO DEVELOPMENTS IN STEAM TURBINE FIELD AND ALLOWS GOOD NETWORKING OF INDUSTRY PERSONNEL. FOR A MANUFACTURER, IT GIVES AN INSIGHT INTO HOW END USERS OF EQUIPMENT THINK.**

**ALAN BROWN**  
**SIEMENS ENERGY**  
**SPEAKING ABOUT THE 2010 STEAM TURBINE USER GROUP**

**THIS EVENT WILL ATTRACT:**
All involved in the management, design, manufacture, operation and maintenance of steam turbines and generators

**TECHNICAL ADVANTAGES:**
- Gain a greater industry-wide understanding of steam turbine plant problems and issues
- Update your knowledge on state-of-the-art technologies
- Learn how to minimise and manage service-related degradation of plant
- Seek advice from leading specialists from major manufacturers, utilities and consultants on your issues
- Gain insight from utility companies, plant manufacturers and suppliers
- Benefit from peer-to-peer learning
- Learn from real-life case studies
- Find collaborators for future projects

**SPONSORSHIP AND EXHIBITION OPPORTUNITIES**

Your involvement with our events is an effective way to get into the minds of key decision makers, helping you capture your chosen audience when they are in the frame of mind to do business.

Our flexible opportunities allow you to:
- Showcase new products
- Raise awareness of your operation
- Improve perception of your brand
- Influence other organisations’ spending plans

To talk through how to get the best from one of our events, contact Aman Duggal

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**SUPPORTING ORGANISATIONS**
STEAM TURBINE AND GENERATOR USER GROUP
22-23 MARCH 2011
UNIVERSITY OF WARWICK, COVENTRY

DAY ONE

09:00 REGISTRATION

09:45 CHAIRMAN’S WELCOME

09:50 SESSION ONE: PLANT OPERATION & OWNERSHIP

PERSPECTIVE ON THE UK MARKET ENVIRONMENT, KEY CHALLENGES AND LOOKING AHEAD
KEVIN ROBERTS, OUTAGE AND CONTRACT SUPPORT TEAM LEADER, E.ON, UK

MAINTAINING THE NATIONAL GRID SYSTEM FREQUENCY WITHIN STANDARDS
TAREK Y ISMAIL, SENIOR POWER SYSTEM ENGINEER, NATIONAL GRID, UK

STEAM CYCLE OPTIONS FOR CAPTURE-READY POWER PLANTS, RETROFITS AND FLEXIBLE OPERATION WITH POST-COMBUSTION CO2 CAPTURE
MATHIEU LUCQUIAUD, RESEARCH FELLOW – POWER PLANT ENGINEERING, UNIVERSITY OF EDINBURGH, UK

10:50 PANEL DISCUSSION

11:10 REFRESHMENTS

11:40 SESSION TWO (A): STEAM TURBINE TECHNOLOGY

BENEFITS OF FEA IN SUPPORT OF OPERATION, MAINTENANCE AND LIFESPAN EXTENSION OF STEAM TURBINE COMPONENTS
Mehran Zanjani, Structural Analysis Engineer, E.ON New Build & Technology, UK

LATEST TRENDS IN STEAM TURBINE DESIGN
GEOFF HORSEMAN, CHIEF TURBINE ENGINEER, SIEMENS ENERGY, UK

ARABELLE 1550 MWE UNITS: TEN YEARS OF FEEDBACK EXPERIENCE IN THE EDF N4 NUCLEAR POWER PLANTS
Arnaud Buguin, Principal Engineer – Mechanical Design, Alstom Power Thermal Products, France

12:40 PANEL DISCUSSION

12:40 SESSION TWO (B): GENERATOR TECHNOLOGIES

AN INTRODUCTION TO TURBO-GENERATOR DESIGN
John Capener, Chief Electrical Engineer – Existing Nuclear, EDF Energy, UK

GENERATOR TECHNOLOGIES
Thorsten Krol, Head of Service Growth, Siemens, Germany

ADVANCED TURBOGENERATOR TECHNOLOGIES FOR UK NUCLEAR PROGRAMMES
Kevin Mayor, Group Leader Stator Design, Alstom, Switzerland

13:00 LUNCH

14:00 SESSION THREE (A): TURBINE OVERHAUL & REPAIR TECHNIQUES

RECENT OUTAGE PRACTICE AT DRAX POWER STATION
Darren Davidson, Project Manager, Siemens, UK

INVEST TO SUCCEED: A JOINT OEM/CUSTOMER PROJECT APPROACH TO SUCCESSFUL TURBINE GENERATOR MAINTENANCE
John Bowles, Front End Lead – Existing Nuclear, EDF Energy, UK and Mark Sullivan, Nuclear and Industrial Operations Manager, Alstom Power, UK

RATCLIFFE POWER STATION: 500MW HP STEAM TURBINE BLADE PATH MODIFICATION TO ACHIEVE A TARGET 2% (10MW) INCREASE IN CAPABILITY
Paul Housley, Steam Turbine Engineer, E.ON New Build & Technology, UK

LP TURBINE ROTOR UPGRADE TO ACCOMMODATE AN IMPROVED DESIGN OF LAST-STAGE BLADE
Andrew Fowler, Design Engineer, Alstom Power, UK

15:20 PANEL DISCUSSION

14:00 SESSION THREE (B): GENERATOR MECHANICS & CASE STUDIES

DEVELOPMENT OF CYCLIC OPERATION UPGRADE PACKAGE FOR A GENERATOR ROTOR IDENTIFIES POTENTIAL FOR COST-EFFICIENT POWER UPRATE
Thorsten Wasmuth, Vice President, Sensoplan AG, Germany

DON’T FORGET YOUR AUXILIARIES! LESSONS LEARNT FROM THE FAILURE OF A 500MW GENERATOR
Ben Adams, Lead Electrical Machines Engineer, RWE npower, UK

PRESENTATION OF TWO DIFFERENT FAILURE MECHANISMS WHICH ARE A CURRENT ISSUE IN THE E.ON FLEET
Alan Kinson, Generator Specialist, E.ON New Build & Technology, UK

GENERATORS: FAILURE MECHANISMS AND CASE STUDIES
Jim Knight, Corporate Engineer, RWE npower, UK

15:20 PANEL DISCUSSION

15:40 REFRESHMENTS

16:10 SESSION FOUR: BEARINGS & SUPPORT SYSTEMS

BEARING DESIGN AND OPERATION IN LARGE TURBOGENERATOR PLANT
Bob Mitchell-King, Tender Manager (Retrofits), Alstom Power, UK

TURBINE LUBRICANTS: AN ADDITIVE MANUFACTURER’S PERSPECTIVE
Allan R Barber, Industrial Technology Manager, Lubrizol International Laboratories, UK

UTILITY POWER INDUSTRY EXPERIENCE WITH LARGE JOURNAL BEARINGS
Bryan Hutchinson, Group Head, RWE npower, UK

17:10 PANEL DISCUSSION
17:30 CLOSE OF DAY ONE

19:00 DRINKS RECEPTION AND USER GROUP DINNER
The User Group dinner will take place in the Chancellor’s Suite at the University of Warwick. Places are free for event delegates but booking is required. Please select the relevant option on the booking form.

DAY TWO

09:00 REFRESHMENTS

09:30 SESSION FIVE (A): CONDENSERS & TURBINE AUXILIARY SYSTEMS

CONDENSER PERFORMANCE IMPROVEMENT
Shaun Saunders, Assistant Team Leader – Performance – Ratcliffe-on-Soar Power Station, E.ON, UK

STEAM TURBINE GLAND STEAM SYSTEM DESIGN
Alan Lang, Principal Engineer, Alstom Power, UK

STEAM TURBINE ELECTRIC ACTUATION VALVE CONTROL INCLUDING EMERGENCY TRIP FUNCTIONALITY
Matthew Strange, Work Package Owner – Secondary Propulsion Equipment, Rolls-Royce Submarines, UK

10:30 PANEL DISCUSSION

09:30 SESSION FIVE (B): GENERATOR UPGRADES & REPAIRS

UPRATING STRATEGIES FOR TURBO-GENERATORS
Thorsten Krol, Head of Service Growth, Siemens, Germany

GENERATORS: UPGRADES AND REPAIRS
Steve Mitchell, Assistant – Electrical Machines, RWE npower, UK

REPAIR TO LONGANNET UNIT 4IP STATOR
Ross Galbraith, Technical Risk Engineer-HVE, ScottishPower Energy Wholesale, UK

10:30 PANEL DISCUSSION

10:45 REFRESHMENTS

11:10 SESSION SIX: INSURANCE & RISK MANAGEMENT

INSURANCE AND PLANT OPERATOR PERSPECTIVES ON STEAM TURBINE FAILURES
Peter Alberry, Director, GenExP Ltd, UK

HOW TO INSURE A POWER STATION IN THE UK
Alan Fitzpatrick, Risk Engineer, CNA Insurance Company, UK

11:50 PANEL DISCUSSION

12:00 LUNCH

13:00 SESSION SEVEN: OPERATING EXPERIENCE WITH INDUSTRIAL/CHP/ENERGY FROM WASTE/BIOMASS MECHANICAL DRIVE STEAM TURBINES & GENERATORS

ADVANCED DESIGN IN MECHANICAL DRIVE STEAM TURBINE APPLIED TO HIGH-POWER DENSITY TURBOCOMPRESSOR TRAIN
Lorenzo Arcangeli, Advanced Technology System Engineer, E Oil & Gas, Italy

STEAM TURBINES IN THE POWER RANGE OF 5 TO 45MW
Sina Atabak, Design Engineer, Dresser Rand, UK

LIFE EXTENSION OF AGED INDUSTRIAL TURBINES AND BLOWERS
Richard Taylor, Senior Project Engineer, Tata Steel, UK

14:00 PANEL DISCUSSION

14:15 REFRESHMENTS

14:40 SESSION EIGHT: CCGT STEAM TURBINES & GENERATORS

DIDCOT B POWER STATION MODULE 50 GAS TURBINE REPLANT PROJECT
Dave Jones, Engineering & Maintenance Manager – Didcot B Power Station, RWE npower, UK

CONTINUED EVOLUTION IN GE COMBINED CYCLE STEAM TURBINES
Duncan Watt, Systems Integration Leader, GE Energy, USA

RESOLUTION OF THE DIFFERENTIAL EXPANSION RISK OF A CCGT STEAM TURBINE ROTOR TRAIN MOVING FROM BASE LOAD TO DAILY START/STOP OPERATION
Darren Sharpe, Turbine and Mechanical Engineer, GDF Suez, UK

15:40 PANEL DISCUSSION AND ROUND-UP REMARKS

16:00 CLOSE OF SEMINAR.
This programme is subject to change.
The Institution is not responsible for the views or opinions expressed by individual speakers.

Power Industries Division Organising Committee:
Richard Martin, RWE npower (Committee Chairman)
Dave Clement, Siemens Energy
Paul Cooper, Alstom Power
Alain Foote, Alstom Power
Geoff Horsemann, Siemens Energy
Matthew Patch, Scottish & Southern Energy
Terry Raddings, GE Energy
Ian Rowntree, E.ON New Build & Technology
Terry Smith, Consultant (Event Facilitator)
Richard Stewart, EDF Energy

The Committee would like to thank the following supporters:
Fluid Machinery Group, Process Industries Division, ThermoFluids Group
In recent years, interest in electrical energy storage has risen substantially. This seminar will review the development of technologies and projects associated with electricity storage, demonstrating a variety of applications.

www.imeche.org/events/s1591

Workshops and lectures introduce practical techniques for better project management, process improvement, financial management, negotiation and facilitation, while interactive sessions offer excellent opportunities for improved communication, teamwork and motivating others.

www.essentialmanagementskills.org

This seminar will discuss the requirements for successful delivery of UK nuclear projects. It will allow delegates to exchange experiences and learn how to identify optimum processes and techniques for enhanced future project delivery. It will benefit engineers and decision-makers working in design, safety and management.

www.imeche.org/events/s1581

This lecture will review the development and deployment of wave and tidal stream devices to date, and consider how the process from development to market can be improved.

www.imeche.org/events/L183

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The Institution of Mechanical Engineers is the professional body representing over 80,000 mechanical engineers worldwide. As a Learned Society, the Institution seeks to be a source of considered, balanced and impartial information.

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STEAM TURBINE AND GENERATOR USER GROUP
BOOKING FORM

One form per person only (forms may be photocopied)

For added convenience, you can also book online at:
www.imeche.org/events/s1576

REGISTRATION (PLEASE COMPLETE IN CAPITALS)

Family Name
First Name
Membership No
Name of Organisation (for name badge)
Address for Correspondence

Town/City ___________________________ Postcode __________
Country ____________________________ Contact Telephone __________
Fax _________________________________ Email ________________________

Do you have any special requirements?

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

FEES AND CHARGES (PLEASE COMPLETE THE APPROPRIATE BOX)

Registration fees include entry to the sessions, refreshments, lunch and a copy of the event proceedings.

| Institution of Mechanical Engineers Member | £450.00 | £90.00 | £540.00 |
| Member of Supporting Organisations | £500.00 | £100.00 | £600.00 |
| Student/Retired Member | £185.00 | £37.00 | £222.00 |
| University accommodation for extra night (21/03/2011) | £51.50 | £10.30 | £61.80 |
| Extra Items | 
| User Group Dinner (delegates only) | £0.00 | £0.00 | £0.00 |
| Invoice Charging (if applicable) | £10.00 | £2.00 | £12.00 |

Total: £________

Please indicate which of the parallel sessions you wish to attend by selecting the appropriate boxes:

2A  □  2B  □  3A  □  3B  □  5A  □  5B  □

Please do not send payment separately from this booking form.

PAYMENTS DECISION

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

Please indicate method of payment: Cheque □ Credit Card □ BACS □ Invoice □ (see below)

Cheques should be made payable to IMechE and crossed. Please note overseas 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: Visa □ MasterCard □ (please note we cannot accept American Express, Dinners Club or Maestro)

Card No ___________ Valid From ___________ Expiry Date ___________

Name of Cardholder __________________________
Billing Address of Cardholder (if different from above) __________________________
Amount to be Deducted ________________________
Postcode __________________ Signature ___________

INVOICE DETAILS (UK DELEGATES 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 __________________________
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BACS bank transfers can be made to: IMechE Current Account, NatWest Charing Cross Branch.
Sort code: 60-40-05 Acc No: 00817767
A copy of the draft must accompany this form.

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

CONDITIONS OF BOOKING

Completed application forms should be returned to the address below, 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 that render 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.

CANCELLATION

For a refund (minus £25 + VAT admin charge), cancellations must be received at least 14 days prior to the event. Payment must be made within 7 days. The IMechE 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 IMechE postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, you will receive a full refund of the fee paid.

IMechE is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. IMechE shall assume no liability whatsoever in the event this conference 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.

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or their luggage and/or personal belongings.

The delegates will be sent upon registration.

Members of the following organisations can register at our members’ rates: AeP

Supporting Organisations

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

The delegate rates include one night’s accommodation (night of 22/03/2011) in University campus rooms, on a bed-and-breakfast basis. Should you require an extra night’s stay in the campus rooms before the event, please select the relevant option on the registration form. There are a very limited number of hotel-standard single rooms available for 21 and 22 March at a supplementary cost – please enquire with Hannah Atkins for details.

Inquiries

For event enquiries please call Hannah Atkins on +44 (0)20 7973 1260 or email h_atkins@imeche.org

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