

# STRUCTURAL INTEGRITY STANDARDS THE FUTURE OF STRUCTURAL INTEGRITY CODES IN THE UK: R6, BS7910 AND RSE-M

Institution of  
**MECHANICAL  
ENGINEERS**

Structural Technology and Materials Group  
**Seminar**

**28 February 2017**  
The Lowry, Manchester

More details available at  
[www.imeche.org/structuralcodes2017](http://www.imeche.org/structuralcodes2017)

## **SPEAKERS INCLUDE:**

Alexander Price Inspector - Structural Integrity  
**Office for Nuclear Regulation (ONR)**

Patrick Le Delliou  
Expert Engineer, Materials and Mechanics  
of Components Department  
**EDF Research & Development Division**

Nawal Prinja  
Technical Director  
**Amec Foster Wheeler**

Mike Nielsen  
Structural Analysis Engineer, Nuclear New Build  
**EDF Energy**

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28 February 2017  
The Lowry, Manchester

*"NOW IS A CRITICAL TIME IN THE DEVELOPMENT OF ENGINEERING CODES OF SAFETY IN THE UK BECAUSE OF THE CHANGING INTERNATIONAL ENVIRONMENT IN WHICH ENGINEERS HERE ARE WORKING. IT ALSO APPEARS TO BE A MOMENT DURING WHICH ONE GENERATION OF ENGINEERS IS HANDING OVER A HARD FOUGHT UNDERSTANDING OF THE BEHAVIOUR OF STRUCTURES AND SO IT IS IMPORTANT THE NEW CROP OF NUCLEAR ENGINEERS BUILD ON THESE FOUNDATIONS WISELY."*

Simon Smith, Consultant  
**Integrity Management Group, TWI Ltd**

With the approval of Hinkley Point C (HPC), now more than ever is it an important time to review the design and assessment of nuclear facilities in the UK. New standards are being introduced to the UK as a result of this new development and this seminar will address the changes and additional regulatory requirements.

This is an unmissable opportunity to hear from all the key developers of the R6, RSE-M and BS7910 codes to understand the theoretical foundations, the current status of the industry and the latest developments for these standards. Attendees will identify the future planned development and focus areas in the R6, BS7910 and RSE-M structural integrity codes and understand how to ensure their continued compliance.

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## KEY TOPICS INCLUDE:

- Hear from the **Office for Nuclear Regulation** on the UK regulatory expectations for components
- Gain insight from **EDF** on using the RSE-M code for surveillance and in-service inspection
- Learn about the recent developments for R6 and its future from the key developers and **EDF Energy**
- Learn about the recent developments for BS7910 and its future from **TWI Ltd**
- How to harmonise nuclear codes and standards for mechanical components with **Amec Foster Wheeler**
- Hear best practice from industry leaders on implementing codes for ongoing **assessments**
- Identify current and future training needs for your organisation

## BENEFITS OF ATTENDING:

- Learn how to stay compliant with existing regulations
- Increase your knowledge and understanding of European standards
- Find out the practical implications of these standards, direct from those at the forefront of the nuclear industry
- Meet and network with those who are making decisions about UK safety standards
- Identify the short and long term future of current safety standards

## WHO SHOULD ATTEND?

All professionals involved in the construction, assessment, maintenance and compliance of nuclear installations in the UK will benefit from this seminar. Specifically, all Heads, Directors, Managers and Engineers who are involved in the following areas are strongly recommended to attend:

- Regulatory compliance
- Health and Safety
- Risk assessment and management
- Inspections
- Structural integrity assessment
- Project Management

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## ORGANISING COMMITTEE

Structural Technology and Materials Group  
**Institution of Mechanical Engineers**

## Members Credits:

Simon Smith  
**TWI**

Joy Tao  
**EDF Energy**

Simon Quinn  
**University of Southampton**

# PROGRAMME

## 28 FEBRUARY 2017

**08:30 REGISTRATION AND REFRESHMENTS**

**09:00 CHAIR'S OPENING REMARKS**

**09:10 UK REGULATORY EXPECTATIONS FOR COMPONENTS WHICH REQUIRE THE HIGHEST RELIABILITY**  
Alexander Price, Inspector - Structural Integrity, Office for Nuclear Regulation (ONR)

**09:35 THE RSE-M CODE, A CODE FOR THE SURVEILLANCE AND THE IN-SERVICE INSPECTION OF PWR METALLIC PRESSURE RETAINING COMPONENTS**  
Patrick Le Delliou, Expert Engineer, Materials and Mechanics of Components Department, EDF Research & Development Division

**10:00 STATUS AND FUTURE DEVELOPMENT OF THE UK R6 PROCEDURE**  
Bob Ainsworth, University of Manchester and Peter Budden, EDF Energy

**10:25 RECENT DEVELOPMENTS IN BS 7910, AND A LOOK TO THE FUTURE**  
Isabel Hadley, Technical Authority, Integrity Management, TWI Ltd

**10:50 QUESTION AND ANSWER SESSION**

**11:05 NETWORKING REFRESHMENT BREAK**

### THE TECHNOLOGY AND MAINTENANCE BEHIND THE CODES

**11:35 HARMONISING NUCLEAR CODES AND STANDARDS FOR MECHANICAL COMPONENTS**  
Nawal Prinja, Technical Director, Amec Foster Wheeler

**12:00 COMPARISON OF RSE-M AND R6**  
Mike Nielsen, Structural Analysis Engineer, Nuclear New Build, EDF Energy

**12:25 QUESTION AND ANSWER SESSION**

**12:35 PANEL DISCUSSION: WITHIN THE CONTEXT OF MAINTAINING THE HIGHEST STANDARDS AND A LEVEL PLAYING FIELD IN NEW BUILD DESIGNS, WHICH CODE IS MORE ONEROUS: R6 OR RSE-M?**

**13:00 NETWORKING LUNCH**

**14:00 RECENT DEVELOPMENTS IN WELDING RESIDUAL STRESS SIMULATION**  
Mike Smith, Professor of Welding Technology, Manchester University

**14:25 A USER'S PERSPECTIVE ON BS7910 ENGINEERING CRITICALITY ASSESSMENTS**  
Winston Blackshaw, Pressure System Capability Lead, Technical and Engineering Directorate, Sellafield Ltd

**14:50 CASE STUDY FROM FRASER-NASH**  
Speaker to be announced

**15:15 QUESTION AND ANSWER SESSION**

**15:25 NETWORKING REFRESHMENT BREAK**

### FUTURE THINKING

**15:55 INSIGHT INTO THE DIRECTION OF NUCLEAR CODES IN NUCLEAR FUSION**  
Manminder Kalsey, Project Lead, UKAEA

**16:20 PANEL DISCUSSION THE FUTURE OF NUCLEAR STRUCTURAL INTEGRITY CODES IN THE UK**

**16:50 CHAIR'S CLOSING REMARKS**

**17:00 END OF SEMINAR**

For the most up-to-date and detailed programme for the event, please visit [www.imeche.org/structuralcodes2017](http://www.imeche.org/structuralcodes2017)

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



## HOW TO BOOK YOUR PLACE

### FEES AND CHARGES

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

Delegate Type	Early Bird Rates Until 27 January 2017	Standard Rates
Member, Institution of Mechanical Engineers/Supporting organisation	£265 + VAT = £318	£295 + VAT = £354
Non-member	£355 + VAT = £426	£395 + VAT = £474
Student/Retired	£95 + VAT = £114	£99 + VAT = £118.80

### THREE WAYS TO BOOK

- 1 Online: [www.imeche.org/structuralcodes2017](http://www.imeche.org/structuralcodes2017)
- 2 Email: [eventenquiries@imeche.org](mailto:eventenquiries@imeche.org)
- 3 Phone: +44 (0)20 7973 1251

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

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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.

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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. 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.

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#### CONFERENCE VENUE

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Pier 8  
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### NON DESTRUCTIVE TESTING

21–22 March 2017

IMEchE Engineering Training Centre,  
Sheffield

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[www.imeche.org/ndt2017](http://www.imeche.org/ndt2017)



### MIDLANDS ENGINEERING DINNER

31 March

The ICC, Birmingham

The thirteenth Midlands Engineering Dinner returns on 31 March for an evening of networking and entertainment.

[www.imeche.org/midlandsengineeringdinner](http://www.imeche.org/midlandsengineeringdinner)

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