

## Provisional List of Papers for Presentation at INGS-5

As at 12<sup>th</sup> August 2004

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“Irradiation Performance of HTR-10 Fuel Matrix Graphite”

*Tang Chunhe*<sup>\*</sup>, *Koshcheev Konstantin*<sup>#</sup>, *Oleg G. Karlov*<sup>+</sup>

<sup>\*</sup>*INET, Tsinghua University, Beijing, China*

<sup>#</sup>*Federal State Unitary Enterprise “Institute of Nuclear Materials, Zarechny, Sverdlovsk Region, Russia*

<sup>+</sup> *Russian Research Centre “Kurchatov Institute”, Moscow, Russia*

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“The design of the PBMR Core Structures”

*Mark Mitchell, PBMR Co. (Pty) Ltd, South Africa*

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“Environmental Effects on Fracture of Nuclear Graphites”

*Brian McEnaney, University of Bath, UK*

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“Reassessment of Fundamental Graphite Properties - Modulus, Strength and CTE”

*Alan Steer and M. Bradford, British Energy, UK*

(schedule early)

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“Structural Approach to Graphite Properties Modelling”

*Mark Bradford and Alan Steer, British Energy (Generation) Ltd, UK*

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“Monitoring Strategy for Operating Reactors”

*James Reed and Tony Beynon, British Energy, UK*

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Theme-Linked Session – scheduled for Tuesday

“UK Regulatory Graphite Research Requirements, An Overview”

*G. Heys, HSE Nuclear Safety Directorate, UK*

“Relationships between Microstructure and Properties in Nuclear Graphite”

*J Marrow, L Babout and P Mummery, UMIST, UK*

“Crack Propagation in Nuclear Graphite”

*A Hodgkins and J Marrow, UMIST, UK*

“Mechanics Continuum Damage Model for Nuclear Graphite”

*S.L.A Fok and B J Marsden, University of Manchester, UK*

“Analysis and Experimental Studies of Dynamic Stress Waves Generated by Fast Fracture in Graphite Components”

*S.L. A. Fok, J D Jackson, W. He, J R Wright and S.P. Yao, University of Manchester, UK*

*“Modelling of Available Graphite Data”  
E. Eason, Modelling and Computing Service LLC, USA, and G N Hall, University of Manchester, UK*

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Code Comparison Exercise (introduced by Prof. Barry Marsden)

*“The Development of a Nuclear Graphite Stress Analysis Code”  
D.K.L. Tsang, B.J. Marsden and S.L.A. Fok, University of Manchester, UK*

*“International Bench Mark for Nuclear Graphite Components”  
B.J. Marsden, D.K.L Tsang and S.L.A. Fok, University of Manchester*

*Paper from:  
N. Mclachlan et al, British Energy Generation Ltd, UK*

*“Benchmark with FEAT-COILU”  
M. Rabbitt, British Energy Generation Ltd, UK*

*“Stress Analysis for IG-110 Graphite with VIENUS Code”  
T.Shibata, S.Hanawa, M.Ishihara, K.Sawa and T.Iyoku, Japan Atomic Energy Research Institute (JAERI)*

Other Results from the Code Comparison agreed at INGSIM-4

*(the above for Monday afternoon or evening)*

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*“German Standards for Carbon and Graphite”  
Gerd Haag, Forschungszentrum Jülich, Germany*

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*“Data Handling in the Nuclear Data Section of the IAEA”  
R.E.H. Clark, D. Humbert, O. Schwerer, IAEA Vienna*

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*“Graphite Oxidation Behaviour and Test Methods”  
P. Barth and B. Tahon, SGL Carbon*

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*“Characterisation of Isotropic Cokes”  
Jean-Noel Rouzaud, ENS, Dept Geologie, Paris and B. Tahon, SGL Carbon*

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“On the Analysis of Graphite Irradiation Creep Data”  
*T.D. Burchell, Oak Ridge National Laboratory, USA*

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Update on Progress with Graphite Codes and Standards  
*T.D. Burchell, Oak Ridge National Laboratory, USA*

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“Can Nuclear Grade Graphites and Advanced Gas Reactor Fuel Components Be Made From Anthracite?”  
*Peter Pappano, Oak Ridge National Laboratory, USA*

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“The Validity of the Use of Equivalent DIDO Nickel Dose”  
*Dennis Allen, British Nuclear Group, Berkeley, UK*

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[Title to be advised]  
*Matthew Brown, BNFL NSTS, Berkeley, Glos, UK* - the talk will cover the influence of sample size on property measurements and may also cover recent developments on DYM and UTS measurement techniques

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[Title to be advised]  
*Nassia Tzelepi, BNFL NSTS, Berkeley, Glos UK* - the talk will provide an update on the INL irradiation experiment and describe the complementary thermal oxidation studies

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“Ion Irradiation Program and Effects of Ion Irradiations on the Electrical Resistivity of Carbon Fibers”  
*Tatsuo Oku, University of the Air, Japan; A. Kurumada, Y. Imamura, Ibaraki University, Japan; M. Ishihara, S. Baba, J. Aihara, JAERI, Japan; and T.D. Burchell, ORNL, USA*

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“Modelling of Fracture in Pseudo-Brittle Materials”  
*C. Lynch and G.B. Neighbour, University of Hull, UK*

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“Graphite Oxidation Tests at Cadarache”  
*Jean-Charles Robin, CEA Cadarache, France*

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“Graphite Waste Management”  
*Jean-Pierre Bonal, CEA Saclay, France (to be presented by J-C Robin)*

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[to be advised]

*Odile Gelineau, Framatome-ANP, France*

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“UK Regulatory Framework for Assessment of Graphite Core Safety Cases”

*G. Heys, HSE Nuclear Safety Directorate, UK*

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“Activity of the Four Main Radionuclides in the Graphite Sleeves of the St Laurent Silos – Measurements and Calculations”

*Laurent Rahmani, EdF CIDEN, Villeurbane, France*

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“The Oxidation of Nuclear Graphite Components: Separating Fact from Fiction for Decommissioning”

*A.J. Wickham, Consultant; W. Ingamells and J. Buffery, UKAEA, UK*

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“Oxidation Behaviour of Ion-Irradiated Nuclear Graphite”

*Se-Hwan Chi, KAERI, Republic of Korea*

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“Pre-irradiation Characterisations of HTR Candidate Nuclear Graphites”

*J.A. Vreeling and J.G. van der Laan, NRG Petten, The Netherlands*

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“Irradiation testing of Graphites & Composites at Petten 2003-2009”

*J.G. van der Laan, J.A. Vreeling et al., NRG Petten, The Netherlands*

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[Title to be advised]

(presentation on gas reactor testing in ATR including the upcoming tests on fuel currently being prepared by Pete Pappano at ORNL)

*S. Blaine Grover, INL, USA*

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First Principles Modelling of Diffusion in Graphite

*I. Suarez-Martinez, A.A.El-Barbary, M.I. Heggie, The University of Sussex, UK*

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Special Session (Monday – one hour)

“Graphite materials programme for the VHTR system in conjunction with Generation IV activities (towards the NGNP planned for construction in 2017 in the US)”

*Led by Derek Buckthorpe, NNC. Ltd.*

“Present Status of Research on Graphite, C/C Composites and Safety Demonstration Test in the HTTR Project”

*T.Shibata, J.Sumita, M.Ishihara, S.Hanawa, K.Sawa and T.Iyoku, Japan Atomic Energy Research Institute (JAERI)*

**THE PROGRAMME IS NOW IN PREPARATION AND WILL BE ADVISED VERY SOON. WATCH THIS SITE FOR DETAILS.**

**ALL PRESENTATIONS SHOULD USE POWERPOINT AND WILL BE COLLECTED ON CD-ROM AT THE END OF THE CONFERENCE FOR DISTRIBUTION TO DELEGATES. ANYONE WHO DOES NOT HAVE ACCESS TO POWERPOINT IS REQUESTED TO USE OHPS INSTEAD.**

**MOST TALKS WILL BE ABOUT 20 MINUTES IN DURATION PLUS DISCUSSION TIME. THE FINAL SCHEDULE WILL BE PUBLISHED WITHIN A FEW DAYS OF WRITING THIS (13<sup>th</sup> August!). PLEASE CONSULT THE SITE AGAIN TO FIND THE EXACT TIME AND DURATION OF YOUR TALK.**