

Grand Challenge, Top and Tail, Annual Technical Review Meeting

University of Strathclyde, Glasgow

Montrose Room (R2.15), Royal College Building.

Monday 26th November 2012

AGENDA

- 09.00am – 09.30am Registration and Coffee
- 09.30am – 09.40am **INTRODUCTION:**
Simon Rowland – University of Manchester
- A NEW TOP**
- 09.40am – 09.45am **ACTIVITY 1.3: SUPER-SCALE HVDC**
SESSION CHAIR: ALUN VAUGHAN – UNIVERSITY OF SOUTHAMPTON
- 09.45am – 10.05am **Activity 1.3.1: The MV, 5 kA Cable**
Antonios Tzimas, University of Manchester:
The Importance of Interfaces
- 10.05am – 10.25am **Activity 1.3.2: Approaching the Ideal Semiconductor**
Hua Rong, University of Warwick:
Design of High Voltage Termination Structures for SiC Diodes and MOSFETs
- 10.25am – 10.45am **Activity 1.3.3: Topology, Modularity and Contingency**
Yixue Feng, University of Nottingham:
Power Flow Control and Fault Ride Through DC Grids
- 10.45am – 11.05am Philip Clemow, Imperial College:
Partial Power Transfer in Modular VSC HVDC Links Subject to Subsystem Outages
- 11.05pm – 11.25am Frederick Page, University of Strathclyde:
Protection and Circuit Breakers for HVDC Networks
- 11.25am – 11.45am **TEA AND COFFEE BREAK**
- 11.45am – 11.50am **ACTIVITY 1.1: PLANNING A TRANSCONTINENTAL INTERCONNECTED SYSTEM**
SESSION CHAIR: KEITH BELL – UNIVERSITY OF STRATHCLYDE
- 11.50am – 12.10pm **Activity 1.1.1: Design and Technology Strategy for the Future UK and European Energy Infrastructure**
Iain Staffell, Imperial College:
An Energy Transport Reference Case
- 12.10pm – 12.30pm **Activity 1.1.2: Planning an Interconnected North Sea and EU Grid**
Danny Pudjianto, Imperial College:
Planning an Interconnected EU Electrical Grid: the Approach and Preliminary Analysis

- 12.30pm – 12.35pm **ACTIVITY 1.2: OPERATION OF A TRANSCONTINENTAL SYSTEM**
SESSION CHAIR: VLADIMIR TERZIJA – UNIVERSITY OF MANCHESTER
- Activity 1.2.2: Transient Stability and Operation Limits**
- 12.35pm – 12.55pm Melios Hadjikypris, University of Manchester:
Fast Transient Process in Mixed ACDC Networks.
- 12.55pm – 13.15pm Claudia Spallarossa, Imperial College:
Assessment of Disturbance Propagation between AC Grids through HVDC Links using Reduced Great Britain Model
- 13.15pm – 14.15pm LUNCH**
- 14.15pm – 14.20pm **THE TAIL**
ACTIVITY 2.1: STARTING WITH DEMAND
SESSION CHAIR: NICK KELLY – UNIVERSITY OF STRATHCLYDE
- Activity 2.1.1: The New Demand**
- 14.20pm – 14.40pm Nick Kelly, University of Strathclyde
Predicting New Energy Demands in New and Retrofit Dwellings
- 14.40pm – 15.00pm Sam Hubble, Cardiff University:
Understanding the Dynamics of Domestic Electricity Supply, Consumption and Demand Reduction
- 15.00pm – 15.05pm **ACTIVITY 2.2 THE LAST MILE ELECTRIC NETWORK**
SESSION CHAIR: MARK JOHNSON – UNIVERSITY OF NOTTINGHAM
- Activity 2.2.1: Revolution in Voltage Regulation**
- 15.05pm – 15.25pm Richard Silversides, Imperial College:
High Density Mid – Feeder Converter for Increasing Capacity in the Tail
- 15.25pm – 15.45pm **TEA & COFFEE BREAK**
- 15.45pm – 16.05pm **Activity 2.2.3: Cable Stress – Utilisation of Existing Cable Infrastructure in New Systems**
Dimitris Antoniou, University of Manchester:
Electric Fields in LVDC Cables
- 16.05pm – 16.25pm **Activity 2.2.4 Protecting the Last Mile**
Abdoulha Emhemed, University of Strathclyde
Protecting the Last Mile – Enabling an LVDC Distribution Network
- 16.25pm – 16.45pm **SUMMARY AND MEETING CLOSE**
Tim Green – Imperial College