

3rd Annual

# Increasing Grid Reliability for Transmission and Distribution Networks

Successfully overcoming the challenges for stable and reliable electricity provision enhancing customer satisfaction

Vienna, Austria

27th–28th  
September 2007

**“With electricity demand rising and a growing number of renewable energy sources on the network, grid flexibility needs to be enhanced to improve capacity and accommodate the demands of a deregulated market”**

Attending this premier **marcus evans** conference will enable you to:

- Explore ways of **integrating** successfully **wind power** in your grid
- Maintain and improve grid stability in networks with increasing amount of **distributed generation**
- **Prevent failures through** improved monitoring methods for the quality of components
- **Reduce outage time** by applying advanced methods for acquiring process information
- **Improve** effectively your current installations and applications by integrating new tools of **telecommunication**
- Develop a state of the art **predictive maintenance** programme

The challenge for most stakeholders involved in grid development is the ability to link the benefits of technology investment to strategic utility projects and business process changes.



## Confirmed Speakers:

**Stefan Dohler**  
Managing Director  
**Vattenfall Europe Distribution Berlin & Hamburg, Germany**

**Edgar Goddard**  
Electricity Network Investment Manager  
**National Grid Transmission, UK**

**Hubert Lemmens**  
Chief Executive Transmission  
**Elia Group, Belgium**

**Malgorzata Klawe**  
Vice-President  
**UCTE**

**Prof Wil Kling**  
Power Systems Laboratory  
**TU Delft and TenneT, The Netherlands**  
*(subject to final confirmation)*

**Dr Athanassios Koronides**  
Executive Director for System Development and Maintenance  
**Hellenic Transmission System Operator, Greece**

**Dr. Joachim Kabs**  
Head of Network Development and Asset Management  
**E.ON Energie, Germany**

**Christopher Regan**  
Director of Process Engineering  
**Endesa, Spain**

**Sifiso Pat Mazibuko**  
Grid Manager, North West Grid  
**Eskom Transmission Division, South Africa**

**Guillermo Amann**  
Business Development Manager  
**Grupo Ormazabal, Spain**

**Moisés Mazpule**  
Marketing Manager  
**Grupo Ormazabal, Spain**

**Martin Speiermann**  
VP of Sales and Marketing  
**PowerSense, Denmark**

**Aurélio Blanquet**  
Associate Director of Network Operations  
**EDP Distribuição, Portugal**

**Marco Poorts**  
Manager Strategy Development Department  
**Essent Netwerk, The Netherlands**

**Denis O'Leary**  
Head of Asset Management  
**ESB Networks, Ireland**

**Jeremy Willmore**  
**IBM – Global Energy & Utility Industry**

## Benefit from Case Study Presentations by:

- **UCTE** analysing the European Grid (nearly-) **blackouts** and the impact on grid reliability of the UCTE-network future expansion
- **Elia Group** describing the handling of emergency situations in the Belgian transmission grid
- **Hellenic Transmission System Operator's** strategies to increase the stability and reliability of the transmission network especially in the Greek southern region, including the metropolitan area of **Athens**
- **Vattenfall Europe Distribution** discussing the potential impact of the political and regulatory framework on the financiability of networks and the correlation with network security, especially in metropolitan areas such as Berlin and Hamburg
- **National Grid** tackling the effect of large scale wind farms on the operation and stability of the network

## Silver Plus Sponsors:

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Day 1

27th September 2007

08:30 Coffee and Registration

09:00 Chair's Opening Remarks

#### SECURITY OF SUPPLY

09:10 **Which New Mechanisms and Structures for TSOs in Europe Can Efficiently Meet the Actual Challenges of Reliability?**

- UCTE vision towards future mechanism and structures for TSOs in Europe
- The impact on grid reliability of the UCTE-network future expansion (to Eastern Europe, Northern Africa and the Middle East)

*The Union for the Co-ordination of Transmission of Electricity (UCTE) coordinates the interests of transmission system operators (TSOs) in 23 European countries. Their common objective is to guarantee the security of operation of the synchronously interconnected system and 50 years of joint activities laid the basis for an outstanding operational quality.*

**Malgorzata Klawe**  
Vice-President  
**UCTE**

09:50 **CASE STUDY**

**Strategic Network Planning and Investment for Grid Reliability Improvement**

- Improving the security of supply to meet with customers' demands
- Grid reliability improvement projects: feasibility study, experiences and lessons learnt
- Future investment and maintenance strategies driven by the current development of the political and regulatory framework within the EU and Germany
- The potential impact of the political and regulatory framework on the financiability of networks and the correlation with network security
- Case study of the two largest German metropolitan distribution areas: Berlin and Hamburg

**Stefan Dohler**  
Managing Director  
**Vattenfall Europe Distribution Berlin, Germany**

10:30 Morning Coffee

11:00 **CASE STUDY**

**Transmission Network Reliability in a Competitive Electricity Market**

- Balancing the political, regulatory and commercial context
- Understanding the stakeholder environment
- Asset management and incentivising reliability
- Using innovation as an enabler
- Managing new technology challenges and their impact

**Edgar Goddard**  
Electricity Network Investment Manager  
**National Grid Transmission, UK**

11:40 **CASE STUDY**

**Assessing the Value of your Outage Management Solutions during Bottlenecks or Blackouts**

- Integrate Power System (IPS) risk profile
- Outage management and co-ordination
- Challenges and impact of outages in the IPS
- Mitigation strategies

**Sifiso Pat Mazibuko**  
Grid Manager, North West Grid  
**Eskom Transmission Division**

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#### DISTRIBUTION AUTOMATION AND OUTAGES

12:20 **CASE STUDY**

**Improving Quality of Service – Focus on Protection and DA Systems in Reducing Outage Minutes**

- Regulation and customer satisfaction - improvement actions vs. corporate QoS improvement programmes
- Impact of DA systems in reducing outage minutes
- Trends and future of DA, fault location and systems intelligence
- Constraints and key success factors in DA strategies

**Aurélio Blanquet**  
Associate Director of Network Operations  
**EDP Distribuição, Portugal**

13:00 Luncheon

14:00 Coffee and Networking

14:30 **SmartGrid – Focus on New Medium Voltage Grid Structure and Data Management**

- Political factors and the SmartGrid
- The new MV grid structure
- Data flows in the new grid structure
- Added functionality
- Constraints and key factors for successful strategies

**Jeremy Willmore**  
**IBM – Global Energy & Utility Industry**  
*Introduced by PowerSense*

#### RENEWABLE ENERGY SOURCES INTEGRATION INTO THE POWER GRID

15:10 **Impact of Distributed Generation (DG) on Network Reliability and Power Quality**

- The management of distribution networks with integration of distributed generation
- Maintaining and improving grid stability in networks with increasing amount of DG
- Dealing with stability problems caused by Distributed Generation
- The needs of a Smart Network to embrace increasing levels of Distributed Generation

**Prof Wil Kling**  
Power Systems Laboratory  
**TU Delft and TenneT, The Netherlands**  
*(subject to final confirmation)*

15:50 Afternoon Tea

16:20 **Wind Power Integration in the Transmission Network**

- Vision and road map for wind power generation
- Increased wind-power: the challenge of handling this in system planning
- Effect of large scale wind farms on operation and stability of the European 400kV network
- Harmonised grid code requirements for wind power plants
- Is there a severe limit of the share of renewable energy systems for the grid reliability?

*Speaker subject to confirmation*

17:00 **PANEL DISCUSSION**

**The Liberalised Networks: Improved Reliability?**

- Liberalisation of the energy sector brings new challenges and new opportunities for all players
- What are the barriers and enablers for effective innovation in a liberalised sector?
- What role does a regulator have and what responses are needed from the network owners and other players?
- The sometimes negative impact of liberalisation and privatisation on reliability of supply with overloaded electricity lines

*The panel will be joined by key speakers from the day*

17:30 Chairperson's Closing Remarks and End of Day One

28th September 2007

# Booking Line

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08:30 Coffee and Registration

09:00 Chair's Opening Remarks

## 09:10 CASE STUDY

### Handling of Emergency Situations in the Belgian Transmission Grid

- Risk assessment and risk mitigation policies
- The structure and functioning of the Elia Emergency plans
- Training and exercises
- Learning from experience feedback

#### Hubert Lemmens

Chief Executive Transmission

Elia Group, Belgium

## 09:50 CASE STUDY

### Measures Taken, Strategies and Results to Improve Voltage Stability in the Interconnected Power System of Greece and Preliminary Results of High Wind Penetration Studies

- Solving inherent problems of the power system that are associated to the fact that a large percentage of the power production is in the North while the dominant consumption is in the South and that all the International Interconnections of the Country are in the North, thus worsening the production - load balance equilibrium
- Lessons learnt from a real voltage collapse and blackout in the southern part including the metropolitan area of Athens in the summer of 2004 and measures taken since
- Implementing on line Voltage Stability Assessment (VSA) software in the control centres that inform operators when voltage stability limits are reached
- Automating transformers and load rejection schemes has proven successful under real conditions during the summer peak of 2006
- High wind penetration study: voltage stability, transient and dynamic stability, system production modelling

#### Dr Athanassios Koronides

Executive Director for System Development and Maintenance

Hellenic Transmission System Operator, Greece

10:30 Morning Coffee

## ASSET MANAGEMENT

## 11:00 CASE STUDY

### Asset Management Concept Exemplified by Efficiency Improvement of Steel Towers

- Atmospheric conditions as an initiator for spacious disturbances
- Measures taken to minimise the effects of weather conditions on security of supply
- Identifying and evaluating existing risks
- Constraints of an overall replacement project
- Risk matrix for prioritisation
- Ensuring a customer oriented and reliable network

#### Dr. Joachim Kabs

Head of Network Development and Asset Management

E.ON Energie, Germany

## 11:40 CASE STUDY

### Risk Based Asset Management for Reliable Transmission and Distribution Networks

- PAS 55-1 certification of Asset Management department
- Risk based asset management as a strategy to increase grid reliability
- Active risk manager to support decisions for business values as increasing grid reliability

#### Marco Poorts

Manager Strategy Development Department

Essent Network, The Netherlands

## 12:20 CASE STUDY

### Improving Reliability of T&D Networks

- Risk Analysis
- Investment prioritisation
- Infrastructure delivery
- Contractor management strategy

#### Denis O'Leary

Head of Asset Management

ESB Networks, Ireland

13:00 Luncheon

14:00 Coffee and Networking

## AUTOMATION AND TELECONTROL

## 14:30 Improved Service Restoration in a Remote Rural Distribution Network, by Applying an Integrated Automation System

- The real case of the poor quality of service (continuity of service) of an overhead distribution network, serving a remote rural area
- The implementation of an integrated automation system became the solution
- The integration of the automation system reduced the installation and commissioning times, improving the reliability of the operation
- The result: the automation systems reduced significantly the customer time lost, to acceptable level according to existing legislation

#### Guillermo Amann

Business Development Manager

Grupo Ormazabal, Spain

#### Moisés Mazpule

Marketing Manager

Grupo Ormazabal, Spain

## 15:10 CASE STUDY

### Information and Communications Technologies as a Driver for Strategic Evolution and Innovation in Operation and Maintenance

- The role of ITC as a driver for the change
- Communications network serving telecontrol systems
- Future trends for O&M strategy
- Smart network for O&M requirements

#### Christopher Regan

Director of Process Engineering

Endesa, Spain

15:50 Afternoon Tea

## 16:20 The Role of IEC 61850 Protocol in Improving Reliability

- The impact of the interoperability of the IEDs in the systems performance, reliability and cost
- The possibilities and limits of the interchangeability of IEDs and its impact in the system availability, reliability and TCO
- The importance of the SCL and the relevant issues related to the configuration tools in order to assure a proper level of interoperability of the IEDs
- The new roles and skills for the utility, the system integrator and the vendor to assure the improvement of performance and reliability, and strategies to decrease the TCO

*Speaker subject to confirmation*

## 17:00 PANEL DISCUSSION

### Grid Design: How and Why

- Basic Design: choice of voltages, capacity, earthing, topology
- Engineering standards: GIS versus AIS, busbarconfigurations, protection, substation lay-out
- Optimising investments versus customer minutes lost
- Reducing EM-fields (and to which level?)

*The panel will be joined by key speakers from the day*

17:30 Chairperson's Closing Remarks and End of Conference

## Business development opportunities

Does your company have services, solutions or technologies that the conference delegates would benefit from knowing about? If so, you can find out more about the exhibiting, networking and branding opportunities available by contacting our sponsorship division.

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- VENDORS & CONSULTANTS @ EUR 2999 + VAT**

#### Payment is required within 5 working days.

The credit card payment amount will be deducted in Euro. A 24% service charge has been added to all conference fees prior to the event and is inclusive of programme materials, luncheon and refreshments. VAT will be charged at the country rate where the conference will be held.

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### Registration Details

**CONFERENCE:** INCREASING GRID RELIABILITY FOR TRANSMISSION AND DISTRIBUTION NETWORKS

**DATES:** 27TH-28TH SEPTEMBER 2007

**VENUE:** VIENNA, AUSTRIA

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