Interactive Workshop Day | Wednesday, 28 August 2013

A | Advances in offshore substation design
B | O&M concepts for offshore platforms
C | Jacket/topside structures vs. self-installing concepts
D | Substation requirements and functional designs

Meet these experts amongst others:

Martin Russo,
Head of Offshore Platforms,
Dong Energy Wind Power A/S,
Denmark

Andreas Rosponi,
Managing Director,
Overdick GmbH & Co. KG,
Germany

David Fallon,
Deputy Package Manager,
Centrica Energy Plc., UK

Dan Gardner,
Offshore Platform Lead Engineer,
RWE Npower Plc., UK

Poul Damgaard,
Senior Project Manager,
Energinet.DK, Denmark

Christoph vor dem Brocke,
Competence Center Offshore Platforms,
TenneT Offshore GmbH, Germany

Chairman:
Prof. Dr. Thomas Betz,
Vice Dean of Faculty Electrical Engineering,
Darmstadt UAS, Germany

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Darmstadt University of Applied Sciences
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Who will you meet:

by Industry
- Wind farm owners / operators
- Electrical equipment suppliers
- Transmission system operators
- Substation designers
- Marine contractors

by Department
- Offshore Operations
- Substation Design
- Electrical Engineering
- Substation Packaging
- Offshore O&M
Conference Day One | Monday, 26 August 2013

08:45 Registration & welcome coffee

09:15 Chairman’s opening
Prof. Dr. Thomas Betz,
Vice Dean of Faculty Electrical Engineering,
Darmstadt University of Applied Sciences, Germany

09:30 Speed Networking
Meet your industry peers in this series of quick-paced one-to-one meetings – make sure to bring a stack of business cards!

International standards for offshore substations

10:30 The DNV standard for offshore wind platforms – experience and the latest update
- Experience to date with the DNV-OS-J201 for AC and HVDC platforms and the different interpretations of the standard
- The improvements and new items in the DNV-OS-J201 June 2013 standard
- International offshore standards – hope for a harmonisation?
Claus Christensen,
Regional Manager Wind Energy Certification,
Det Norske Veritas, UK

11:00 Practical experience with the application of offshore platform standards
- Experience of using DNV-OS-J201 for Gwynt y Môr
- Application of oil & gas codes and specification approach for the Galloper North platform
- Current trends in offshore standards from RWE’s point of view
Dan Gardner,
Offshore Platform Lead Engineer,
RWE Npower Plc., UK

11:30 Refreshment break & networking

Practical experience with substations from design to installation

12:00 DONG Energy experience with Borkum Riffgrund 1 offshore substation
- Tailored designs for substructure and topside
- Jackets and crane vessel used for installation – advantages of fixed structures
- From project experience to improvements of tools and processes
Martin Russo,
Head of Offshore Platforms,
Dong Energy Wind Power A/S, Denmark

12:30 Substation design and installation for Lincs wind farm – case study
- Design and installation of the substation jacket and topside
- Connection to the existing National Grid substation at Walpole
- First operation experience and outlook on next projects
David Fallon,
Deputy Package Manager,
Centrica Energy Plc., UK

13:00 Networking luncheon

14:30 BorWin Alpha – design and installation of an HVDC converter platform
- A design to meet the special requirements for HVDC equipment
- Challenges for transport and installation of the offshore converter
- Moving on to DolWin Alpha and DolWin Beta
Technical senior level speaker to be confirmed,
ABB AG, Germany

Self-installing designs vs. fixed structures

15:00 The MOAB platform concept and its application for offshore wind
- Adapting an oil&gas proven solution in the electro-technical environment, technology and contracting
- Using the self-erecting floating platform for Global Tech I
- Experience today and outlook on upcoming projects
Andreas Rosponi,
Managing Director,
Overdick GmbH & Co. KG, Germany

15:30 Refreshment break & networking

16:00 Developing the design concept for the MEG 1 Substation
- Experience with earlier substation projects and lessons learned
- Functional improvements in the MEG 1 substation design
- Design decisions regarding the substructure
Jörg Thumann,
Project Leader MEG 1 Substation,
Windreich AG, Germany

16:30 Anholt Substation – A gravity based jacket/topside structure
- Data for topside and foundation of the 400 MW AC platform
- Details of the GBS and experience from construction and installation
- Comparing of cost for jacket and gravity-based foundation
Poul Damgaard,
Senior Project Manager,
Energinet.DK, Denmark

17:00 Self-installing substations – Panel discussion
Discuss the advantages of conventional jacket/topside structures vs. self-installing platforms, with respect to design, transport and installation.

Speakers of the day, and
Peter Petersen,
Chief Structural Engineer Offshore Platforms,
Dong Energy Wind Power A/S, Denmark

There will be room for questions from the audience.

17:30 Closing remarks of the chairman

Casual evening reception
Get together with the other experts for a networking event with dinner and drinks

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07:50 Registration & welcome coffee

08:20 Chairman's opening
Prof. Dr. Thomas Betz,
Vice Dean of Faculty Electrical Engineering,
Darmstadt University of Applied Sciences, Germany

Advances in cabling for substations

08:30 High Voltage cabling on Offshore Substations
• Risk analysis, lagging standardisation
• Technical solutions, innovations in testing
• Operational and legal solutions
Laurens Pots,
Bu Manager Energy,
BV Twentsche Kabelfabriek (TKF), Netherlands

HV technology in offshore environments

09:00 Optimisation of substations and their transformers for the offshore environment
• Transformer cooling methods and insulation properties
• Enhancement of HV/MV topology to comply with third party requirements
• Best practices based on our O&M experience
Jean Charles Beauverger,
Electrical Lead Engineer,
CG Holdings, Belgium

09:30 Reducing redundancy systems – weighing cost vs. risk
• Examples of lean concepts for transformer stations
• Advantages of 3-winding transformers and their risk factor
• Efficient risk management and cost estimation for different scenarios
Sven Höpfner,
Senior Systems Design Engineer & Project Manager
Offshore HV Substations,
Alstom Grid GmbH, Germany

10:00 Round Tables – Main challenges for offshore foundations
We will identify the key challenges for design, production and installation of offshore substructures in a live survey (bring your mobile device).
The topics will then be discussed on 6 round tables – along with coffee and snacks.

11:00 Certification requirements for arrangement and design of electrical equipment
• Existing rules and standards for low voltage equipment (transformer and HVDC platforms)
• Arrangement and operation of high voltage components and systems in an offshore environment
• Pragmatic application of (onshore) standards for the certification of offshore substations
Andreas Mäscher,
Project Manager, Senior Engineer E&I,
GL Noble Denton, Germany

11:30 Monitoring requirements for AC and DC offshore platforms
• Monitoring of the different auxiliary systems compared
• Difference of partial discharge measurement of HVAC and HVDC systems
• Difficulties of evaluation of DC-partial discharges
Prof. Dr. Thomas Betz,
Vice Dean of Faculty,
Darmstadt University of Applied Sciences, Germany

12:00 Networking luncheon

O&M concepts for offshore platforms

13:30 O&M experience with Baltic 1 offshore substation – case study
• The original O&M concept and necessary adjustments
• Maintenance efforts for auxiliary systems
• Condition monitoring and planned maintenance concepts
Dr. Michael Splett,
Manager Engineering O&M Offshore,
EnBW Emeuerbaren Energien Gmbh, Germany

14:00 Considering O&M during the design phase for substations
• O&M experience and lessons learned with existing projects
• Examples of maintenance friendly platform designs
• “Maintenance free” designs vs. planned maintenance
Christoph vor dem Brocke,
Competence Center Offshore Platforms,
TenneT Offshore Gmbh, Germany

15:00 Experience with operation and maintenance from the oil & gas industry
• Maintenance-free/friendly offshore platform designs
• O&M strategies throughout the substation lifecycle
• How can the oil & gas experience be applied to offshore wind?
Christian Juel Adamsen,
Team Leader Oil&Gas Maintenance,
Ramboll Group, Denmark

15:30 Advantages of manned vs. unmanned offshore platforms
• Advantages of a separate accommodation platform – experience from DanTysk
• Mitigating fire risk for manned / unmanned offshore platforms
• From what size and distance to shore are manned platforms the better option?
Petja Stoever,
Package Manager Offshore Accommodation,
Vattenfall Europe Windkraft GmbH, Germany

16:00 Trend tracking – Future substations
Is there a marked trend towards one type of design?
Which is the most efficient way to optimise the CoE?
Help us track the industry opinion in this survey session, and join the subsequent discussion.
Please bring your mobile device for our live-poll!

16:30 Closing remarks of the chairman

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## Interactive Workshop Day | Wednesday, 28 August 2013

### Workshop A | 09:30 – 12:30
**Advances in offshore substation design**

While there has been a quick paced evolution of offshore platforms in the last years, there is still plenty of room for improvements. Participants are welcome to discuss:

- Current trends and developments in substation design
- Project experience and lessons learned
- Main challenges for HVAC vs. HVDC platforms

The workshop will follow up on the discussions on the conference days and allow designers, manufacturers, and marine contractors to share their experience.

Etienne Lemaire, Engineering Manager, CG Holdings, Belgium

### Workshop B | 09:30 – 12:30
**O&M concepts for offshore platforms**

The workshop will discuss best ways to optimize O&M strategies for offshore platforms. Special attention will be given to:

- O&M experience and cost-efficient strategies
- Manned vs. unmanned offshore platforms
- Advances in SCADA systems and CMS

The aim of this interactive session is to define both the challenges and the potential for maintenance and operation with special attention to offshore logistics.

Petja Stoever, Package Manager Offshore Accommodation, Vattenfall Europe Windkraft GmbH, Germany

### Workshop C | 13:30 – 16:30
**Jacket/topside structures vs. self-installing concepts**

With the growing size of substations and the resulting challenges for transport and installation, self-installing designs are rapidly gaining importance. The workshop will focus on:

- Experience with transport and installation
- Logistic challenges and risk factors
- Future concepts to improve the CoE

Project developers, substation designers, and marine contractors are welcome to join the discussion and evaluate project experience and future solutions.

For further information please visit our event website [www.offshore-windpower-substations.com/MM](http://www.offshore-windpower-substations.com/MM)

### Workshop D | 13:30 – 16:30
**Substation requirements and functional designs**

Designs for substations and converter platforms have to consider a variety of different aspects, ranging from transportability to H&S standards. The workshop offers a holistic view design requirements, such as:

- Potential for standardisation and cost improvement
- H&S requirements and accessibility
- Designs optimised for transport and O&M

The aim is to discuss and develop efficient concepts to harmonise these requirements and advance functional platform designs.

For further information please visit our event website [www.offshore-windpower-substations.com/MM](http://www.offshore-windpower-substations.com/MM)

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