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networking and knowledge exchange

3rd International Conference

Offshore Wind Power SUBSTATIONS 2014

Optimising design and reducing lifecycle cost for offshore substations and converters

20 – 22 August 2014 | Swissôtel Bremen, Germany



The following companies will present:

- 50 Hertz Offshore GmbH
- ABB AG
- Bladt Industries A/S
- CG
- DONG Energy A/S
- DNV GL - Oil & Gas
- E.ON Climate & Renewables GmbH
- EnBW AG
- Energinet.dk
- GEO-Engineering.org GmbH
- Global Tech 1 Offshore Wind GmbH
- Hitachi Ltd.
- Iberdrola Engineering & Construction
- RWE Innogy GmbH
- SeaReenergy Offshore Holding
- Siemens Energy Transmission
- Semco Maritime A/S
- Vattenfall Europe Windkraft GmbH
- Vattenfall Offshore Wind Power

- Discover **new design approaches** and installation concepts in 8 exclusive case studies
- Evaluate installation **experience with floating topsides** and different foundation concepts
- **Reconsider safety aspects** and how to integrate them into design and project management
- Gain insight into **O&M requirements and design strategies** to reduce service hours
- Get an update on North Sea HVDC projects and **far-shore AC connections**

Confirmed speakers include:



Alfonso Martinez Caminero
Engineering Manager
Iberdrola Engineering & Construction,
Spain



Martin Russo
Head of Substations
DONG Energy A/S,
Denmark



Matthias Esken
Project Manager NSO Offshore Substation
RWE Innogy GmbH,
Germany



Dr. Lorenz Müller
Head of Offshore Projects
50Hertz Transmission GmbH,
Germany



Michael Still
Grid Connection Manager
E.ON Climate & Renewables GmbH,
Germany



Adeel Khan
Senior Project Engineer Electrical
Vattenfall Offshore Wind Power,
UK

Interactive Workshop Day | Friday, 22 August 2014

- A** | Advances in substation design
- C** | Electrical design risks with respect to EPCI and multi-contracting strategies

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20 – 22 August 2014 | Swissôtel Bremen, Germany

"Great Exchange!"

Mario Haim, Head of R&D, **Schneider Electric Sachsenwerk GmbH**

"The conference gives a perfect possibility to everyone who wants to get in contact with companies which focus all the same topics you're interested in. Don't miss that chance!"

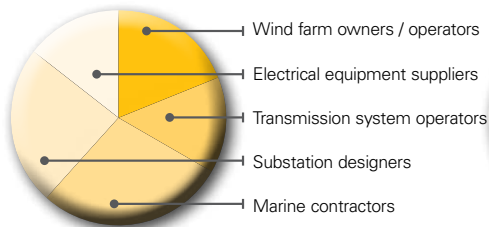
Michaela Schmitz, Lead Component Buyer Substations, **RWE Innogy GmbH**

"Some great project experiences shared with good explanations and interactions with the speakers"

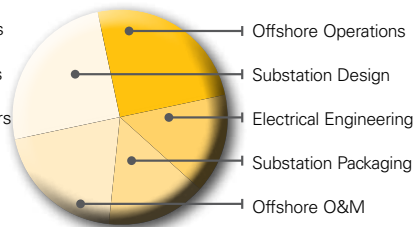
Adeel Khan, Senior Project Engineer, **Vattenfall**

Who will you meet:

by Industry



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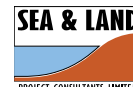
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Conference Day One | Wednesday, 20 August 2014

08:30 Registration & coffee

Who is who wall



Learn about your peers. Discover who else is participating in the conference. The matchmaking wall will help you identify the delegates you want to meet at the conference.

09:15 Chairman's opening
Peter Petersen, Chief Structural Engineer Offshore Platforms, DONG Energy A/S, Denmark

Current experience with European OSS projects – Case study session

09:30 Experience with design, construction and installation for the Northwind substation

- General outline of the platform and special design aspects
- Experience with construction, transport and installation
- Lessons learned and room for improvement for future substation projects

Troels Jensen,
Head of Oil&Gas,
Bladt Industries A/S, Denmark

10:00 Experience and lessons learned with the Nordsee Ost Offshore Substation

- Status of NSO OSS and special interfaces
- How to manage to get the 3rd BSH report from the certification body in 10 months' time
- Outline of electrical design concepts in relation to commercial aspects
- Contracting strategies and related challenges

Matthias Esken,
Project Manager NSO Offshore Substation,
RWE Innogy GmbH, Germany

10:30 Optimised OSS for specific client requirements

- Finding the best-suited installation concept
- Client requirements and technical necessities
- Manned vs. unmanned
- Savings potential
- Future trends and approaches

Guido Schulte,
Head of Project Design Department,
Nordic Yards Wismar GmbH, Germany

11:00 Speed Networking



Meet your industry peers in this series of quick-paced 1-1 meetings – make sure to bring a stack of business cards! The session is followed by a short coffee break.

11:30 Refreshment break & networking

12:00 DONG Energy experience with current substation projects

- Installation and grid access of the Borkum Riffgrund 1 platform
 - Design and production of the Gode Wind 1 and 2 substations
 - Lessons learned and new approaches for future projects
- Martin Russo,
Head of Offshore Substations,
DONG Energy A/S, Denmark

12:30 Recent experience in designing foundation structures for offshore substations

- Main features that influence the design of substation foundations
- Designing foundation structures to BSH requirements
- Comparison with North Sea oil and gas practice
- Designing grouted connections to the new Norsok requirements
- Where foundation cost savings might be made

Brian L. Smith,
Director,
Sea and Land Project Consultants Limited, UK

13:00 Networking luncheon

14:30 Experience with different substructure types for offshore substations

- Multi-pile concept for the Horns Rev 1 Substation
- Gravity-base substructures in Rødsand 2 and Anholt
- Plans and considerations for Horns Rev 3 and Kriegers Flak

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

15:00 Certification challenges of the DanTysk OSS and the accommodation platform

- Lessons learnt and best practices from the DanTysk project
- Development of the certification process from first erected OSS to the future OAP
- Certification 2.0 – the way to a faster and smoother certification process from OWP developer perspective

Madeleine Schmidt,
Certification Expert,
Vattenfall Europe Windkraft GmbH, Germany

15:30 Grid connection of the Fukushima floating substation

- Design properties of the world's first floating substation
- Experience with installation and grid connection
- Project phase 2 and future plans for its expansion

Kazutaka Yokoyama,
Business Division Manager Electrical Solutions,
Hitachi Ltd, Japan

16:00 Refreshment break & networking

16:30 Design concept of the Arkona-Becken Südost substation

- Site conditions and geotechnical studies
- The challenges of a combined substation from perspective of TSO and OWP
- The view of the designer on combining the requirements of the parties
- Outline of the design concept and installation strategy
- Current state of the project and further steps

Falk Lüddecke,
Managing Director,
tkb GmbH, Germany and
Michael Still,
Grid Connection Manager OWP Arkonabecken Südost,
E.ON Climate and Renewables GmbH, Germany

17:30 Project experience with the Wikinger offshore substation

- General outline of the project
- Key design aspects: certification process, main design challenges and proposed solutions
- Contracting strategy: Installation and fabrication highlights

Alfonso Martinez Caminero,
Engineering Manager,
Iberdrola Engineering & Construction, Spain

18:00 OSS experience and future trends – Open discussion

Discuss the advantages of conventional jacket/topside structures vs. self-installing platforms, with respect to design, transport and installation.

There will be room for questions from the audience

18:30 Closing remarks of the chairman & End of Day 1



Casual evening reception

Join this informal occasion for networking and further discussion in a traditional Bremen venue.


Conference Day Two | Thursday, 21 August 2014

08:15 Registration & coffee

08:50 Chairman's opening

Safety systems and HSE challenges for offshore wind platforms
09:00 **Safety aspects on offshore platforms for wind farms**

- A virtual tour across the offshore platform covering potentially dangerous locations
- Safety aspects from the certifier's perspective
- Lessons learned based on the certification of several offshore platforms

Bernd Grählert,
Senior Process & Safety Engineer,
DNV GL, Germany

09:30 **SemCheck – Asset Management Certainty**

- Integrated safe working procedures. – Reduce your risk profile!
- Are you in compliance with regulations and can you prove it?
- Do you know the status of your units? – Transparency of non-conformities.

Andrew Segers
Project Manager, HV & Substations
Semco Maritime A/S, Denmark

10:00 **Considering safety aspects in design and project management – lessons learned**

- Reduce risk ALARP – weighing risk and cost
- Practical examples and best practices
- Understanding platforms in the context of offshore wind logistics

Jakob Nielsen,
Head of EHS Region Offshore,
Siemens Energy Transmission, Germany

10:30 **Off Shore Substation Cabling**

- Risk analysis
- Site acceptance test using pD
- Solutions

Laurens Pots,
Manager Innovation & Technology,
tkf, BV Twentsche Kabelfabriek, Member of the TKH Group, The Netherlands

10:40 Refreshment break & networking

O&M concepts for offshore platforms
11:10 **Operations and maintenance friendly design for offshore wind platforms**

- O&M experience and lessons learned with EnBW projects
- What can substation design do to facilitate maintenance?
- Room for improvements regarding cost and service hours

Dr. Michael Splett,
Manager Engineering O&M Offshore,
EnBW AG, Germany

11:40 **Harmonising design and maintenance requirements lessons learned**

- O&M experience – Challenges and room for improvement
- Personal organisation and offshore logistics
- Defining maintenance requirements in an early project phase

Gerrit Schmitt,
Project Engineer,
Global Tech 1 Offshore Wind GmbH, Germany

12:10 **Change as a chance - How to be on top when necessary!**

- Know the 8 rules which will help you to start a process of improvement and you can implement them lasting
- Program yourself for success like top athletes
- Easily enhance your potential and your top performances

Matthias Herzog,
Industrial Engineer,
Keynote Speaker & Author

12:55 Networking luncheon

Advances in HVDC projects
14:00 **Update on construction and installation of DoWin Alpha and Beta**

- Monitoring of the different auxiliary systems compared
- Difference of partial discharge measurement of HVAC and HVDC systems
- Difficulties of evaluation of DC-partial discharges

Raphael Görner,
Head of Marketing Grid Systems,
ABB AG, Germany

14:30 **Installation experience with North Sea converter stations**

- Experience with the installation of a floating topside
- T&I concepts and realization for HVDC platforms
- Experience and lessons learned for future projects

Dr. Benjamin Vordemfelde,
Managing Director,
SeaReenergy Offshore Holding, Germany

15:00 **Carbon Trust OWA HVDC Substations Study**

- Overview of current activities and initial findings
- Optimising offshore substations to reduce cost
- Technical feasibility and benefits of combining the AC and DC substation equipment into a common platform

Megan Smith,
Associate, Innovation,
The Carbon Trust

15:30 Refreshment break & networking

Far-shore AC connections
16:00 **50Hertz offshore grid activities in the Baltic Sea**

- Project experience with Baltic 1 and 2 and beyond
- Practical challenges related to substations
- Room for cost-improvements from an TSO perspective

Dr. Lorenz Müller,
Head of Offshore Projects,
50Hertz Transmission GmbH, Germany

16:30 **Experience with far-shore AC connections**

- Technical reasons to connect offshore wind farms to shore through AC connections
- Project experience and practical examples
- Design of main electrical components and related challenges

Etienne Lemaire,
Engineering Manager,
CG, Belgium

17:00 Closing remarks of the chairman & End of Day 2

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Interactive Workshop Day | Friday, 22 August 2014

08:30 Registration with coffee & tea

Workshop A | 09:00 – 12:00

Advances in offshore substation design

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

- Technical challenges and **experience with 220kV** projects
- Defining the right level of **redundancies in electrical systems**
- Main challenges for **HVAC vs. HVDC platforms**

The workshop will follow up on the discussions on the conference days and allow **TSOs, WPOs** and **designers** to share their experience.

Etienne Lemaire,
Engineering Manager,
CG, Belgium

10:15 Refreshment break & networking

12:00 Networking luncheon

14:15 Refreshment break & networking

Workshop C | 13:00 – 16:00

Electrical design risks with respect to EPCI and multi-contracting strategies

The workshop will discuss experience with German HVDC converter stations with an outlook on **UK Round 3 projects**. This will include

- Advances in **standardisation for HVDC projects**
- **Supply chain issues and compatibility** of HVDC equipment
- At what stage the **design should be frozen?**

The aim of this interactive session is to define both the challenges and the potential for cost savings in HVDC Projects, as well as best ways to **optimise electrical design**.

Adeel Khan,
Senior Project Engineer Electrical,
Vattenfall Offshore Wind Power, UK

16:00 End of Workshop Day

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