

# Power Curve Working Group Agenda

Impact of 'non-standard' inflow  
6th Meeting, Tuesday 1 April 2014, DTU Risø Campus, Roskilde, Denmark

**Theme:** The 1<sup>st</sup> meeting gave a clear statement of the problem. The 2<sup>nd</sup> meeting examined possible solutions. The 3<sup>rd</sup> meeting put some of those solutions into practice. The 4<sup>th</sup> meeting consolidated the learning by examining new datasets. The 5th meeting focused on validating the candidate correction methods against real data. The 6<sup>th</sup> meeting will broaden the validation to additional datasets, examine the limitations of the correction methods and probe the Type B effects associated with these limitations.

## Welcome/Registration:

- 9.30am-10am: Tea/Coffee will be available.

## Morning Session: 10am-1pm

- 10.00 – 10.05 “Welcome” Rozenn Wagner (DTU)
- 10.05 – 10.15 “Introduction” Peter Stuart (RES)
  - “Review of Actions from Last Meeting”
  - “Agenda”
  - “Python Implementation of Consensus Analysis”
- 10.15 – 11.45 Working Group Presentations: Validation of the analytical corrections and the impact of Type B effects.
  - 10.15 – 10.30 “Validation Study”, Alec Clerc (RES)
  - 10.30 – 10.45 “Correction methods Vs real performance trends observed”, Diego Azofra (Barlevento)
  - 10.45 – 11.00 “Validation and Calibrations”, Richard Whiting (DNV GL)
  - 11.00 – 11.15 “Tip Stall” , Andreas Fischer (DTU)
  - 11.15 – 11.30 ‘Steps towards comparison of turbine performance across varying geometries.’, Matthew Colls (Prevailing)
  - 11.30 – 11.45 “Calculating site specific power curve loss estimates”, Dan Bernadette (AWS TruePower)
  - TBC<sup>1</sup> “Illustrating the Importance of Site Specific Power Curve”, Alan Derrick (RES)

## Coffee Break 11:45 – 12:00

- 12.00 – 12.15 “Inflow effects on power performance, focusing mainly on the effects of yaw misalignment and inflow angle”, Troels Friis Pedersen (DTU)
- 12.15 – 12.30 “Effect of shear and turbulence on AEP estimate”, Mark Kelly (DTU)
- 12.30 – 12.45 “Rotor Equivalent Wind Speed”, IÑAKI LEZAUN MAS (Gamesa)
- 12.45 – 13.00 “Experimental data and BEM Calculations”, Ioannis Antoniou (Siemens)

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<sup>1</sup> Presentation after lunch if no time in morning session.

**Lunch:** 13:00 – 14:00

**New Datasets and REWS Veer Round Robin: 14.00 – 14.30**

- 14.00 – 14.15 Overview of datasets and Veer Round Robin Exercise
- 14.15 – 14.30 Dataset discussion and clarifications

Note: the datasets and exercise will be made available in advance of the meeting.

**Discussion Session 14.30 – 15.45 (chaired by Richard Whiting DNV GL)**

- Validation Discussion
- Limitations of the analytical corrections → Type B Effects
- Guidelines on how to present power curve information in order to facilitate application of REWS and Turbulence Renormalisation methods
- Consensus on turbulence renormalisation

**Coffee Break 15.45 – 16.00**

**Wrap Up 16.00 – 17.00**

- Proposed PCWG meeting in US.
- EWEA Operational Workshop
- Guidelines document
- Turbulence renormalisation flow chart.
- Glossary
- Next steps for working group
- Wrap Up, Conclusions
- Continued Public Distribution of Minutes and Presentations
- Venue for next meeting

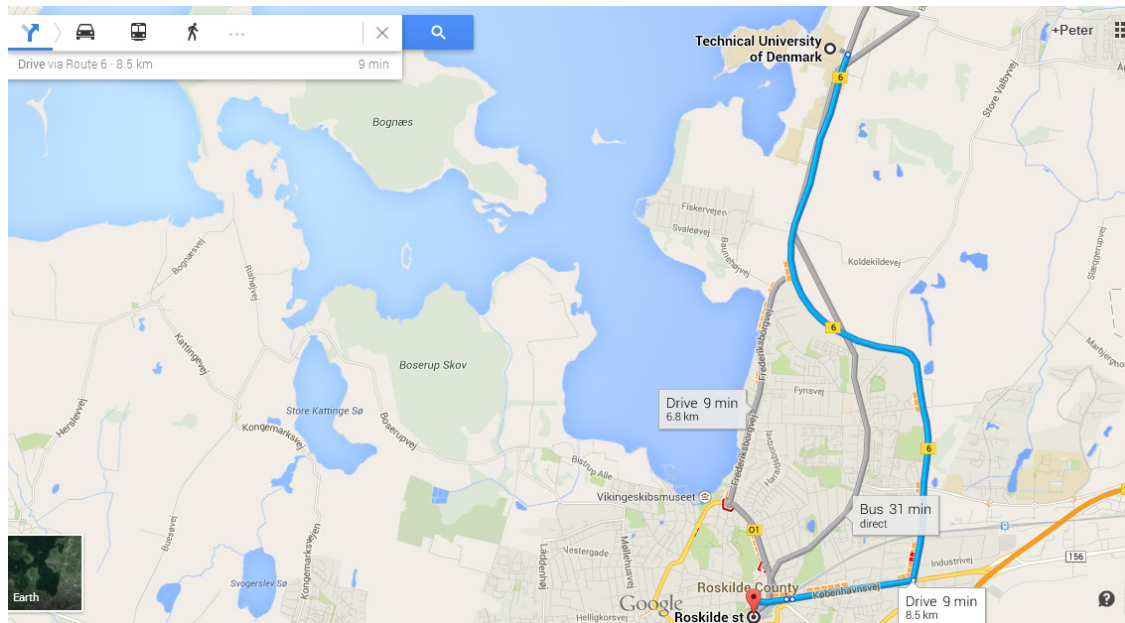
**Minutes and Presentation of Previous Meetings:**

<http://www.ewea.org/events/workshops/resource-assessment-2013/power-curve-working-group>

## Venue

The meeting will take place at DTU Risø Campus at Roskilde Denmark. Please ask for Rozenn Wagner at reception. **The meeting will take place in the H.H. Kock meeting room (first floor) in building 112.**

DTU Risø Campus  
Frederiksborgvej 399  
4000 Roskilde  
Denmark.



Directions to Riso DTU Campus

<http://www.vindenergi.dtu.dk/english/service/contact/direction-to-get-to-dtu-campus-risoe>

## Roskilde Hotels

<http://www.hotelprindsen.dk/prindsen/PRINDSEN/Forside.html> (in the center)

[http://www.scandichotels.dk/Hotels/Countries/Danmark/Roskilde/Hotels/Scandic-Roskilde/?cmpid=ppc&mckv=sS146dKCA\\_dc|pcrid|24599110820|kword|%2Broskilde%20%2Bhotel|match|b|plid|&gclid=CJ-c6eLhoLOCFQL3cgodMJEAXg](http://www.scandichotels.dk/Hotels/Countries/Danmark/Roskilde/Hotels/Scandic-Roskilde/?cmpid=ppc&mckv=sS146dKCA_dc|pcrid|24599110820|kword|%2Broskilde%20%2Bhotel|match|b|plid|&gclid=CJ-c6eLhoLOCFQL3cgodMJEAXg) (A few km from the center)

<http://www.comwellroskilde.dk/> (A few km from the center)

## Transport

DTU Risø is accessible by train from Copenhagen and Copenhagen Airport. A bus is available from Roskilde train station to DTU Risø. Alternatively there is a taxi rank just outside the train station.