WindSim Americas User Meeting
4 December 2014, Orlando

WELCOME

PRESENTED BY: Donna Rennemo
User Meeting Objectives

• Software Feedback – Welcome both good and bad
  • Discuss applications-problems-solutions

• Participant’s presentations
  • Serve as a springboard for general discussion
  • Share professional knowledge and experiences

• WindSim Software Maintenance and Development
  • Status and further plans
  • You can influence future releases – tell us about your needs
  • Meeting new demands in the industry

• Encourage discussions
# AGENDA

Orlando, Florida 4 December 2014

<table>
<thead>
<tr>
<th>Company</th>
<th>Speaker</th>
<th>Presentation Title</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>WindSim Americas Inc.</td>
<td>Donna Rennemo</td>
<td>Welcome &amp; Objectives</td>
<td>8:30AM</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>Christopher Nunalee Ph.D. Candidate</td>
<td>Generating Virtual Wind Climatologies through the Direct Downscaling of MERRA Reanalysis Data using WindSim</td>
<td>8:45AM</td>
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<tr>
<td>WindSim AS</td>
<td>Dr. Arne Gravdahl</td>
<td>AEP Optimization</td>
<td>9:15AM</td>
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<tr>
<td>Coffee Break</td>
<td>Coffee Break</td>
<td>Coffee Break</td>
<td>10:15AM</td>
</tr>
<tr>
<td>Pattern Energy, USA</td>
<td>Chad Ringley</td>
<td>Integration of WindSim’s Forecasting Module into An Existing Multi-Asset Forecasting Framework</td>
<td>10:45AM</td>
</tr>
<tr>
<td>Siemens Wind Power Americas</td>
<td>David Karkkainen</td>
<td>Turbulence Model Comparison in Complex Terrain</td>
<td>11:30AM</td>
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<tr>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>12:30PM</td>
</tr>
<tr>
<td>DOE’s Idaho National Laboratory, USA</td>
<td>Jake P. Gentle</td>
<td>Evolving Innovations in Technology - Grid System Planning for Wind: Dynamic Line Rating and Concurrent Cooling Model and Beta System</td>
<td>2:30PM</td>
</tr>
<tr>
<td>Aeroespacial Brazil</td>
<td>Caarem Studzinski</td>
<td>Use of Windsim for Pernambuco’s Dynamic Wind Atlas</td>
<td>3:15PM</td>
</tr>
<tr>
<td>WindSim Americas Inc.</td>
<td>Dr. Xuan Wu</td>
<td>Power Forecasting Development</td>
<td>3:45PM</td>
</tr>
<tr>
<td>WindSim AS</td>
<td>Dr. Arne Gravdahl</td>
<td>WindSim Version 7.0</td>
<td>4:15PM</td>
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</tbody>
</table>
| Depart for Evening Dinner Event| Meet in Hotel Lobby 5:30                     | Meet in Hotel Lobby 5:30                                                            | 5:45 PM    | Depart for Show
Advanced Training Event

- **Friday 5 December 9:00AM – 6:00PM**
- **Location WindSim Americas Offices**
  - 3505 Lake Lynda Drive, Suite 200 Orlando, FL 32817
WindSim AS: Market position

- The first commercially available version of WindSim software was launched in 2003
- Since then, there has been strong, steady growth in its adoption. Today WindSim is used by leading turbine manufacturers, developers, consulting companies and research institutes
- WindSim software is used in more than 50 countries on all continents

Accumulated licenses sold

A sample of our users
WindSim AS: Software Suite

**Software:**

- WindSim
- WindSim Evaluation
- WindSim Express/WindSim Express Cloud
- WindSim Park Optimizer
- WindSim Power Forecasting

**Tools:**

- WindSim Terrain Editor
- WindSim Reanalysis Data Downloader
- WindSim RSCT (Remote Sensing Correction Tool)
- MCU (Multiple Core Utilization)
WindSim AS: Software Suite – Wind project time span

Pre-construction
- Screening
- Virtual Wind Data
  - Measurement Campaign Design
  - Wind Data Analysis (MCP)

Construction
- Micro-siting
- Site Suitability
- Park Optimization
- Bankable AEP assessment
- Due diligence

Post-construction
- Post Construction Assessment
- Power Forecasting

WindSim
- WS Express/WS Express Cloud
- WS Reanalysis Data Downloader
- WS Park Optimizer
- WS Power Forecasting