Agenda:

Day 1 – 01.10.2024
9 am – 9.15 am: Welcome and updates from the organization Institutes • Welcome and introduction into the workshop – Vahan Gevorgian (NREL) / Jan Wenske (IWES)
9.15 am – 10.15 am: Project Updates of Organizing Institutes and Outlook • Update NREL – Gevorgian, Vahan • Update Clemson – Ozkan, Gohan • Update FSU – Schroder, Karl • Update IWES – Quistorf, Gesa
10.15 a.m. – 10.45 a.m.: Coffee break
10.45 am – 12.15 pm: Session I – Testing at test benches – Project updates and best practice all over the world – Part I • Testing of synchronous generator with emulation of natural gas combustion turbines and heat recovery steam generators. - Mather, Barry (NREL) • A High Power Grid Simulator Within a Weak Grid - Design Considerations– Smailes, Michael (CATAPULT) • Future grid Integration testing for Offshore Wind at IWES – Jersch, Torben (IWES) • The use of grid simulators in CEPRI and the development of 25MW drivetrain test bench – Qi, Chen (EPRI)
12.15 pm – 01.15 pm: Lunch
01:15 pm – 02:25 pm: Session II – Testing at test benches – Project updates and best practice all over the world – Part II • Update LORC. 21MVA grid emulator and new facilities – Rasmussen, Lars (LORC) • Energy-in-the-Loop: From Grid Simulation to High-power Testing in Energy Lab 2.0 –Felix Wald (KIT) • Grid simulator testing in a MW scale: new developments, updates, challenges, and results - Dangsheng Zhou (Hopewind)
02.25 pm – 03.00 pm: Coffee break

03.00 pm – 04.30 pm: Session III - User's perspective: Integration into the electrical validation process and incorporation into the standards – current status, challenges and needs

- G-CTR: An Industrial Approach to Validation of Wind Energy Converters Systems - Neshati, Mohsen (SGRE)
- Standardized way to perform test and measurements of Wind turbine components and subsystems on Test bench systems - Björn Andresen (Aarhus University)
- Using grid emulators in standardization of RES model validation - Poul Sorensen (DTU)
- GE 20 MW Test bench – Ramirez, Fernando (GE Energy Consulting)

04.30 pm – 04.45 pm: Short Break

04:45 pm – 05.55 pm: Session VI – Realtime systems

- HiL Simulation for Accurate Real-Time Inverter Testing in Wind Applications - Classe, Aiko (Typhoon)
- Hardware In Loop Testing for IBRs using the RTDS™ Simulator – Jegues, Chrisitan (RTDS)
- Challenges HIL – LE Application in Wind – Tempez, François (OPAL RT)

7:00 pm: Dinner

Day 2 – 02.10.2024

8:30 am – 08:40 am: Welcome to the second workshop day

08:40 pm – 10:10 pm: Session IV – Manufacturers' perspective and future challenges

- PHiL platform for real-time control and test scenario modelling using ABB's Grid Simulator – Bujak, Grzegorz (ABB)
- Presentation: GE – Usage and advantage of fast switching MV converters for Grid Emulation – Dr. Geske, Martin (GE Vernova)
- 20MVA Controllable Grid Interface Digital Twin buildup at NREL – Choi, Jae Hoon (NREL)
- Power Hardware-in-the-Loop with emulation of instantaneous values from a PC-based Control System -Johannsen, Nils (Beckhoff)

10:10 am – 10:40 am: Coffee break

10:40 am – 12.30 am: Session V – pHiL Setup, Interfaces & Optimization of grid emulators – future functions and needs • Mitigation of Transformer Saturation for Converter-Based Grid Emulators and CHIL Testing Results – Li, Zejie (Aalborg University) • Insides of Mobile Grid – Hans, Florian (IWES) • pHiL interface and impedance measurement – Christoph Klie (morEnergy) • DC Port Impact on Impedance-based Stability Analysis of Power Hardware-in-the-Loop Setups for DC/AC Converter Testing - Sarah (KIT) • Impedance characterization testing - Dongpo Li (Hopewind)
12.30 pm – 12.45 pm: Closing session (IWES/NREL)
12.45 pm – 01.30 pm: Lunch
01.30 pm – 02.15 pm.: Transfer to Bremerhaven
02.15 pm – 05.15 pm: Lab tour Bremerhaven • PQ4Wind • HLB • DyNaLab • Mobile Grid • HiL-GridCoP
5.15 pm – 18.00 pm: Transfer back to Bremen

Venue:

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