

2019

Entity: Wind and Solar Power Coordinating Committee

Chair: Andrew Leon

Vice-Chair: YC Zhang/Durgesh Manjure

Secretary/Webmaster: Aidan Tuohy

Technical Committee Program Chair: Miaolei Shao

The role of WSPCC is to 1) coordinate wind and solar activities within PES and ensure that critical issues are addressed while minimizing overlap, and 2) to coordinate PES work with relevant industry groups such as AWEA, UVIG, NREL, NERC, and CIGRE.

1. Significant Accomplishments:

Wind and solar power continues to grow at a rapid pace in the utility industry and commensurate with that growth, activities in this area have also grown quickly. In 2019, WSPCC coordinated across many different committees, subcommittees, working groups and task forces on various aspects of wind and solar.

In 2019, the WSPCC met at the IEEE PES JTCM meeting in California in January 2019 to discuss strategy. There, the scope and aims of the committee were discussed and a few key future activities were determined. This included improved methods for interaction with other committees, continuation of the 100% renewables topic begun in 2018 as a key focus area for coordination, and a decision to focus the meeting during the PES GM on the 100% topic. For interaction with other committees, it was determined that someone be identified for each committee to follow up at their meetings and make others aware of the focus areas of WSPCC. The idea of focusing more on energy systems integration as a natural progression from wind and solar was also proposed and discussed, with action to further progress this area later in the year.

At the IEEE PES GM in Atlanta in August, the WSPCC meeting focused on the topic of 100%, or very high, renewables. Relevant industry activities were reported on, with the aim of raising awareness of how IEEE and the WSPCC can support. This included presentations from the IEEE PSDP TF on inverter based resources, T&D SC WG on Distributed Resource Integration and the IEEE/NERC TF on IBR impact on dynamics. It also included presentations from NERC, ESIG, and DOE, and discussion of the IEEE P2800 standard. Finally it included discussion by the program manager of IEEE PES (Shana Pepin) about use of the PES resource center and other operational issues.

The committee was responsible for one well attended session on 100% renewables in the conference, as well as co-sponsoring other sessions in coordination with other committees, subcommittees and task forces.

Towards the end of the year, the WSPCC proposed a name change to reflect the greater emphasis on systems integration issues when considering renewables (wind, solar but also including others), as they become part of the mainstream power system. The coordination around this topic is a natural extension of the ongoing activities and is already taking place in many instances.

2. Benefits to Industry and PES Members from the Committee Work:

In its role as a coordinating committee, WSPCC provides the following benefits to the industry and PES members:

At the 2019 WSPCC meeting, members were briefed on the benefits of the IEEE PES Resource Center as well as other operational issues, and advised to distribute this information within their subcommittees and working groups.

In 2019, various topics were discussed as mentioned in the previous section. This included several IEEE activities as well as joint IEEE/NERC and IEEE/ESIG activities.

Each panel session sponsored and co-sponsored by the WSPCC in 2019 received extremely strong attendance, while WSPCC were also engaged in coordinating super sessions. WSPCC were involved in proposing 3 of the 4 super sessions for 2020, and will be chairing 2, while participating in one more, showing the importance of this coordination committee to coordinating the work being done at PES.

3. Benefits to Volunteer Participants from the Committee Work:

As a coordinating committee, WSPCC does not write standards or conduct technical work. Rather, it coordinates wind and solar activities among PES Technical Committees. WSPCC is a resource for members who want to get more involved with wind and solar. WSPCC can help direct members who are seeking deeper involvement in specific technical areas.

4. Coordination with Other Entities (PES Committees, CIGRE, standards, etc.):

WSPCC maintains liaisons with other organizations that work on wind and solar power. In 2019, these reports were made in advance through email, with any major issues being discussed. In late 2019, a new position as liaison coordinator was created, with Sudipta Dutta filling the role. This role will be to liaise with other groups and ensure their activities are accurately reflected in the coordination role fulfilled by WSPCC. It is expected this will result in more active roles in shaping how different task forces and working groups across PES related to the WSPCC scope are formed and relate to each other.

5. New Technologies of Interest to the Committee:

WSPCC and the Energy Systems Integration Group continued the discussion of a 100% Renewables initiative, and expanded somewhat to include energy systems integration. The goal is to define end-states for the various aspects of power system planning and operations. It may not be possible to reach these end-states with a step by step approach, and in some areas a paradigm shift may be needed to reach these end-states. These areas would include:

- Resource planning
- Transmission planning
- Energy systems integration
- Markets
- Zero inertia
- Weak grids
- Load participation
- Protection
- Operational reliability

6. Significant Plans for the Next Period:



We expect that 100% renewables coordination, energy systems integration and P2800 will be a big part of 2020 activities.

Energy systems integration is becoming more important as 1) we integrate higher levels of wind and solar and need more flexibility from the system, 2) more jurisdictions start looking towards deep decarbonization and want to utilize electrification of other energy sectors as a way to accomplish this, and 3) technology advancement (electric vehicles, smart grid, for example) enables integration of various energy sectors. WSPCC will work with other relevant organizations to consider how to approach energy systems integration.

7. Global Involvement

WSPCC committee members include the following regions:

Total Number of committee members	USA	Canada	Europe	Asia-Pacific	Latin America
155	129	10	11	4	1

Submitted by: Andrew Leon, Chair, WSPCC

Date: 3/3/20