Distribution Resiliency Working Group

Website: <https://sagroups.ieee.org/distreswg/>

2022 PES GM

7-20-2022, 1PM-3PM MST

Denver, Colorado

Notes:

Gary Huffman and Masoud Davoudi opened the meeting.

Quorum was not established.

Gary and Masoud provided information on membership.

Sal Martino provided some information on becoming a voting member. This is critical to maintaining the quorum in future meetings.

Sal and Gary reviewed IEEE Copyright and Patent Policies before proceeding onto Working Group business. Sal explained the IEEE Copyright and Patent policies and made a call regarding patent claims: No patent claims were presented.

Meeting was handed over to Shikhar to start the discussion on Distribution Resiliency Task Force.

Shikhar went over some introductory materials on resilience like the definition of resiliency, especially from the perspective of electric power utilities. He mentioned the monthly meetings that the task force holds to go over the progress of guide development. We need to leverage the work that has been already done in DRWG. When we start to become resilient, we lose less number of customers. However, the weather should be taken into consideration. Shikhar went over the chapter and sections within each chapter in the spreadsheet. In the literature review section, we would like to have a qualitative definition of resilience. Then, in the next chapter, we address Resilience Goals. The Goals define different target thresholds for the duration of the outage, restoration time, number of customers served, recovery cost of the components, etc. In Chapter 3, we address the high-impact weather/storm event risk identification. This will define the likelihood of the event occurrence, severe consequences, disruption, etc. Then, in Chapter 4, we discuss the resilience metrics. Mark and Gary are leading this. In Chapter 5, we address system modeling and storm simulation. Modeling can be like knowing the geographical location and the number of crews and how can we do some study in advance. In Chapter 6, we come up with a guide for infrastructure and operational improvements. Chapter 7 summarizes some use cases and resiliency studies. One question to answer is what is the right balance to invest in the resilience aspects by utilities?

Gary: In the PAR we have a resiliency definition but there are some limitations like cyber attacks are out of it. PAR is posted on the website. It does include wildfire but we need to discuss the details on what exactly is included. We are doing our best to gather the work that has been already done in resiliency. We are looking for diverse participation. Some chapters may make it to the final guide but the chapters that don’t make it to the first revision will be published in the next revisions. We have to conform to the IEEE guidelines. Metrics should be easily understandable by different stakeholders. We are trying to clean the language about resiliency in this guide. Is this covering utility-caused wildfires or lightning-caused wildfires? We don’t know yet. PG&E has done some presentation for us regarding wildfire and they are a part of one of our case studies.

John: The scope, in purpose, is very short and broad. PAR will expire in 2024.

Sal: I suggest having the draft within a year. We can also request a PAR extension. If there are not that many participants for the section, let’s park them for now and focus on the sections that have volunteers.

This is North-American focused. For example, for a utility in Australia, different aspects could be considered.

Heide: There is a question of utility investment vs community investment. We need to be careful about different resilience scenarios in the model and what model outputs about the decision. In 1366/1782, there are some good examples that we can consider for resilience modeling. We can change the chapter or sections if we see that they are not in the right order or suitable for the guide.

Mark: One model could be to see how long it takes to restore 95% of the system. There are different modeling techniques, but we should be utility agnostic.

Joe: It’s good to look at the use cases more closely. Metrics emerge from use cases and defining metrics can be an evolutionary process.

Wendy: Is there any wildfire group helping with this guide?

Masoud: there are different factors and sources of wildfire that can impact resilience, especially from a protection point of view.

Heide made a presentation on distribution resiliency and reliability working group collaboration. The presentation started with the history of 1366/1782 in DRWG. Then, some areas of collaboration between DRWG and DRES WG were presented. DRWG can share the approach used to create and develop 1366/1782 which has gained industry acceptance. The guide should be utility agnostic and provide useful information for all stakeholders. We should leverage the prior work in weather normalization, catastrophic events, and benchmarking. We should also leverage the work done by DoE, EEI, and others in this area. Recovery is an important part of resilience that should be considered. Heide went over the Sandia resilience report (SAND2014-18019). Se also presented some analysis results using actual utility data. The presentation ended with avenues of analysis and collaboration.

John: We need to start writing the guide and make sure that we meet our 2024 deadline on PAR.

Gary: Authors of the guide are recommended to read 1366.

Gary made the closing remarks. The next meeting will be JTCM in Jacksonville, FL, and we plan to have some materials of guide ready by that time. We are looking for some case studies for next summer’s PES GM. We need to get it to Sal by October.

John made a motion to adjourn, and Sal seconded.