Distribution Resiliency Working Group

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

2022 JTCM

1-12-2022, 12PM-2PM PST

WebEx

Notes:

Gary Huffman and Masoud Davoudi opened the meeting.

Quorum was established with 17 voting members present.

Gary and Masoud provided information on membership.

Gary: We would like to have a diversity of resilience classification form different utilities on the team. That’s why participation is important form diverse entities.

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

Masoud 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.

Gary made a motion to approve the agenda. John McDaniel made a motion to approve, and Sal Martino seconded.

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

Shikhar: the intent of task force is to come up with a Distribution Resiliency guide. So far, industry has tried to define resiliency metrics. We have had discussions among a couple of utilities regarding the process on the resiliency. We are trying to come up with comprehensive definitions and metrics that covers different regions of the world. We would like to gather the factors affecting resiliency and define metrics to quantify those factors. We will also come up with the solutions to increase resiliency. We would like to gather results from academia and national labs regarding how to quantify resiliency.

Shikhar reviewed the timeline for preparing guideline. We are trying to build the team for preparing the guide. By PES GM 2022, we will aim to define baseline resilience against different events. This includes gathering information on tools, articles, industry/DOE/utility definitions, etc.

Gary: Our goal is not to create new expensive tools. Our goal is to come up metrics based on existing utility data streams. What type of data could be used to define metrics.

Use of 2.5 Beta method was suggested by Heide Caswell.

Gary proposed a presentation from Heide Caswell and Mark Konya regarding resilience definition and metrics. The presentation can be preferably at PES GM 2022.

Gary: Cyber security is not the focus of this working group. We are interested in weather and storm events.

Sal: Everyone should review P2856 PAR and make sure that the guide is within the scope defined in the PAR.

Tyler Jones: How do we know if a system is or is not already resilient? How do we identify if a system resilient? What is the relationship between resiliency and reliability.

Gary: Do we need a single guide or multiple guides for different events? Tyler: We can have a single guide and accommodate different events.

Mark Konya: in the resilience models we need to account for the restoration resources available in the utility. Gary: Failure Mode Analysis Event (FMEA) is a good approach to consider here.

Shikhar: We have created an outline for the guide. We would like to have a lead and volunteers on different sections of the guide. 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 of duration of 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. In Chapter 5, we address system modeling and storm simulation. In Chapter 6, we come up with a guide for infrastructure and operational improvements. Chapter 7 summarizes some use cases and resiliency studies.

William Cole Thompson:

* I would think chapters 1-4 need to be defined before the following chapters can be completed
* I have experience with network modeling, so I am willing to help with that.  I have also been involved in large Grid Modernization projects (OH to UG conversions, BIL, Automated Devices, etc), so I can help with the Guide for Infrastructure and Operational Improvements.  I have some data on how these projects improve reliability, which could be correlated to resiliency.

Mark Konya: Volunteered for the quantification of resiliency (Same as Gary)

* FYI...https://www.resilience-engineering-association.org/resources/where-do-i-start/
* As Heidi indicated we will get together to start planning a presentation

Sal made a motion to adjourn, and Gary seconded.