Distribution Resiliency Working Group
Website: https://sagroups.ieee.org/distreswg/
2025 JTCM
January 14, 2025, 12:30-3:30 PST
Garden Grove, CA

Notes:
Gary opened the meeting.
Gary provided information on membership.

Quorum was established.

Sal made a motion to approve the agenda and start the meeting, John seconded.

Gary provided some information on becoming a voting member. This is critical to maintaining the quorum in 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.

John Mcdaniel made a motion to approve the agenda and John Hoffman seconded the motion.

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

Shikhar went over what has been done so far on the guide and it latest status. He went over the definition of resiliency, especially from the perspective of electric power utilities. He then went over the chapters and how they provide an understanding of resiliency, offer tools for utilities to study threats. Quantify resilience metrics and discuss system enhancements. The guide includes case studies from five utilities across North America. The guide starts with the difference between reliability and resiliency in distribution grids, follows with the literature review, grid resilience goals and objectives, system resilience assessment methods, resilience metrics, resilience improvement and concludes with case studies.

Shikhar went over the comprehensive suite of metrics. Then, he covered the comparative metrics. He provided some examples. He talked about the metrics from the system performance and operational performance perspectives. He talked about the assets risk assessment (climate vulnerability studies and asset-risk assessment metric).

John Rella: In NYS, our Public Service Commission ruled on our resilience plans and one of the main takeaways was that they did not consider "response" driven investments (they would fall under restoration performance) as a "resilience measure". So they did not want it included in our resilience plans. So, one item to note is that perhaps there should be language that "certain projects may not be considered resiliency depending on state and local decisions."
Gary: It is a good point, we would be open to add a case study or make a statement that regulatory approval is important, however we are looking at the system performance.

Anil Pahwa: Is there a plan in the guide to cover societal impact?
Shikhar: At this point, we are excluding it,

Gary: We wanted the reader to know that we consider societal impact but at this point is a future plan.

Shikhar later handed over to Sarmad to talk about the assets risk assessment. He talked about the process for performing asset at risk and also system at risk analysis.
Sarmad: We like to have numbers here but it is hard so we are focusing on just providing a guide for the utility for asset and system risk assessment.
Shikhar: There are many ways to use these metrics for system planning and response to the resilience event.
Gary: The guide simply advocates that a risk assessment be performed to answer the question "What do I need to be resilient to?"

Shikhar then talked about the statistical benchmark for the gray sky day outages.
Anurag: Is there any data to support this? Shikhar showed some graphs and data from the guide.

Shikhar covered the system performance, Operational Performance, Automation/Hardening Performance, Restoration Performance

Masoud commented on Restoration performance slide for Shikhar to share examples with numbers, so it's easier to follow.

Frank Doherty Con Ed NY: customer is automatically restored. Con Edison has automatic restored that is radial auto. Able to restore many customers in under 5 minutes. Is that what you see? Mentioned Momentary.

Shikhar talked about anything under 5 minutes is how it's counted.

Gary Huffman feels people will generalize equation. The goal is to have a mechanism to take credit for hardening the system.

Frank Doherty Con Ed NY talked about what areas would have be out or wouldn't be out with underground cabling etc.

Shikhar talked about making it broad and updating the document. Suggested the team or Frank can go into the document and add comment.

Brad talked about with the hardening, have anyone figure out how to capture the benefit? This is going require utilities to capture more information.

Frank Doherty Con Ed NY talked about Florida Power & Light have good data on hardening example the usage of concrete poles. Frank spoke to them years ago about it and the concrete poles worked out very well. They measured it and it will be interesting to see their equation.

Tyler what will happen if your DA restores an outage, but another outage or second outage occurs and DA was unable to restore, is it counted as part of the restore or this will be a watch.

Shikhar explained the second outage will go into the sustained CI. Actually, meters are counted, so it will show the outage.

How long is the storm? How is the window? Calendar days? Definition of the event.

Include in the guide storm window.

Shikhar talked about REPAIR Metric, explained area under the curve. Reducing area under the curve

Shikhar is not including cost because it varies with utilities / territories, measures crew hours and how much work is needed. How much should you prepare the next time.

Masoud suggested cost or normalizing it. Already have regional impact from the storm, but don't want to double count. Crew hours not being equal, suggesting coming up with crew hour average.

Frank Doherty Con Ed NY is nervous about crew hours. The crew hours is convenient for accounting because it's easy to get. The crew hours is not important as getting the right equipment, at the right time, crews at the right location. Can be counted as productive.

Shikhar will take Masoud's comment on Geographic factor (city vs rural) into consideration.

Gary talked about the plan going forward is quickly get to final draft. We are going to issue a draft after the JTCM meeting. Issue a team call to go over the draft and in parallel getting voting member list. Suggested the team to get into the guide and comment of which section they are struggling with or provide recommendation.

Gary talked about Leaderships task to incorporate comments, cleanup voting members list, looking at authors list, contributors list, get something for PES

Sal talked about If there's a 2-year PAR, suggesting to get it into the system to get things going. Get guide into ballot, doubt if it will get another PAR extension. It's not the proper template for IEEE guide. Suggest to get it into proper template.

Gary talked about keeping the working group valid and moving forward, we will be talking on new tasks. Sal and Masoud sent new tasks. What other topics should resiliency address or the group should look into?

Chat Message:

Larry Conrad: One interesting observation about anonymity - EIA annual reports can reveal each utility performance now. It takes some digging but can be found.

Larry Conrad: Analysis of NOAA data for Indiana showed a large increase in average wind speed and number of days with large wind gusts. The trend was long term but very significant.

Casey Burleyson – PNNL: These are the exact types of questions we're interested in, Larry. Some of these meteorological drivers are so spatially variable you really need granular data to resolve the features of interest.

Daniel Donaldson: If anyone would like to discuss further feel free to send me an email at d.l.donaldson@bham.ac.uk

Larry Conrad: If time permits, have we or should we consider a “CAIDI sustained momentary event” metric? CAIDIsme. Numerator is all CMI, Denominator is sum of sustained CI and sustained momentary events. That better shows reduced durations with automation. I get around frequent explanations to less technical people why CAIDI should get longer.

Larry Conrad: Small correction to CAIDIsme metric idea: Numerator is all CMI, denominator is sum of sustained CI and momentary event (MAIFIe) CI. It can be done separately for MEDs like other metrics.

John Rella (ConEdison): Hey Shikhar, in NYS, our Public Service Commission ruled on our resilience plans and one of the main takeaways was that they did not consider "response" driven investments (they would fall under restoration performance) as a "resilience measure". So they did not want it included in our resilience plans. So one item to note is that perhaps there should be language that "certain projects may not be considered resiliency depending on state and local decisions." Just a thought!
Sarmad Hanif: Great comment. We could include a commentary on the "application" of the metrics and how they could be utilized at different stages of resilience to address this crucial piece.

Ratkiewich, Rosanne cpuc.ca.gov: In response to John's comment - while some state and local decisions may not consider restoration and repair part of resilience measures, if looking at the Resiliency Trapezoid, measures taken to recover performance back to baseline (improving both time and number of customers) is a significant part of the resiliency equation.

Larry Conrad: I feel apologetic for a comment at this late date. Also, I don't want to trigger one of those long discussions, so consider this offline. It could be "infrequent" is clearer than "low frequency" in the definition. Low frequency has another meaning in power systems. "Infrequent'" does not change the meaning but seems clearer.

John Rella (ConEdison): I will say, we did like the menu of options to pick and choose what works for each company in the plan. And I think it's all the more important for the Guide to continue pushing for response initiatives to help justify our spending

Larry Conrad: Societal impacts opens a real can of worms. Not sure we are experts in that area.

Anil Pahwa: Yes, I agree. But it an important issue. However, in the future, we could address it once the subject becomes mature.

John Rella (ConEdison): Gary, we proposed creating a storm resilience center/emergency response facility and a few other similar initiatives. From the PSC Order, they stated "We find them misclassified as resiliency programs because they do not address a specific change to the companies’ design standards or operating processes to mitigate identified climate hazards"

jfleming@epeconsulting.com: Would this include wildlife and vegetation?

Patterson, Marc idahopower.com: Did you only look at "climate" related issues? Did you consider earthquakes?

Sarmad Hanif: There is some discussion in the guide on the referenced Climate Studies about earthquakes.

Gary Huffman: Each owner / operator must consider their own risk profile.

Gary Huffman: The guide simply advocates that a risk assessment be performed to answer the question "What do I need to be resilient to?"

Patterson, Marc idahopower.com: Supply chain?

Gary Huffman: Thanks John. I actually appreciate their perspective and it will help you focus on design standards and operating procedures of the assets

Alyssa Bender: So would the 12,000 CI be different by company as well?

Andrew Collar nationalgrid.com: As Bola mentioned, I think utilities need to do their own case studies using the metrics and modify as fit since no utility is the same in terms of geography, assets and weather.

Larry Conrad: The concept of defining levels of stress and measuring performance at those stress levels is good. Mixing different types of stress in the same bucket introduces confusion.