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2018 Reivew

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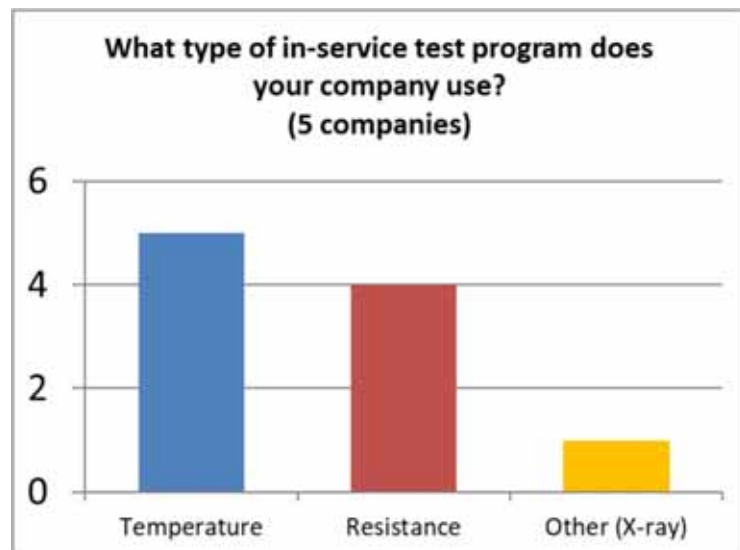
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Connector Assessment Input Needed

Project #17-134, "Understanding Online Condition Assessment of Overhead Transmission Line Connectors" is investigating the effectiveness of methods used to identify poorly performing in-service OH transmission connectors. An initial survey indicated that IR temperature measurements were used by all companies that assessed the condition of these connectors.

NEETRAC has obtained limited information regarding the use of ac resistance measurements, but not for infrared (IR) temperature measurements. This is likely due to many utilities using outside contractors for IR measurement/assessment and, as a result, they do not maintain detailed internal records.



NEETRAC is seeking information on IR measurements to assess connector health, specifically:

- the number of connectors evaluated
- how connectors/lines are selected for evaluation
- the criteria/methodology used to assess the condition of a connector using IR thermography (absolute temperature, relative temperature to conductor temperature or to the temperature of sister connectors)
- the result of the evaluations (OK, needs future retest soon, needs replacement, etc.)
- indications of the effectiveness of the IR approach (reduced number of connector failures, connectors deemed good that later failed, connectors deemed failed that were examined after removal from service and no issues could be found).

If your company can provide information on IR connector assessment, contact the project PI at Thomas.Parker@neetrac.gatech.edu or 404-675-1876.

Baseline Projects Recently Launched

NEETRAC is launching the following Baseline project proposals presented during the September 2018 Management Board Meeting based on input from the Management Board.

Pests in Enclosures - Scoping Study **Baseline Project Number 18-183**

Small animals of all types often enter outdoor (and sometimes indoor) electrical enclosures and cause significant safety and reliability issues. There is no information, however, on what utilities are doing about this problem or what products are available to restrict / prevent / retard them from entering enclosures. In this project, NEETRAC will work with relevant utilities and manufacturers and conduct a literature review to understand the extent of the problem, its impact and also identify the approaches available for mitigation.



Voltage Withstand Requirements for Distributed Energy Resources (DER) Isolation Devices **Baseline Project Number 18-177**

Increased penetration of DER on distribution feeders can allow for reverse power flow, which can lead to unintentional islanding when a fault occurs. In some cases, faults cannot be detected at the DER location. During islanding, isolation devices such as circuit breakers could be subjected to increased overvoltage conditions above their 2 pu rated voltage. Existing applicable standards do not appear to address this condition. In this project, a DER model will be constructed and case studies will be simulated to understand the impact on voltage requirements of isolated devices due to faults. Member utilities and manufacturers will also be surveyed for information on their DER experiences / issues.

Non-Wood Utility Poles Data Mining / Verification **Baseline Project Number 18-179**

There is increasing interest in the use of non-wood utility poles, however, there is little information on where and how they are currently used and there is a lack of understanding of the different available technologies and their corresponding performance characteristics. This project will identify the level of interest in and usage of non-wood poles and identify utility advocates who will support / stimulate non-wood pole manufacturer involvement. The manufacturers will then be contacted to facilitate a webinar to garner as much information as possible. A subsequent summary of the findings will be provided as the project deliverable.

Impact of Tool / Die Choice on Mechanical Performance of Compression Connectors – Phase II **Baseline Project Number 18-184**

NEETRAC project #17-036 showed that compression connectors can perform differently depending on the compression tool and die used to install the connector. Connector manufacturers frequently specify multiple tool/die combinations for compressing connectors and publish die cross-reference charts that allow the use of other manufacturer's tools. This project will test more tool/die/connector combinations in an effort to establish the prevalence of the issue.



Baseline Projects Recently Launched - Cont'd

Utility Microgrid Experience Study

Baseline Project Number 18-178

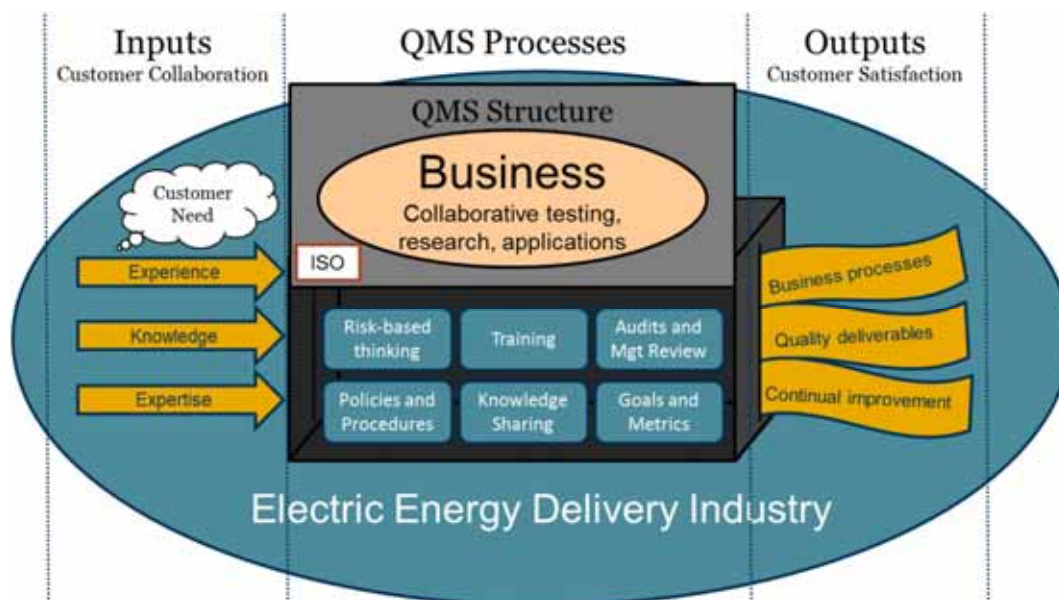
Microgrids appear to be gaining acceptance across the country and likely represent a building block of the electric grid of the future. However, it is a challenge to understand where and how they are currently deployed because their evolution is complex, growing, and diverse. Utilities and manufacturers would like to understand the trends and commonalities within the existing and planned microgrids to properly prepare for their integration into the existing electric grid. In this project, online resources will be surveyed to capture microgrid activity. Additionally, utilities / operators will be contacted for their experiences and issues working with microgrids. This will help identify potential issues that may require further study.

Did You Know?

NEETRAC is an ISO 9001:2015 certified organization and is ISO 17025:2005 accredited for high power test methods at S&C's Nicholas J. Conrad Laboratory (NJCL).

Our robust Quality Management System (QMS) provides structure for NEETRAC to produce quality deliverables with a focus on customer satisfaction, continual improvement, and risk-based thinking. This approach provides credibility for our Members and accountability for ourselves that we carry on with these processes and continually improve.

NEETRAC's QMS Process



Noteworthy QMS Improvements in Recent Years

Noteworthy QMS Improvements in Recent Years	
2016	<ul style="list-style-type: none"> Completed QMS documentation overhaul to streamline processes Redesigned project process with established customer interaction expectations Aligned business goals, quality objectives, and individual staff performance goals
2017	<ul style="list-style-type: none"> Upgraded QMS from ISO 9001:2008 to ISO 9001:2015 (0 nonconformances) Established specific risk-based thinking processes and risk register
2018	<ul style="list-style-type: none"> Updated documentation for ISO 17025:2017 upgrade in January 2019 Redesigned and branded proposals and reports to streamline processes

If you have any questions or comments regarding NEETRAC's QMS, please contact our Quality Manager.

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End-of-Year Message from Director, Rick Hartlein

The entire NEETRAC team joins me in thanking all of our Members for another great year. Over the years, our membership has grown and our engagement with Members is expanding, allowing us to provide you with an increasingly broad range of services. NEETRAC is built on a unique collaboration – we are thankful for the role each and every one of you play in its success. On behalf of my NEETRAC colleagues, I hope all of you had a safe, happy, and peaceful holiday season.

Looking Back - 2018 in Review

2018 has been a successful and busy year for NEETRAC! As seen below, we have initiated and completed a number of projects, made improvements and expansions to our business capabilities, and maintained a high level of customer satisfaction.

Baseline Projects Closed: 14

Baseline Reports Delivered: 15

Baseline Projects Launched: 11

Member/Non-Member Projects Initiated: 155

Member/Non-Member Projects Completed: 129

Enhancements to NEETRAC Capabilities: 9

Industry Papers / Presentations: 12

Member Visits: 18

Average Customer Satisfaction Score: 8.11 out of 9



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Management Board Meetings

The next three Management Board meetings have been scheduled for the following dates:

January 24 - 25, 2019

May 15 - 16, 2019

September 18 - 19, 2019

For details, please visit the Member Section of the NEETRAC website at www.neetrac.gatech.edu.

2018/2019 NEETRAC Member Management Board Representatives

1. 3M.....	Mark Hoisington	20. MacLean Power.....	Matt Gaertner
2. ABB.....	Gary Haynes	21. NRECA.....	Reed Cooper
3. Alumaform.....	Pete Landsgaard	22. Pacific Gas & Electric.....	Rudy Movafagh
4. Ameren.....	Mark Nealon	23. PacifiCorp.....	Douglas Marx
5. American Electric Power.....	John Tucker	24. PPL Corporation.....	Nicole Lacouve
6. BC Hydro.....	Cosmo Picassi	25. Prolec GE.....	Carlos Gaytan
7. Borealis Compounds, Inc.....	Susan Song	26. Public Service Electric & Gas.....	Ed Gray
8. Consolidated Edison.....	Frank Doherty	27. S&C Electric.....	Salvador Palafox
9. Dominion Virginia Power.....	Bobby Moorhead	28. San Diego Gas & Electric.....	Christian Henderson
10. Dow Chemical Company.....	Brent Richardson	29. Smart Wires.....	Haroon Inam
11. DTE Energy.....	Najwa Abouhassan	30. South Carolina Electric & Gas.....	Mike Cook
12. Duke Energy.....	Chris Fletcher	31. Southern California Edison.....	Herbert Martinez
13. Eaton.....	Alan Yerges	32. Southern Company.....	Michael Pearman
14. Exelon.....	Lisa Perrone	33. Southern States, LLC.....	Joe Rostron
15. FirstEnergy.....	Randy Coleman	34. Southwire Company.....	Sherif Kamel
16. General Cable.....	Bill Temple	35. TVA.....	David Smith
17. Gresco Utility Supply.....	Brad Schafer	36. Viakable.....	Raul Garcia
18. Hubbell Power Systems.....	Jerry Goolsby	37. We Energies.....	Michael Smalley
19. LS Cable & System.....	Tim West		