Agenda

• Background and Context
• Working Group Overview
• Current Activities
Background and Context: A brief history

- Generation and Transmission Reliability Planning Models Task Force recommends a composite generation and transmission assessment of resource adequacy

2010

2012
- Pilot Probabilistic Assessment

- Biennial Probabilistic Assessments conducted on a regional basis
- Probabilistic Assessment Improvement Task Force forms and develops recommendations

2012-2016

2017
- Probabilistic Assessment Working Group formed

2018
- Probabilistic Assessment incorporated into LTRA
NERC’s goals, outlined in the operating plan, include:

“identifying, assessing and prioritizing emerging risks to reliability by using probabilistic approaches to develop resource adequacy measures that reflect variability and overall reliability characteristics of the resources and composite loads, including non-peak system conditions”

NERC Strategic Documents:

https://www.nerc.com/AboutNERC/Pages/Strategic-Documents.aspx
Core Functions: (est. 2017)

- Develop Technical Reference documents:
  - Identify and evaluate more probabilistic approaches for ongoing analyses

- Conduct the biennial NERC Core Probabilistic Assessment (ProbA)
  - 2018 ProbA published (early 2019); 2020 effort discussion underway

- Coordinate and promote the alignment of probabilistic resource adequacy assessments conducted by NERC, the Regions, and the industry at large.

- Identify improvement opportunities for probabilistic resource adequacy assessment
Working Group Overview

Membership:

- NERC Regional Entities (WECC, SERC etc.)

- Any Regional Entity or electric industry sector representatives may name alternate representative(s) who may attend PAWG meetings

- Observer members welcome

- NERC PAWG Leadership
  - Andreas Klaube (NPCC), Chair
  - TBD, Vice Chair
  - John (JP) Skeath, NERC Coordinator
Current Activities

• Data Collection Approaches and Recommendation Technical Reference Document
• Probabilistic Analysis Forum (Dec 2019)
• LTRA Probabilistic Screening Analysis
Objectives:

• Identify the data critical to achieve the objectives of a resource adequacy assessment that uses probabilistic methods.
• Provide considerations for choosing quality data, such as availability, confidentiality, etc.
• Emphasize the importance of managing large quantities of data to improve studies’ capabilities
Probabilistic Analysis Forum (PAF)

• Hosting a forum on Probabilistic Assessment methodologies, experiences, and data source considerations

• Potential industry topics:
  • New Approaches to Managing Uncertainty given the Changing Resource Mix
  • Probabilistic Resource Adequacy Measures
  • Resilience, Energy Assurance, and Fuel Security
  • New Applications for Probabilistic Analysis (Economically Optimum Reserve Margins, Root Cause Analysis, Composite Reliability, etc.)

• December 11-13, 2019, NERC Atlanta Offices

Speakers and panel session participants undertaking probabilistic studies are welcomed!
LTRA Screening Analysis

- Current NERC Long Term Reliability Assessment (LTRA) primarily a peak hour reserve margin assessment
  - Does not address energy assurance or loss of load across all hours

- Current ProbA addresses loss of load (LOLE) and unserved energy *expectations* (EUE) for all hours of the year
  - Current format data and time intensive, does not support off-year LTRA

- Develop a pilot screening approach methodology for potential reliability risks to look at indices such as LOLH, EUE, % chance Emergency Operating Procedures (EOPs), Average Hourly Operating Reserve Margins
Questions?

Andreas Klaube
Northeast Power Coordinating Council (NPCC)
Reliability Assessments and Performance Analysis (RAPA)
aklaube@npcc.org