

SCOPE

EVALUATION OF THE REPRESENTATION OF OVERHEAD TRANSMISSION OUTAGES IN IRM STUDIES

Purpose

Transmission cable outage rates in the New York City-Long Island area have been represented in NYCA IRM studies for many years. However, outage rates for overhead transmission are not represented. The latter is based on an NYPP analysis conducted several years ago which concluded that such a representation would have negligible impact on IRM. The purpose of this study is to reevaluate the justification of modeling overhead transmission outages in IRM studies.

Representation of overhead transmission outages would require reasonable outage rate assumptions for overhead circuit and substation elements that comprise transmission interfaces in MARS. Therefore, the first phase of this study is to examine the availability of historical transmission system outage data for NYCA interfaces, particularly those interfaces that have the potential to impact IRM. If this data is available, the second phase of this study is to evaluate the IRM impact of representing transmission system outage rates.

Phase I – Review of Transmission Outage Data Availability

- From the 2014 IRM base case, the most constrained overhead interfaces, i.e., the NYCA overhead transmission interfaces having the highest expected number of hours at or above 100% capacity are listed below. Representing outage rates for these interfaces would potentially have the highest IRM impacts.
 1. UPNY-SENY
 2. Marcy-South
 3. Dysinger-East
 4. West-Central
 5. Chateauguay
- For each of the above interfaces, determine the availability of outage data for those line and substation elements that make up the interface. The source of this data may be transmission owners, NERC, or other sources.
- Those interfaces for which appropriate forced outage data is found would be candidates for Phase II.

- If it is concluded that there is insufficient transmission data available for any interface, ICS shall determine if the study should terminate, or if a program to collect transmission outage data should be recommended.

Phase II – Conduct IRM Study Representing Interfaces from Phase I

- Select up to three interfaces from Phase I.
- Generate transition rate matrix for each interface from Phase I to be evaluated in MARS. This model would recognize the multi-state probability characteristic of the interface (series and parallel elements), including forced outage duration/frequency data on lines and associated components.
- Conduct a MARS study for each interface model one at a time.
- Conduct a MARS study for combinations of interface models.

Phase III – Recommendation

Based on an ICS review of the results of Phase II, ICS shall recommend to the EC whether or not transmission outages should be modeled in IRM studies, or if further study is needed. If it is concluded that transmission outages should be modeled, ICS shall consider recommending a program to collect transmission data if appropriate.