Response to LIPA Proposal to Change Outage Risk After Cable Reconductoring

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LIPA's Proposal

- LIPA has proposed that when a cable is reconductored that "the 5 year historical forced outage events associated with the section remediated will be removed or replaced (removal vs. replacement and possible replacement value to be determined through stakeholder discussion)"

Problems With LIPA's Proposal

- The removal or replacement of the outage data preceding the planning of reconductoring would excise the failure risk from the NYSRC IRM and NYISO Resource Adequacy Modeling
  - While LIPA acknowledges the risk of the aging cables, their proposal would eliminate this risk from the IRM modeling
  - Not recognizing the full cable risk will result in the NYISO carrying too little capacity and will be a threat to NYISO reliability
- LIPA claims that their proposal encourages reconductoring when in reality it reduces the incentive to reconductor quickly
- For the above reasons, the LIPA Proposal should not be adopted

Illustrative Example

- The illustrative example on the final slide shows the problems with the LIPA Proposal
- The cable is assumed to have a 5% outage rate before cable failure begins and after reconductoring. 5% is also the outage rate that is assumed to replace the failed cable data under the LIPA Proposal
  - Case A assumes a cable is reconductored after it first fails with the reconductoring done in time to be assumed for the following capability year.
  - Case B assumes the cable is reconductored after a second year of worsening outages and done in time to be assumed for the following capability year.
  - Case C assumes the cable is reconductored after a second year of worsening outages and done in time to be assumed for the following capability year.

Results of the Example

- The example shows that the Policy 5 approach results in the average outage assumption over time matching the actual average outage rates
  - The difference is that, by design, the Policy 5 approach smooths the risks over a 5-year period.
- The LIPA Proposal substantially understates the risks associated with cable failure because the cable failure outages are replaced with data with much lower outage risks
- The LIPA proposal is inconsistent with the need to represent the reliability risks associated with an aging cable system
  - These risks were more than amply demonstrated by NYISO/LIPA operation during summer 2021 when Y49 failed

Incentive to Reconductor Failing Cables

- LIPA has claimed their Proposal would provide an incentive to reconductor failing cables
- The Example shows that the incentive to reconductor promptly is much stronger under the Policy 5 methodology than under the LIPA Proposal
  - Under the LIPA Proposal the penalty for not reconductoring quickly is greatly muted because of replacing the outage data when the cable was failing
    - The average assumed outage rate for acting very promptly is 5% while the average assumed outage rate for not reconductoring until after two more years of worsened operation is only 6.9%
- The current Policy 5 methodology provides a much stronger incentive to reconductor quickly
    - The average assumed outage rate for acting very promptly is 7.3% while the average assumed outage rate for not reconductoring until after two more years of worsened operation is 17.3%

Illustrative Cable Outage History					Policy 5 Outage Assumption				LIPA Proposal		
					outage assumption based on previous 5-yr history				outage assumption based on previous 5-yr adjusted history		
Year	A	B	C		A	B	C		A	B	C
1	5%	5%	5%		5%	5%	5%		5%	5%	5%
2	5%	5%	5%		5%	5%	5%		5%	5%	5%
3	30%	30%	30%		5%	5%	5%		5%	5%	5%
4	5%	60%	60%		10%	10%	10%		5%	10%	10%
5	5%	5%	60%		10%	21%	21%		5%	5%	21%
6	5%	5%	5%		10%	21%	32%		5%	5%	5%
7	5%	5%	5%		10%	21%	32%		5%	5%	5%
8	5%	5%	5%		10%	21%	32%		5%	5%	5%
9	5%	5%	5%		5%	16%	27%		5%	5%	5%
10	5%	5%	5%		5%	5%	16%		5%	5%	5%
11	5%	5%	5%		5%	5%	5%		5%	5%	5%
Overall Historical Average (11 yrs)	7.3%	12.3%	17.3%		7.3%	12.3%	17.3%		5.0%	5.5%	6.9%