Southwest Connecticut (SWCT) 2027 Solutions Study Update

Planning Advisory Committee

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Purpose

- Provide an update on the SWCT 2027 Solutions Study

Overview

- Background
- Solutions Study Update
- Conclusion

Background

- June 13, 2018 – The results of the SWCT 2027 Needs Assessment* were presented to the PAC
  - Steady-state analysis was performed for the 2027 peak load and minimum load conditions in addition to short circuit analysis
  - No needs were identified as a part of the peak load and the short-circuit analysis
  - As a part of the minimum load analysis, four buses were identified to have N-1-1 high voltage violations that were considered time-sensitive
  - The N-1-1 high voltage violations were only observed for contingency events that included the loss of both STATCOMs at Glenbrook in addition to the loss of a 345 kV reactor in SWCT
- July 27, 2018 – The final SWCT 2027 Needs Assessment report** was posted to the ISO website

* https://smd.iso-ne.com/operations-services/ceii/pac/2018/06/a2_swct_2027_na_presentation.pdf

** https://smd.iso-ne.com/operations-services/ceii/pac/2018/07/final_ceii_swct_2027_na.pdf

Background – Cont.

- August 3, 2018 – The notice of initiation of the SWCT 2027 Solutions Study* was posted to the ISO website
  - The ISO worked with Eversource and Avangrid to begin the process of developing solutions to solve the time-sensitive, high-voltage needs under minimum load conditions
- September 27, 2018 – Eversource presented the asset condition issues** associated with the Glenbrook STATCOM to the PAC
  - Eversource discussed project goals to replace the Glenbrook STATCOM to address the asset condition issues identified
  - The elimination of the common mode failure of both Glenbrook STATCOMs was identified as a goal for the asset condition project

* https://www.iso-ne.com/static-assets/documents/2018/08/pac_notice_of_initiation_swct_2027_sol_study.pdf

** https://smd.iso-ne.com/operations-services/ceii/pac/2018/09/a4_glenbrook_statecom_asset_condition_replacement.pdf

Background – Cont.

- July 22, 2020 – Eversource identified the preferred solution* for the Glenbrook STATCOM asset condition project
  - The preferred solution is the replacement of the two Glenbrook STATCOMs with the reutilization of existing STATCOM building and outdoor equipment
  - The replacement STATCOMs would have the same reactive capability as the existing STATCOMs under normal operating conditions and the common mode failure that resulted in the loss of both STATCOMs would be eliminated
  - Additional details on the STATCOM replacement are included in the Eversource presentation provided to PAC

* https://smd.iso-ne.com/operations-services/ceii/pac/2020/07/a2_glenbrook_statcom_asset_condition_replecement.pdf

Solutions Study Update

- All SWCT 2027 Solutions Study activities were suspended in late 2018 until a preferred solution for the Glenbrook STATCOM asset condition project was developed:
  - All needs identified in the SWCT 2027 Needs Assessment were tied to the common mode failure related loss of both Glenbrook STATCOMs
  - The elimination of the common mode failure of both Glenbrook STATCOMs was an objective of the Glenbrook STATCOM asset condition project
- The preferred solution for the Glenbrook STATCOM asset condition project eliminated the contingency that results in the loss of both STATCOMs and retains the existing reactive capability of each Glenbrook STATCOM
- With the elimination of the common mode failure of the two Glenbrook STATCOMs, all the needs identified in the SWCT Needs Assessment are addressed

Conclusion

- The SWCT 2027 Solutions Study is concluded because the time-sensitive needs identified in the SWCT 2027 Needs Assessment are addressed by the Glenbrook STATCOM asset condition project

Questions