



FCA 15 Transmission Security Reliability Review:

Mystic 8 & 9

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Mystic 8 & 9 Retirement Background

- In March 2018, in preparation for Forward Capacity Auction (FCA) 13, Mystic 8 & 9 submitted Retirement De-List bids
 - Mystic 7 & 8 were also retained for transmission security for Capacity Commitment Period (CCP) 12
- In September 2018, the ISO initiated a Needs Assessment for the Boston area
 - To identify the needs associated with the retirement of the Mystic units
- On October 17, 2019, the ISO identified the following needs for the Boston area
 - One N-1 115 kV line overload and three N-1-1 345 kV line overloads
 - A 300 (+/-150) MVAR* dynamic reactive device
- On December 20, 2019, the ISO issued the Boston 2028 Request for Proposal (Boston 2028 RFP) to solicit Phase One Proposals
 - This was the first step of the RFP evaluation process
 - The Phase One Proposals were due on March 4, 2020
- In response to the RFP, the ISO received 36 Phase One Proposals from eight Qualified Transmission Project Sponsors

* Delivered to the Point of Interconnection



Review of Identified Needs

N-1 Needs

Element ID	Overloading Element	STE Rating (MVA)	Worst-Case Thermal Loading (%STE)
K163	West Amesbury to King Street (115 kV)	312	105.4

N-1-1 Needs

Element ID	Overloading Element	LTE Rating (MVA)	Worst-Case Thermal Loading (%LTE)
346	Woburn to North Cambridge Circuit 1 (345 kV)	657	123.7
365	Woburn to North Cambridge Circuit 2 (345 kV)	657	123.7
358	North Cambridge to Mystic Circuit 1 (345 kV)	585	103.8

Dynamic reactive device for system restoration in the Boston area after the retirement of the Mystic 8 and 9

At least 300 (+/- 150) MVAR of continuous dynamic reactive capability at the point of interconnection (POI)



ISO Review of the Previously-Retained de-list Bids (PP-10 Section 7.5)

- Where a request for proposal (RFP) under Section 4 of Attachment K has been issued in response to a de-list bid rejected for reliability reasons, the ISO's re-evaluation of the rejected de-list bid may consider:
 1. Whether there are responses to the RFP with in-service dates prior to the relevant Capacity Commitment Period for the rejected de-list bid and the ISO determines that some of those responses, including the Backstop Transmission Solution, are reasonably likely to be in-service prior to the relevant Capacity Commitment Period for the rejected de-list bid; and
 2. Whether some of such responses are expected to address the reliability need(s) set forth in the RFP
- In such cases, responses to the RFP may be determined to be timely and sufficient to meet the reliability need caused by the rejected de-list bid

Review of the Boston RFP Responses

- The [responses to the Boston RFP](#) were reviewed at the June 2020 Planning Advisory Committee meeting
 - The ISO also posted the [Draft Boston 2028 RFP Review of Phase One Proposals Report](#)
- Several responses to the RFP included in-service dates prior to the relevant Capacity Commitment Period for the rejected de-list bid
 - The ISO confirmed through review of those RFP responses and through steady-state analysis that the reliability needs associated with the retirement of Mystic 8 & 9 would be met
- ISO identified one Phase One Proposal to advance in the process



Analysis Conditions and Assumptions

- The conditions and assumptions used in the identification of the system needs after the retirement of Mystic 8 & 9 are described in detail in the Boston Needs Assessment:
 - [Boston Needs Assessment Update](#)
 - [Boston Needs Assessment Addendum](#)
- When the following upgrades (for the Phase One Proposal that is advancing in the process) are added and tested using these conditions and assumptions, the reliability needs are resolved
 - Install two 11.9 ohm 345 kV series reactors at the North Cambridge substation (one each on the two Woburn to North Cambridge 345 kV cables)
 - Install +/-167 MVAR STATCOM at Tewksbury 345 kV substation
 - Install DTT scheme on the 394 line to eliminate the contingency that causes the K-163 115 kV line overload



Meeting the Reliability Need

- For FCA 15, the beginning of the Capacity Commitment Period is June 1, 2024
- Through the review of the Phase One Proposal, the ISO and its consultants found that:
 - The identified needs are solved
 - The cost estimate is reasonable
 - There is no transmission line siting required
 - All real estate rights are in place
 - Limited permitting is required
 - The in-service date of October 2023 is reasonably achievable
 - Completing the selection process early increases the likelihood of meeting the proposed in-service date

What Happens When the Reliability Need is Met?

- *ISO Tariff Section III.13.2.5.2.5(f)*: If the reliability need that caused the ISO to reject a de-list bid is met through a reconfiguration auction or other means, the resource shall retain its Capacity Supply Obligation through the end of the Capacity Commitment Period for which it was retained for reliability (provided that resources that have Permanent De-List Bids or Retirement De-List Bids rejected for reliability shall be permanently de-listed or retired as of the first day of the subsequent Capacity Commitment Period (or earlier if the resource sheds the entirety of the Capacity Supply Obligation as described in Section III.13.2.5.2.5.3(a)(ii) or Section III.13.2.5.2.5.3(b)(ii))).



Conclusion

- Pursuant to Sections III.13.2.5.2.5(e) and III.13.2.5.2.5(f) of the Tariff and Section 7.5 of PP-10, the ISO has determined that the transmission security reliability need associated with the retirement de-list bids of the Mystic 8 and Mystic 9 units will be met by the start of the Capacity Commitment Period associated with Forward Capacity Auction 15
- In addition, pursuant to Section III.13.2.5.2.5A of the Tariff, ISO-NE has determined that Mystic 8 and Mystic 9 will no longer be needed for fuel security reasons
- Accordingly, Mystic 8 and Mystic 9 will be deemed retired as of the first day of Capacity Commitment Period 15 on June 1, 2024



Questions

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