Generator Deactivation Assessment Pilgrim GT1 and GT2

A Report by the New York Independent System Operator

June 20, 2018

Purpose

On March 22, 2018, the New York Independent System Operator, Inc. ("NYISO") determined that J-Power USA Generation, L.P ("J-Power") had submitted a complete Generator Deactivation Notice for the proposed retirement of the Pilgrim GT Units 1 & 2 (individually, "Pilgrim GT1" and "Pilgrim GT2," respectively, and collectively, "Pilgrim" or "Generators"). J-Power reported that it intends to deactivate the 50 MW (nameplate) Pilgrim GT1 unit and the 50 MW (nameplate) Pilgrim GT2 unit on November 1, 2018.

Pursuant to Section 38.3.4 of the NYISO Open Access Transmission Tariff ("OATT"), the NYISO performed resource adequacy and, in coordination with the Long Island Power Authority ("LIPA"), transmission security analyses of the New York Control Area ("NYCA") system to determine whether a Generator Deactivation Reliability Need (a "Need") would result from the deactivation of Pilgrim. The NYISO and LIPA timely completed this analysis within the 90-day period starting from March 22, 2018, which is the Generator Deactivation Assessment Start Date (by June 20, 2018). The Generator Deactivation Process ends if the assessment does not identify a Need or if the reliability need can be timely addressed in the current or next cycle of the NYISO's biennial reliability planning process. If the NYISO finds a Need and determines that the Need should be addressed in the Generator Deactivation Process, then the NYISO follows the process for soliciting and selecting a solution stated in Sections 38.3.5 – 38.10.5 of the OATT.

Assumptions

The NYISO evaluated the period five years from the conclusion of the 365-day notice period (March 22, 2019 – March 22, 2024) (the "Study Period") starting with the most recent reliability planning process base case. The NYISO removed Greenport GT1, Binghamton Power Plant, Indian Point 2, Indian Point 3, Ravenswood GT9, Selkirk I, and Selkirk II from the base case in accordance with NYISO procedures. The NYISO used the load forecast from the 2017 Load and Capacity Data Report ("Gold Book").[1] In accordance with the Reliability Planning Process base case inclusion

[1] This Pilgrim Generator Deactivation Assessment utilizes the 2017 Gold Book baseline summer peak load forecast.

rules[2], generation and transmission projects were added to the base case in accordance with the base case inclusion rules for Reliability Planning Process.[3] There are three major generation facilities currently under construction that were included in the base case for this assessment: Bayonne Energy Center II Uprate (Zone J, 120 MW), CPV Valley Energy Center (Zone G, 678 MW), and Cricket Valley Energy Center (Zone G, 1,020 MW).

Consistent with the NYISO's obligations under its tariffs, the NYISO provided stakeholders within its shared governance process information on the modeling assumptions employed in conducting this assessment. The NYISO reviewed details on the study assumptions with stakeholders at the March 13, 2018 joint Electric System Planning Working Group/Transmission Planning Advisory Subcommittee (ESPWG/TPAS). The meeting materials are posted on the NYISO's public website.[4]

Findings

This assessment finds that reliability criteria would not be met without Pilgrim in service throughout the Study Period under the assumed and forecasted base case system conditions.[5]

The NYISO assessed the resource adequacy of the overall NYCA system, per the one-day-in-ten-years (0.1 per year) Loss of Load Expectation ("LOLE") criterion, which measures the probability of disconnecting firm load due to a resource deficiency. This assessment finds that without Pilgrim the resource adequacy criterion would be met throughout the Study Period.

The NYISO performed a transmission security assessment for the Bulk Power Transmission Facilities ("BPTF") and LIPA performed a transmission security assessment of its non-BPTFs. The NYISO assessment of the BPTF identified no transmission security related Needs.

[2] NYISO Reliability Planning Process Manual, January 3, 2018

[3] NYISO Reliability Planning Process Manual, January 3, 2018, § 3.2.

[4] http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_espwg/meeting_materials/2018-04-18/03_Ravenssd%20Lyonsdale-Pilgrim_GDA_Key_Assumt.pdf

[5] *See* OATT Attachment FF, § 38.3.4.3.

Using the updated load forecasts published in the 2018 Gold Book would not impact the results of this assessment.

Without Pilgrim, the LIPA transmission security assessment identified two non-BPTF transmission security related Needs based on Long Island Transmission Planning Criteria for the sub-transmission system (69 kV and below), which the NYISO hereby identifies as Generator Deactivation Reliability Needs.[6] According to the stated criteria, for N-1 system contingencies, no facility shall exceed its Long-Term Emergency (LTE) rating. Upon the retirement of Pilgrim, the Pilgrim – Brentwood 69 kV circuit (69-768) (which has an LTE rating of 101 MW) would be loaded at 132 MW (131%) for the loss of the Pilgrim 1 bus. A minimum of 83 MW of generation would be required in the area of the Brentwood substation to resolve this thermal violation. By 2023, the loading on this circuit would increase to 135 MW. A minimum of 88 MW of generation would be required to resolve this thermal violation. There would be a second thermal violation on the Brentwood – Deer Park 69 kV circuit (69-773). This line has an LTE rating of 87 MW and would be loaded to 93 MW (107%) for the loss of Brentwood bus 2/Breaker 660. The MW amount of generation required to resolve the observed violation on Pilgrim – Brentwood 69 kV circuit (69-768) would also resolve this violation throughout the Study Period.

Given that the identified Needs arise upon the retirement of Pilgrim, they constitute Near Term Generator Deactivation Reliability Needs[7] and cannot be timely addressed in the current cycle of the reliability planning process.[8] Solutions to these Needs will be solicited and selected in accordance with the NYISO Generator Deactivation Process.[9]

Conclusions

This assessment identifies Generator Deactivation Reliability Needs following the deactivation of Pilgrim in the Study Period. Given that the identified Needs arise upon the

[6] The NYISO reviewed and verified the analysis performed by LIPA. *See* OATT Attachment FF § 38.3.4.1.

[7] *See* OATT Attachment FF, § 38.3.5.1.

[8] *See* OATT Attachment FF, § 38.3.4.3.

[9] *See* OATT Attachment FF, § 38.4.

retirement of Pilgrim, they constitute Near Term Generator Deactivation Reliability Needs. The Needs arise on non-BPTFs due to violations on two LIPA 69 kV circuits. Solutions to these needs will be solicited and selected in accordance with the NYISO Generator Deactivation Process.