ISO new england

memo

To: Planning Advisory Committee

From: ISO Transmission Planning

Date: September 24, 2019

Subject: Update to the Upper Maine (ME) 2029 Needs Assessment Assumptions and Study Files

The Upper Maine (ME) 2029 Needs Assessment was initiated in June 2019[1], and a presentation detailing scope changes between this Needs Assessment and the ME 2027 Needs Assessment was discussed with PAC at the June 2019 meeting[2]. An intermediate set of study files containing the proposed base and sensitivity cases for the 2029 Upper ME Needs Assessment was also provided in June 2019.

In July 2019, the New England Clean Energy Connect (NECEC) HVDC based Elective Transmission Upgrade (ETU) project met the requirements for being included in the Upper ME 2029 Needs Assessment base cases used to identify system reliability needs, according to Attachment K of the Open Access Transmission Tariff (OATT)[3]. As a result, the generation dispatches for the peak load base cases were updated from those described at the June 2019 PAC meeting and included in the previously posted Upper Maine 2029 Needs Assessment intermediate study files. Figures 1 and 2 summarize the updated dispatches that will be included in the base cases for the Upper ME 2029 Needs Assessment. The NECEC project was also assumed online and injecting 1,090 MW into the New England system in the minimum load base case. The sensitivity cases discussed at the June 2019 PAC meeting will not be further considered for the Upper ME 2029 Needs Assessment since the NECEC project is now modeled in the Needs Assessment's base cases, and based on a review of the contract associated with the Three Rivers Solar Power project. All other study assumptions, as presented at the June 2019 PAC meeting, remain the same.

The Northern Pass Project and its associated upgrades were removed from the short circuit case due to its withdrawal from the ISO Interconnection Request Queue in August 2019. In addition, several impedance updates in Maine were included in the short circuit case based on recently identified short circuit database updates.

[1] https://www.iso-ne.com/static-assets/documents/2019/06/2029_upperme_needs_assessment_study_initiation_pac_notice.pdf
[2] https://www.iso-ne.com/static-assets/documents/2019/06/a5_upper_maine_2029_needs_assessment_details.pdf
[3] https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_2/oatt/sect_ii.pdf

The updated set of intermediate study files, which include the updates described in this memo, were posted on September 24[4]. The Upper ME 2029 Needs Assessment will proceed based on this set of study files. The report for the Upper ME 2029 Needs Assessment will document all of the assumptions used for the Needs Assessment.

[4] https://www.iso-ne.com/system-planning/key-study-areas/maine

Figure 1: Generation Dispatch Table for Peak Load Base Cases

D1A	D1B	D2A	D2B	D3A	D3B	D4A	D4B	D5A	D5B	D6A	D6B
Yarmouth #4	Yarmouth #4	Westbrook	Westbrook	MIS	MIS	RPA	RPA	Yarmouth #3	Yarmouth #3	Cape #5	Cape #5
Cape #4[1]	Schiller #6	Indeck #5	Indeck #6	Sappi Westbrook 9	SEA Stratton	Bucksport G4	Bucksport G4	Ecomaine	Ecomaine	Cape #4	Cape #4
Schiller #6	Canal G1	Yarmouth #3[1]	Schiller #6	Yarmouth #3[1]	Canal G1	PERC	PERC	Cape #5	Cape #5	Livermore	Livermore
Newington G1[1]		Schiller #6	Canal G1	Cape #4[1]	Dartmouth Power	Yarmouth #4[1]	Whitelake Jet	Cape #4	Cape #4	Athens	Athens
Canal G1		Newington G1[1]		Schiller #6[1]		Tamworth	Canal G1	Sappi Somerset G2	Sappi Somerset G2	Newpage G4	Newpage G4
		Canal G1		Newington G1[1]		Schiller #6[1]	Dartmouth Power	Verso Cogen #1	Verso Cogen #1	Westbrook[1]	Newington G1
				Canal G1		Canal G1		Verso Jay C	Verso Jay C	Newington G1	Tamworth
				Dartmouth Power		Dartmouth Power		Yarmouth #4[1]	Whitelake Jet	Tamworth	Canal G1
								Whitelake Jet	Schiller #6	Schiller #6[1]	
								Schiller #6	Merrimack CT #10[1]	Canal G1	
								Merrimack #1[1]	Canal G1		
								Canal G1	ANP Blackstone G2		
								ANP Blackstone G2			

[1] Generators turned off to maintain acceptable interface transfer levels

	Generator unavailable in the study area
	Generator unavailable in the adjacent area
	Generator unavailable in the rest of area

Table 1: Generator MW Unavailable and Interface Flow Data for Peak Load Base Cases

Dispatch	MW Unavailable in Study Area and Adjacent Area (Maximum MW[1])		MW Unavailable in Receiving End (Max MW[1])	External Interfaces Targets[2] (Maximum Transfer Capability in MW)			Additional Interfaces (Maximum Transfer Capability in MW)				
	ME (575)	ME+NH (738)	Eastern NE (1,276)	NY-NE (1,400)	NB-NE (700)	Phase II (1,400)	Orrington S (1,325)	ME-NH (1,900)	NNE Scobie+394 (3,450)	West-East (3,000)	N-S (2,725)
D1A	620	671	1,252	0	700	950	1,184	1,897	2,985	1,802	2,702
D1B	620	671	1,252	0	0	950	487	1,250	2,775	2,402	2,457
D2A	568	619	1,199	0	700	950	1,164	1,847	2,946	1,851	2,652
D2B	567	618	1,199	0	0	950	467	1,295	2,822	1,999	2,502
D3A	539	539	1,203	0	700	950	694	1,880	2,971	1,899	2,685
D3B	549	549	1,213	0	0	950	-3	1,321	2,865	2,008	2,575
D4A	437	459	1,122	0	700	950	1,002	1,510	3,008	1,889	2,697
D4B	437	454	1,118	0	0	950	305	1,432	2,962	1,919	2,669
D5A	311	380	1,216	0	700	950	1,184	1,614	3,073	2,056	2,694
D5B	311	380	1,216	0	0	950	487	1,540	3,030	2,044	2,712
D6A	184	623	1,204	0	700	950	1,184	1,813	2,914	1,901	2,601
D6B	184	623	1,204	0	0	950	487	1,677	2,810	1,985	2,516

1 Maximum MW is the Maximum unavailable MW of non-renewable generators based on probabilistic methods

2 Actual interface transfers may vary slightly from the targets due to power flow mismatches