



2016 RNA: Resource Adequacy Scenario Results

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Background

- ◆ This presentation addresses the **six** Resource Adequacy (RA) scenarios
- ◆ The **two** Transmission Security (TS) scenarios will be presented at the Aug 9 ESPWG/TPAS
- ◆ All scenarios are performed on the original (“1st pass”) Base Cases

2016 RNA: List of Scenarios

Scenarios 1-7 were not conditioned on the identification of Reliability Needs (RN) in 2016 RNA Process:

- 1. High (Econometric) Load Forecast - RA only**
- 2. Zonal Capacity at Risk - RA only**
- 3. Indian Point Energy Center (IPEC) Plant Retirement - RA only**
(removal of 2,067 CRIS MW)
- 4. 90/10 Forecasted Load -TS only (Aug 9)**
- 5. No Coal** (removal of 687 MW CRIS at Somerset) - **RA only**
- 6. No Nuclear** (removal of 3,944 MW CRIS: Nine Mile complex and IPEC complex) - **RA only**
- 7. Capacity Currently Sold Forward to External Control Areas will Continue to Sell in Remaining Years of Study Period** (Note: MW amounts are Confidential Information) - **RA only**

2016 RNA: Scenarios, cont.

Scenarios 8 - 10 were conditioned on the identification of RN in the 2016 RNA Process:

- ◆ **Scenario 8 will be performed for TS due to needs being identified in Western New York:**
 8. **Western NY Public Policy Transmission Need –TS only (Aug 9)**
- ◆ **Scenarios 9 & 10 were not pertinent to the identified RN and will not be performed:**
 9. **AC Transmission Public Policy Transmission Need**
 10. **High Solar Forecast**

2016 RNA: Scenario #1 Description

◆#1: The high (econometric) load forecast adds the following energy reduction programs to the baseline forecast:

- *Energy Efficiency and Codes & Standards*
- *Solar PV Behind-the-Meter*
- *Distributed Generation Behind-the-Meter*

GB2016 Table I-3a: Econometric (High Load) Forecast of Coincident Summer Peak Demand by Zone – MW

Year	A	B	C	D	E	F	G	H	I	J	K	NYCA High Load	NYCA Baseline	Delta HighLoad -Baseline
2017	2,762	2,051	2,946	549	1,409	2,499	2,362	676	1,580	12,043	5,656	34,533	33,363	1,170
2018	2,800	2,082	2,998	559	1,431	2,542	2,385	682	1,594	12,143	5,706	34,922	33,404	1,518
2019	2,828	2,104	3,042	565	1,449	2,576	2,405	687	1,604	12,218	5,765	35,243	33,477	1,766
2020	2,851	2,123	3,082	567	1,465	2,602	2,423	687	1,610	12,262	5,815	35,487	33,501	1,986
2021	2,872	2,141	3,112	570	1,479	2,627	2,445	691	1,615	12,302	5,893	35,747	33,555	2,192
2022	2,892	2,157	3,139	571	1,492	2,649	2,469	691	1,621	12,353	5,971	36,005	33,650	2,355
2023	2,911	2,173	3,166	572	1,504	2,668	2,491	696	1,628	12,400	6,052	36,261	33,748	2,513
2024	2,928	2,189	3,188	574	1,515	2,685	2,512	701	1,634	12,450	6,121	36,497	33,833	2,664
2025	2,945	2,204	3,212	575	1,526	2,703	2,532	704	1,642	12,499	6,203	36,745	33,926	2,819
2026	2,963	2,218	3,234	577	1,536	2,719	2,552	707	1,651	12,581	6,280	37,018	34,056	2,962

2016 RNA: Scenario #2 Description

◆ #2: Zonal Capacity at Risk Scenario

- *Intended to identify the maximum level of zonal capacity that can be removed without causing LOLE violations or exceeding the zonal capacity.*
- *The zones at risk assessment does not evaluate the impact of removing capacity on the transmission security or on the transfer capability of the transmission system.*
- *The reported zonal quantities are maximum values and are different by zone because the location of resources can impact the effectiveness due to existing transfer limitations.*

2016 RNA: Zonal Capacity at Risk Scenario

(Maximum Zonal MW that can be Removed without causing a resource adequacy need)

Load Zones	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Zone A	1100	850	850	1100	1050	1050	950	950	900	850
Zone B ¹	EZR									
Zone C	1400	1450	1450	2000	1900	1800	1700	1550	1500	1250
Zone D ^{1,2}	EZR									
Zone E ¹	EZR									
Zone F	1400	1450	1450	2050	1950	1850	1700	1550	1500	1250
Zone G	1150	1350	1300	1650	1600	1500	1400	1300	1250	1050
Zone H	1150	1350	1300	1650	1550	1550	1400	1300	1250	1000
Zone I ¹	EZR									
Zone J	950	1050	1000	1150	1150	1100	1050	1000	950	850
Zone K	750	800	800	900	850	800	750	650	600	500

¹ EZR = Exceeds Zonal Resources

² Includes Capacity Imports from External Area(s)

Zonal Groups	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Zones A-F	1500	1500	1450	2100	1950	1900	1700	1550	1500	1250
Zones G-I	1150	1350	1300	1650	1600	1550	1400	1300	1250	1000

2016 RNA: NYCA LOLE Results for Scenarios 1, 3, 5, 6, & 7

Scenario	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Base Case	0.04	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.04
#7: Capacity Continuing to Sell	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.06	0.07
#5: No Coal	0.06	0.07	0.07	0.04	0.05	0.05	0.06	0.06	0.07	0.07
#1: High Load Forecast	0.09	0.10	0.11	0.10	0.12	0.13	0.15	0.18	0.21	0.24
#3: Retirement of IPEC Gen.	0.21	0.15	0.15	0.13	0.14	0.15	0.17	0.18	0.19	0.22
#6: No Nuclear	0.36	0.28	0.28	0.23	0.23	0.25	0.26	0.28	0.30	0.33

Bold indicates a violation of the 0.1 LOLE criterion

2016 RNA: Next Steps

- ◆ **Aug 9 ESPWG/TPAS: presentation of the two Transmission Security Scenarios described in this presentation.**
- ◆ **Aug 25 ESPWG/TPAS: presentation of 2nd pass RNA results and start the approval phase.**

The mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability*
- *Operating open, fair and competitive wholesale electricity markets*
- *Planning the power system for the future*
- *Providing factual information to policy makers, stakeholders and investors in the power system*

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