

# Key Deactivation Study

## Assumptions for: Cayuga 1 and 2

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# Generator Summary

## ■ Cayuga 1

- Zone C
- Currently in Mothball Outage State
- Nameplate 155.3 MW
- Seeking to Retire

## ■ Cayuga 2

- Zone C
- Currently in ICAP Ineligible Forced Outage
- Nameplate 167.2 MW
- Seeking to Retire

# Deactivation Assessment Assumptions

- **The most recent base cases from the reliability planning process are those used for the 2019-2028 Comprehensive Reliability Plan (CRP) (discussed at the March 6, 2019 ESPWG/TPAS)**
  - Major Assumptions from the 2018 Reliability Needs Assessment (RNA) (discussed at the June 22, 2018 ESPWG/TPAS) and CRP are provided at the end of this presentation for reference
- **Changes from the CRP Case reviewed in prior Generator Deactivation Key Study Assumptions presentations are provided at the end of this presentation as a reference**
  - There are no additional changes from the CRP base case than those that have been previously reviewed at prior Generator Deactivation Key Study Assumptions presentations

# Deactivation Assessment Information

- **The NYISO is performing the assessment of the BPTF**
- **The assessment of the non-BPTF will be performed by:**
  - NYSEG/RG&E and National Grid
- **The Generator Deactivation Assessment for Cayuga 1 and 2 will be completed by May 31, 2020**

# Changes from the CRP Case reviewed in prior Generator Deactivation Key Study Assumptions presentations

# Changes from the CRP Case

## ■ The following updates are included for this assessment:

- Load - updated to match the 2019 Load and Capacity Data Report (“Gold Book”) forecast
- Transmission
  - All firm Transmission Owner Local Transmission Plans (LTPs) from the 2019 Gold Book are included with the exception of the NYSEG Coopers Corners 345/115 & 115/34.5 kV transformers (due to target I/S outside of the inclusion period)
  - Also included:
    - AC Transmission selected projects NAT/NYPA T027 and National Grid/Transco T019
  - NYPA Moses 230/115 kV AT2 transformer is removed for the 2020 summer peak
  - RG&E Station 122 relay upgrade was removed from the model
  - NYPA Niagara 230 kV substation additional circuit breaker was added to the model (5/2020)
  - National Grid project to reconductor the Niagara-Packard #193 and #194 115 kV lines in-service date changed from summer 2020 to summer 2022
  - National Grid projects to reconductor the following lines were added to the model:
    - Niagara-Packard (#192) 115 kV (11/2021)
    - Niagara-Packard (#191) 115 kV (2/2022)
    - Walack-Huntley (#133) 115 kV (6/2023)
    - Packard-Huntley (#130) 115 kV (6/2023)

# Changes from the CRP Case

- **The following updates are included for this assessment:**
  - Generation Removals
    - Q#511 Ogdensburg
  - Generation Additions
    - Q#505 Ball Hill Wind

# Completed Generator Deactivation Assessments

- **The following Generators have completed their Generator Deactivation Assessments that were in-service in the CRP :**
  - Monroe Livingston (Zone B, Nameplate 2.4 MW) (Retire)
  - Auburn – State St (Zone C, Nameplate 7.4 MW) (Retire)
  - Steuben County LF (Zone C, Nameplate 3.2 MW) (Retire)
  - Hudson Ave 4 (Zone J, Nameplate 16.3 MW) (Retire)
  - Albany LFGE (Zone F, Nameplate 5.6 MW) (Retire)
  - Cayuga 1 (Zone C, Nameplate 155.3 MW) (Mothball)
  - Hudson Ave 3 (Zone J, Nameplate 16.3 MW) (IIFO)
  - Somerset (Zone A, Nameplate 675 MW) (Retire)



# CRP Assumptions

# 2019-2028 CRP

- The 2019-2028 CRP re-iterates RNA's conclusion that there are no Reliability Needs on the BPTF over the 10-year Study Period
- This conclusion is based on the CRP base case, which was developed by updating the RNA Base Case:

Changes from the 2018 RNA to 2018 CRP Base Case	Zone	$\Delta$ MW (DMNC)	Notes
Add back Pilgrim I and II	K	+90	Rescission of GDA Notice (Nov 2018)
Remove Cayuga II	C	-140	ICAP Ineligible Forced Outage as of 7/1/2018
Add back Selkirk I and II	F	+360	Rescission of GDA Notice (Dec 2018)
ConEdison's B3402 & C3403 345 kV cables out of service	J	-	Long-term unavailability
By-pass the Series Reactors on 71, 72, M51, M52 for summer (with Y49, 41, 42, SR in service)	J	-	After Indian Point 2 and 3 Deactivations (2020 and 2021)
J to K (Jamaica ties) emergency limit represented in the MARS topology changed from 235 MW to 320 MW	J to K	+85*	Due to addition of Rainey-Corona 345/138 kV PAR; target I/S summer 2019

# RNA Major Assumptions

# 2018 RNA Summer Peak Load Forecast Assumptions

## Topline (former Econometric), Baseline and Adjusted Summer Peak Forecast

Annual MW	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>2018 Topline* Forecast</b>	33,763	34,099	34,367	34,554	34,727	34,946	35,132	35,442	35,750	35,982	36,154
<b>2018 Gold Book Baseline**</b>	32,904	32,857	32,629	32,451	32,339	32,284	32,276	32,299	32,343	32,403	32,469
<b>+ 2018 Solar PV</b>	440	566	689	774	843	889	928	963	989	1,017	1,038
<b>2018 RNA RA Base Case***</b>	33,344	33,423	33,318	33,225	33,182	33,173	33,204	33,262	33,332	33,420	33,507

## Comparison of Base Case Peak Forecasts - 2016 & 2018 RNA (MW)

Annual MW	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>2016 RNA RA Base Case***</b>	33,618	33,726	33,825	33,948	34,019	34,120	34,256	34,393	34,515	34,646	34,803		
<b>2018 RNA RA Base Case***</b>			33,344	33,423	33,318	33,225	33,182	33,173	33,204	33,262	33,332	33,420	33,507
<b>Change from 2016 RNA</b>			-481	-525	-701	-895	-1,074	-1,220	-1,311	-1,384	-1,471	NA	NA

\* The topline forecast will be used for the resource adequacy scenario

\*\* The transmission security power flow RNA base cases use this Gold Book baseline forecast

\*\*\*For the resource adequacy (RA) study RNA Base Case, the 2018 Gold Book baseline load forecast was modified by removing the behind-the-meter solar PV impacts in order to model the solar PV explicitly as a generation resource to account for the intermittent nature of its availability

The Gold Book 2018 contains additional details on the load forecast:

[http://www.nyiso.com/public/webdocs/markets\\_operations/services/planning/Documents\\_and\\_Resources/Planning\\_Data\\_and\\_Reference\\_Docs/Data\\_and\\_Reference\\_Docs/2018-Load-Capacity-Data-Report-Gold-Book.pdf](http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2018-Load-Capacity-Data-Report-Gold-Book.pdf)

Queue #	Project Name	Zone	CRIS Request	SP MW	Interconnection Status
<b>Proposed Generation Additions</b>					
251	CPV Valley Energy Center	G	680.0	677.6	CY11
349	Taylor Biomass	G	19.0	19.0	CY11
395	Copenhagen Wind	E	79.9	79.9	CY15
403	Bethlehem Energy Center Uprate	F	78.1	72.0	CY15
387	Cassadaga Wind	A	126.0	126.0	CY17
421	Arkwright Summit	A	78.4	78.0	CY17
444	Cricket Valley Energy Center II	G	1020.0	1020.0	CY17
461	East River 1 Uprate	J	n/a	2.0	CY17
462	East River 2 Uprate	J	n/a	2.0	CY17
467	Shoreham Solar	K	24.9	25.0	CY17
510	Bayonne Energy Center II	J	120.4	120.4	CY17
511	Ogdensburg	E	79.0	79.0	CY17
N/A	Nine Mile Point 2	C	63.4	63.4	CY17 (CRIS only)
N/A	East River 6	J	8.0	N/A	CY17 (CRIS only)
<b>MW additions from 2016 RNA</b>			<b>1,598</b>	<b>1,588</b>	
<b>Total MW gen. additions</b>			<b>2,377</b>	<b>2,364</b>	

# Proposed Generation Projects Included in the 2018 RNA Base Case

Also included in the  
2016 RNA

# Proposed Transmission Projects Included in the 2018 RNA Base Case

- All firm LTPs from the Gold Book 2018 were included in the 2018 RNA Base Case
- The Q545A Western NY - Empire State Line is also included

# Assumed Generation Deactivations

Owner/Operator	Plant Name	Zone	CRIS	2018 RNA Base Case Status*	2016 RNA Base Case Status
Helix Ravenswood LLC	Ravenswood 04	J	15.2	out	out
	Ravenswood 05	J	15.7	out	out
	Ravenswood 06	J	16.7	out	out
International Paper Company	Ticonderoga	F	7.6	out	in
Niagara Generation LLC	Niagara Bio-Gen	A	50.5	out	out
NRG Power Marketing LLC	Dunkirk 2	A	97.2	out	out
	Huntley 67	A	196.5	out	out
	Huntley 68	A	198.0	out	out
	Astoria GT 05	J	16.0	out	out
	Astoria GT 07	J	15.5	out	out
	Astoria GT 08	J	15.3	out	out
	Astoria GT 10	J	24.9	out	out
	Astoria GT 11	J	23.6	out	out
	Astoria GT 12	J	22.7	out	out
	Astoria GT 13	J	24.0	out	out
ReEnergy Black River LLC	Fort Drum	E	55.6	out	in
	Chateaugay Power	D	18.6	out	out
Binghamton BOP, LLC	Binghamton	C	43.8	out	in
Helix Ravenswood, LLC	Ravenswood 09	J	21.7	out	in
Entergy Nuclear Power Marketing, LLC	Indian Point 2	H	1027.0	out	in
	Indian Point 3	H	1040.0	out	in
Selkirk Cogen Partners, LP	Selkirk 1	F	82.1	out	in
	Selkirk 2	F	291.3	out	in
J- Power USA Generation, LP Edgewood Energy, LLC	PPL Pilgrim ST GT1	K	45.6	out	in
	PPL Pilgrim ST GT2	K	46.2		
Helix Ravenswood, LLC	Ravenswood 2-1	J	40.4	out	in
	Ravenswood 2-2	J	37.6		
	Ravenswood 2-3	J	39.2		
	Ravenswood 2-4	J	39.8		
	Ravenswood 3-1	J	40.5		
	Ravenswood 3-2	J	38.1		
Ravenswood 3-4	J	35.8			
Lyonsdale Biomass, LLC	Lyonsdale (Burrows)	E	20.2	out	in
R.E. Ginna Nuclear Power Plant, LLC	Ginna	B	582.0	in	out
Cayuga Operating Company, LLC	Cayuga 1	C	154.1	in	out
	Cayuga 2	C	154.7	in	out
Entergy Nuclear Power Marketing LLC	Fitzpatrick 1	C	858.9	in	out
change in status	<b>Changes in deactivations since 2016 RPP</b>		<b>1,203</b>		
	<b>Total 2018 RNA MW assumed as deactivated</b>		<b>3,703</b>		

\* Consistent with the deactivation dates

# Our mission, in collaboration with our 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 policymakers, stakeholders and investors in the power system

