



Summer Preparation 2019

LIPA Oversight & REV Committee

May 2019





Power Supply Summer Preparation - National Grid Fleet

Maintenance Activities

Steam Units

- Northport Units #1/#2/#3/#4
 - Unit #1: Completed repairs on aux transformer bushing box (scheduled completion 5/28/19)
 - Unit #2: Gas system maintenance and regulating system maintenance (scheduled completion 4/30/19)
 - Unit #3: Summer prep outage complete
 - Replacement of crossover piping expansion joints
 - Unit # 4: Major overhaul & summer prep completed 4/03/19
 - Turbine strainer maintenance will be performed.

Unit Status

Steam Units

- All Northport steam units expected to return from maintenance outages to full operation by June 1, 2019



Power Supply Summer Preparation - National Grid Fleet

Maintenance Activities

Steam Units

- E.F. Barrett Unit #1: Summer Prep outage was performed and completed in March 2019.
- E.F. Barrett Unit #2: Unit is currently in summer prep outage to perform misc. activities like calibration, turbine inspection, Boiler inspection, condenser cleaning, restack air heater etc.
- Port Jefferson #3: Summer prep outage was completed in March 2019. Periodic overhaul for intake repairs, boiler inspection, turbine inspection, calibrations. Etc.
- Port Jefferson #4 Summer prep outage will be starting on 4/19/19 to perform routine inspections and checks (scheduled completion 5/13/19)

Unit Status

Steam Units

- All steam units expected to return from maintenance outages to full operation by June 1, 2019



Power Supply Summer Preparation - National Grid Fleet

Maintenance Activities

Combustion Turbines

- All planned inspections, testing, calibrations, and summer prep work checklist was performed or are on schedule.
- EF Barrett #8 is having several stages of bucket replaced.
- Holtsville in addition to routine inspections, took outage for the fuel oil pipeline for replacing the insulating flange and for pigging the line.

Unit Status

Combustion Turbines

- All Combustion Turbine units expected to return from maintenance outages to full operation by June 1, 2019



Power Supply Summer Preparation - National Grid Fleet

Maintenance Activities

Status

- Balance of Long Island Fleet
 - All units have undergone or will be going through maintenance, inspections and repairs as required for good maintenance practices
 - Caithness completed their summer prep. Maintenance activity included but not limited to, Steam Turbine reduction gear replacement, Condensate pump replacement, repair on HRSG economizer leak, repair work generator brush rigging, HRSG Critical Instrumentation was calibrated , ACC cleaning rail improvements, Combustion turbine borescope inspection, combustion turbine expansion joint replacement etc.

All FTUs and IPPs will be finishing their summer prep and will be fully operational by June 1, 2019



Power Supply Summer Preparation Balance Of Fleet

Maintenance Activities

• Balance of Long Island Fleet

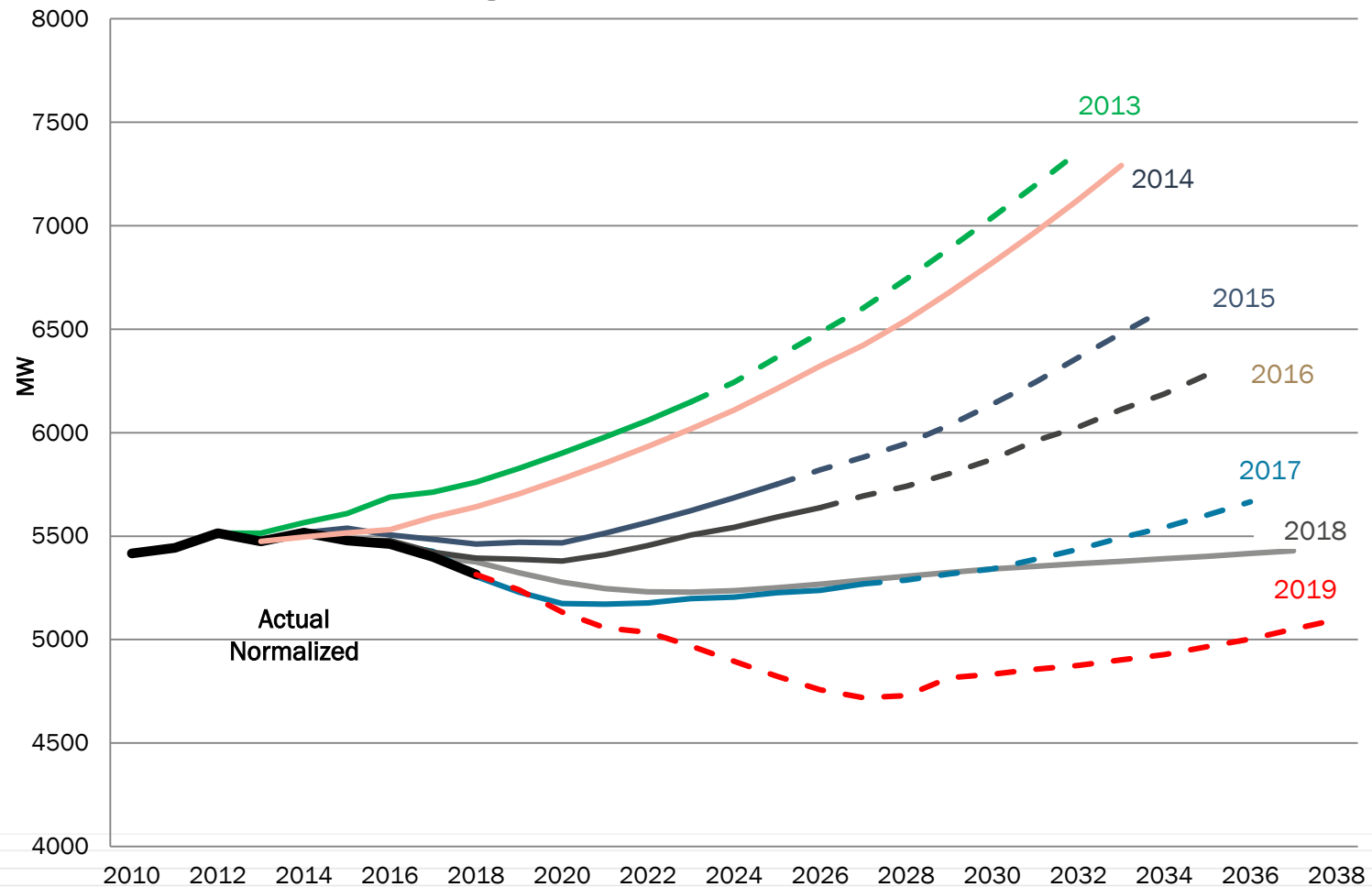
- Neptune completed their summer prep, which included PM on Thyristor and affiliated equipment, Valve cooling system, HV/LV DC equipment inspections, Annual fire protection testing, Converter Transformer and Shunt Reactor maintenance and Corrective maintenance items requiring an outage
- Cross Sound Cable will be completing their annual maintenance PM during an outage in May.
- Boiler overhauls for Huntington, Hempstead, Babylon and Islip Resource Recovery plants completed. Major ST overhaul took place for Hempstead RR and Huntington RR. For Hempstead RR, AVR, and Sequential tripping relays were replaced. Bank 1 reserve side transformer replaced and upgraded to 96MVA. For Resource Recovery units repairs included but not limited to repair/replacement of pressure parts, refractory, combustor drive, duct work, pollution control, cranes, pump and motors. In addition electrical inspections, testing and calibrations were completed.

Status

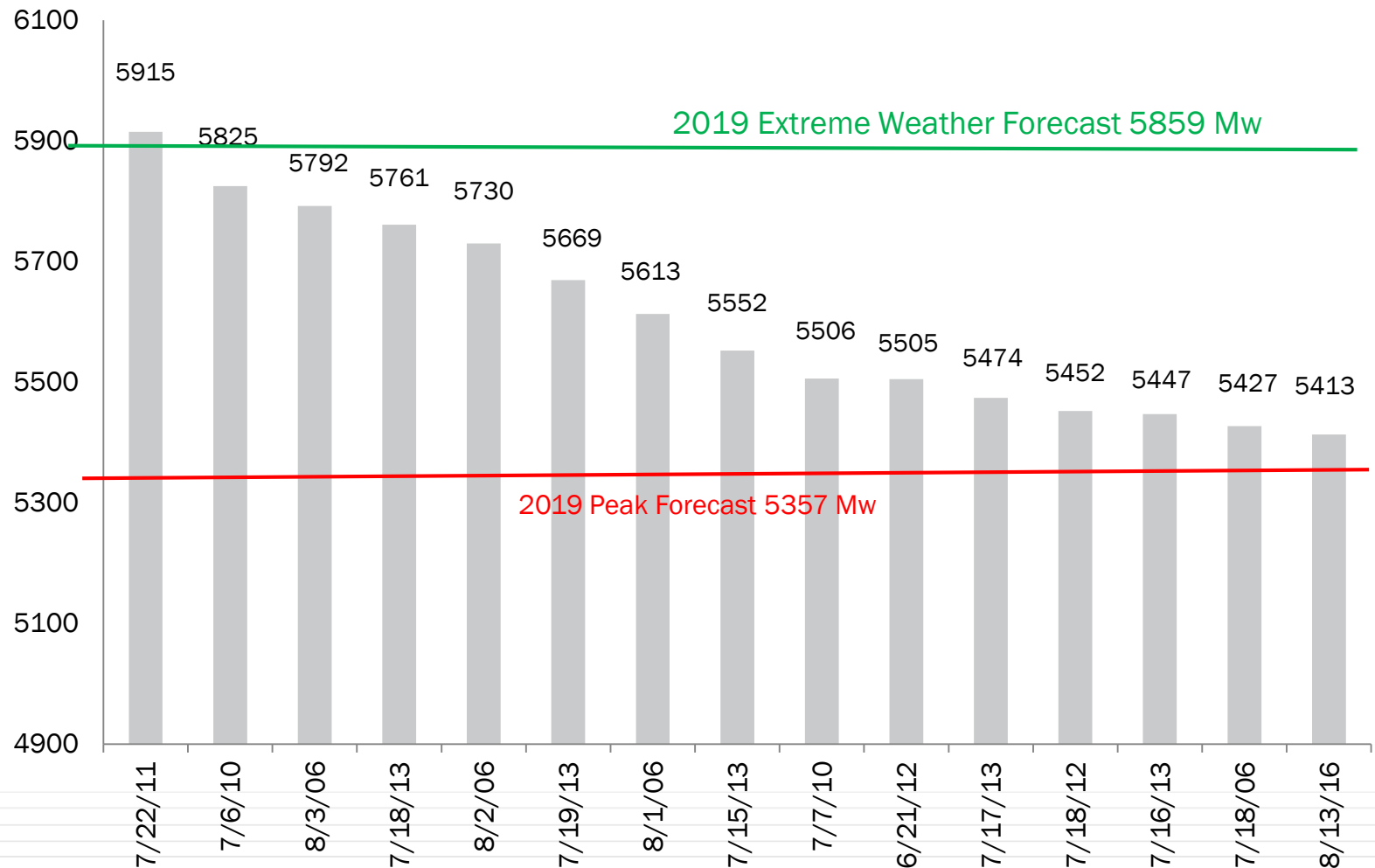
• Balance of Long Island Fleet

- All FTUs and IPPs (including Neptune and Cross Sound) will be finishing their summer prep and will be fully operational by June 1, 2019

Long Island Peak Load Forecasts



15 HIGHEST LONG ISLAND CONTROL AREA LOADS





Long Island Control Area 2018 vs. 2019

DEMAND (MW)

	<u>2018</u>	<u>2019</u>
	Forecast	Forecast
LICA Peak Load	5,473	5,357
Extreme Weather Load Addition	630	626
Total LI Extreme Weather Load	6,103	5,983
Load Modifiers	-54	-83
Load Reduction Programs	-43	-41
Net LI Extreme Weather Load	6,006	5,859

Power Capability Margin (MW)

	<u>2018</u>	<u>2019</u>
	Forecast	Forecast
Normal Weather	1,572	1,678
Extreme Weather	1,039	1,176

CAPABILITY (MW)

TRANSMISSION OPERATION

	<u>2018</u>	<u>2019</u>
	Forecast	Forecast
Total Long Island Generation	4,928	4,918
NYISO Import	927	927
ISO-NE Import	530	530
PJM Import (Neptune)	660	660
Total LI	7,045	7,035

New York ISO Requirements (UCAP MW)

	<u>2018</u>	<u>2019</u>
	Forecast	Forecast
Long Island Forecast Peak Load	5,376	5,240
Long Island Locality Requirement (%)	97.0%	97.4%
Long Island Locality Requirement (Mw)	5,214	5,102
Total Long Island Capacity (Mw)	5,673	5,662
Capacity Margin (Mw)	458	560



Margins on Contingencies

- Sufficient margins exist for all major contingencies under 2019 forecast
- Operating procedures will be implemented, as required, to maintain system reliability during both normal and extreme weather conditions



T&D System Summer Preparation – Capital

- Major projects completed since last summer :
 - Installed or upgraded Transmission substation in the system:
 - 69kV Hempstead
 - 138kV Kings (June 2019 ISD)
 - 33kV Far Rockaway
 - Installed Transmission circuit in the system:
 - Canal to Southampton 69kV Underground Circuit (June 2019 ISD)
 - Installed or upgraded distribution circuits at the following substations :
 - Pulaski
 - Shelter Island
 - Malverne
 - Floral Park
 - Terryville
 - Berry Street (June 2019 ISD)
 - Arverne Phase I
 - Park Place
 - Installed distribution banks or upgraded switchgear at the following substations:
 - West Bartlett
 - Malverne
 - Arverne
 - Barrett
 - Far Rockaway
 - Long Beach
 - Pilgrim
 - Garden City Park



T&D System Summer Preparation – Capital Projects W/Delays

Major 2019 Substation and Transmission projects which have been delayed:

Public Outreach Delays:

- New Montauk Substation – Land Purchase - impact to all east end projects
- Ruland – Plainview - New 69kv Circuit / Round Swamp New Substation – New 69KV circuit route not final



T&D System Summer Preparation – Maintenance

Scheduled Work Scope to be Completed Prior to Summer Period

- Inspect 1600 capacitor banks and make repairs
- Trim approximately 30% of distribution circuit mileage
- Trim approximately 80% of transmission circuit mileage
- Perform thermographic analysis of critical substations facilities
- Make reliability improvements to prioritized circuits
- Complete pre-summer substation equipment maintenance



T&D System Summer Preparation – Emergency Generation

- South Fork:
 - Installed 2 MW of emergency generation at the Montauk substation



T&D System Summer Preparation - Storm Restoration

- Revised Emergency Restoration Plan (ERP) filed with NYS Department of Public Service (DPS) December 2018 .
 - Met with DPS on April 12, 2019 to discuss initial comments. Proposed revisions under review
- Recommendations from DPS report on NY Utilities 2018 Winter storm performance issued April 18, 2019 are under review
- Major Emergency Response Drills/Exercises
 - Alternate Control Center (May 1)
 - Annual Hurricane Tabletop Exercise (May 21)
 - Division/Dispatch Area/Console Operations Exercises (April-June)
 - Logistics/Foreign Crew Processing Exercise (June/September)
 - Situation Status and Documentation Unit Exercise (September)
 - Customer Communications Drill (June)
- All PSEG LI employees assigned emergency restoration role in addition to day job
 - Additional training provided to those in “non-traditional” storm roles to ensure readiness