2018 RNA MARS Model Additional Updates

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ESPWG/TPAS
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Background

- **An initial set of MARS model updates were presented at the March 13 ESPWG/TPAS meeting**
- **This presentation highlights:**
  - **Several additional MARS updates,**
  - **Comparison of the two UPNY-SENY interface models:**
    - **Pre-Cricket Valley formulaic model**
    - **Post-Cricket Valley's dynamic limit table (DLT) model**

Western NY Changes

Western NY interface limit changes

	2018 RNA Proposed	2016 RNA	Delta
Dysinger East	2300 MW	1700 MW	600 MW
Zone A Group	2750 MW	1850 MW	900 MW
West Central	1500 MW	1300 MW	200 MW

- **Primary reason for increase is the inclusion of the Western NY public policy project (starting summer 2022)**
  - Dysinger station
  - PAR-controlled 345 kV line from Dysinger to E. Stolle Rd.

UPNY-SENY Model Comparison

UPNY-SENY Model Comparison Objectives

- **Pre-Cricket Valley formulaic against new dynamic limit table (DLT) model**
  - Two states compared directly
    - 0 Athens, 0 CPV Valley, 0 Cricket Valley
    - Full Athens, Full CPV Valley, 0 Cricket Valley
- **Compare how much power could flow over E to G, F to G and NE to G combined (UPNY-SENY) in each model**

UPNY-SENY Model Comparison Results

- **0 Athens, 0 CPV Valley, 0 Cricket Valley**
  - Formulaic model: 5600 MW
  - DLT model: 5600 MW
- **Full Athens, Full CPV Valley, 0 Cricket Valley**
  - Formulaic model: 4780 MW
  - DLT model: 5125 MW

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UPNY-SENY Model Comparison Explanation

- **Primary reason for the difference**
  - 2015 analysis to update the formulaic model to account for CPV did not model the Leeds – Hurley SDU (did not meet inclusion rules at the time)
  - The SDU met the inclusion rules for the 2016 RNA
  - Calculated incremental impact of including the SDU (+100 MW) based on 0 Athens, 0 CPV generation (increased from 5500 to 5600 MW)
  - However the impact of the SDU on the UPNY-SENY limit is greater with full Athens and full CPV generation (the rest of the formula was not modified to capture this non-linear effect)
  - The DLT construct allows for using a specific limit for each specific dispatch combination studied and became necessary to capture the three unique impacts of the plants (CPV, Athens and Cricket Valley) on the transfer limit

Other MARS Changes

- Landfill Gas Units (LFG) - shapes
- RECO Load - increased granularity
- VFT Model
- ISO-NE Model - partial reduction
- NY Capacity Sales Model

Change in Modeling for Landfill Gas Units

Previous Models

- Modeled as (On/Off) units
- Used Unit Equivalent Forced Outage Rate demand (EFORd) information from NERC's Generator Availability Data System (GADS)
- Additional MARS data calculated by NYISO staff

2018 RNA

- Use of historic actual output
  - Source: DSS database
  - 5 years of hourly data used
- Consistent with current practice for other resources such as wind, solar, run-of-river

Change in Modeling for RECO Deliveries

Previous Models

- Constant 425 MW load for all hours of the year

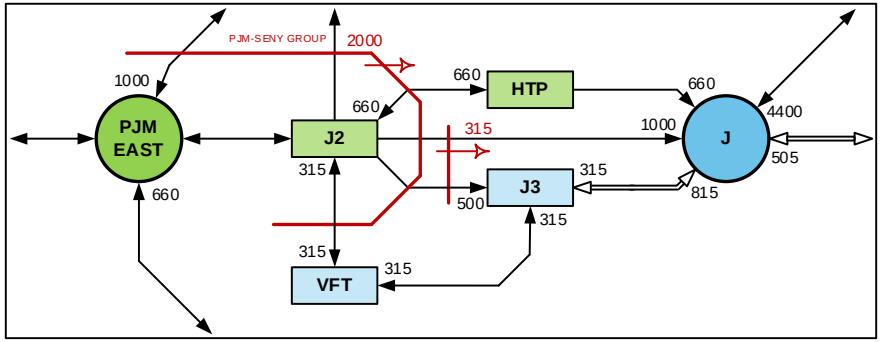
2018 RNA

- Seasonal load profile:

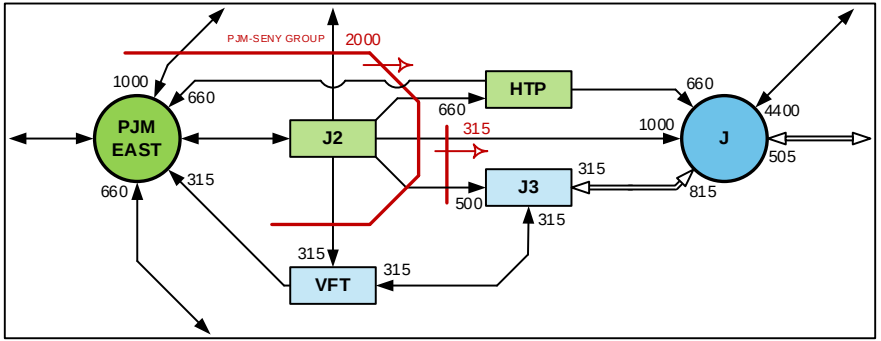
Season	Months	Load (MW)
Winter	Dec – Feb	240
Spring	Mar – May	310
Summer	Jun – Aug	425
Autumn	Sep – Oct	340

Change in Modeling of VFT and HTP

Previous Models



2018 RNA



- **The updated topology allows for better accounting of interface group limits**
  - For example: In the previous model, when the VFT capacity is sent to J2 then an equivalent amount of capacity could flow through the PJM-SENY group and not count towards the 2000 MW group limit

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Change in Modeling of NE Topology

Previous Models

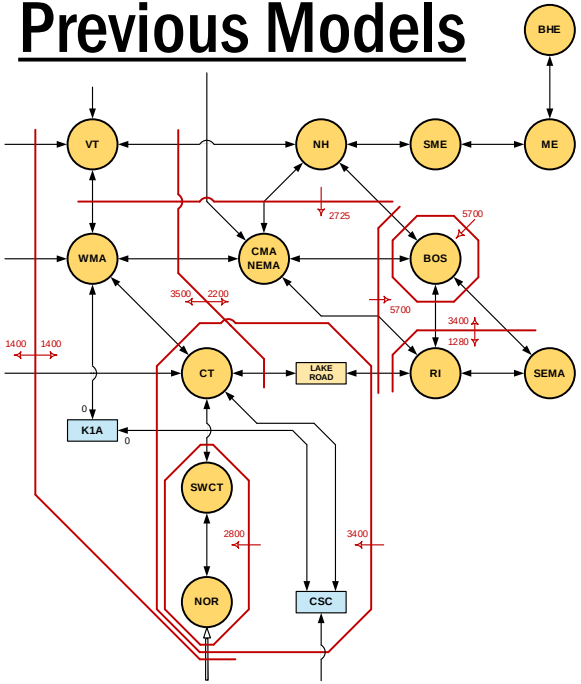
- Model New England's system as received from NPCC CP-8 WG

2018 RNA

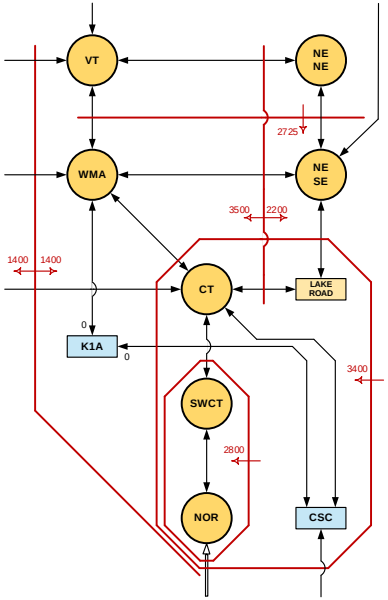
- NE system model reduced
  - Major interface groups used to split NE into sections to combine areas together
  - Combined areas are not connected to NY and this change will simplify this external model

Change in Modeling of NE Topology, cont.

Previous Models



RNA 2018



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Change in Modeling for Capacity Sales

Previous Models

- Capacity sales sourced from the surplus areas in Rest of State (ROS): A,C,D,F
- Each area supports the transactions proportionately to their installed capacity

2018 RNA

- Capacity sales sourced from new NY_SALES bubble
- NY_SALES connects to all areas in ROS with unidirectional ties
- MARS will support the transactions from any connected area

RNA Next Steps

- June 22 ESPWG/TPAS: Present preliminary ("1st pass") RNA results
- June 28 ESPWG and/or July 2 TPAS: Stakeholders' presentations of projects updates, as related to the identified preliminary Reliability Needs, if any
- *July 6, 2018: lock down assumptions for final ("2nd pass") RNA*
- July 19, Aug 8, Aug 22 ESPWG/TPAS: review draft RNA reports
- Aug 22 ESPWG/TPAS: recommendation for OC approval of the 2018 RNA
- September 12 OC: Market Monitoring Unit review and OC vote
- September 28 MC: vote
- October: NYISO Board approval

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Questions?

We are here to help. Let us know if we can add anything.

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