

# **Updated 2015 IRM: Proposed MARS Topology**

A faint background map of New York State is overlaid with a complex network topology. The map shows the state's outline and major geographical features. The network consists of numerous nodes, represented by small colored circles (red, blue, purple), connected by thin grey lines. The nodes are distributed across the state, with a higher density in the eastern and southern regions, particularly around the New York City and Albany areas.

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**TPAS**

*Originally posted for June 2 TPAS*

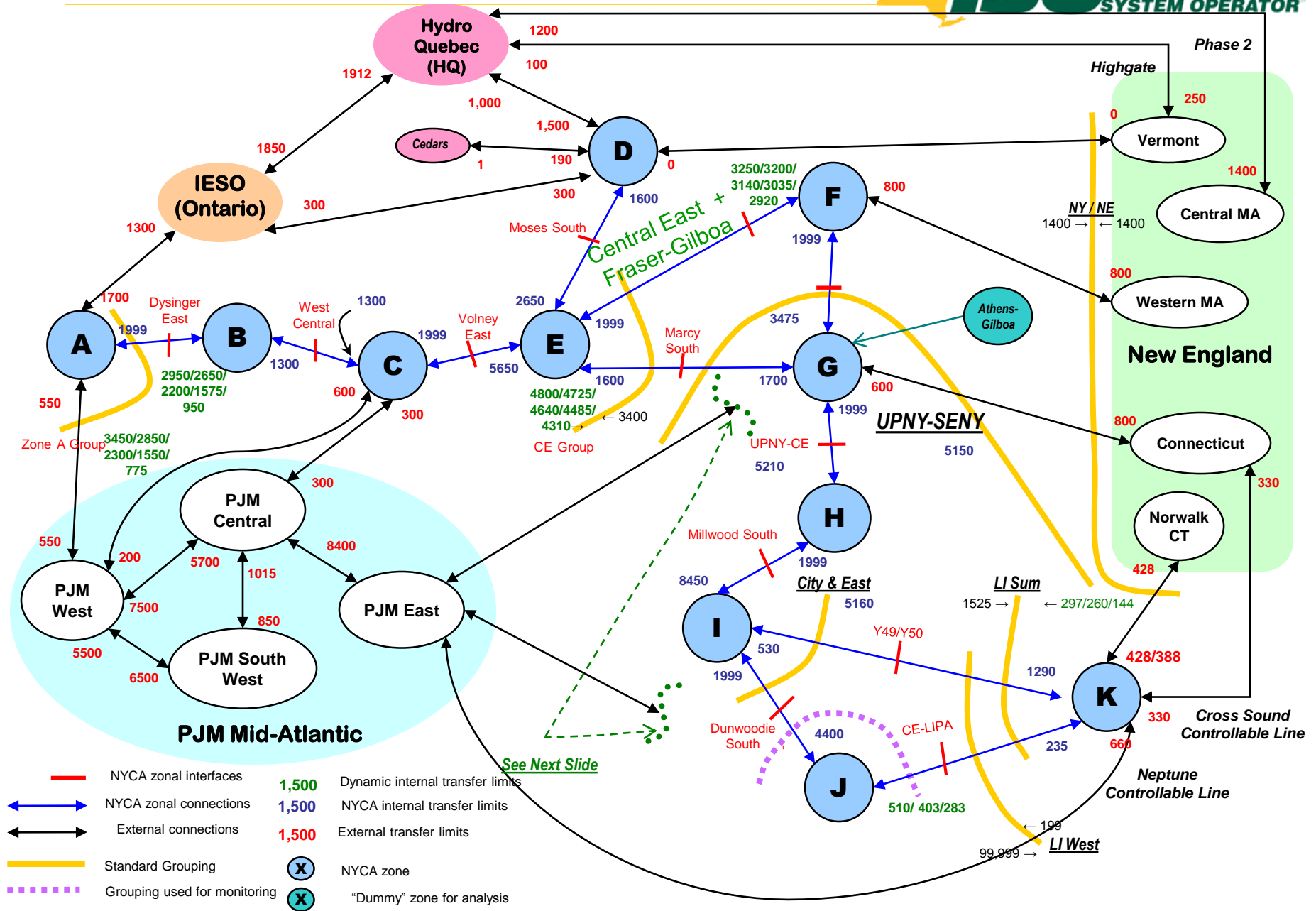
*Updated on July 14, 2014 by ICS request*

**KCC**

# IRM MARS Topology

- ◆ Proposed MARS topology
  - *Year 2015: Before TOTS*
  
- ◆ For TPAS and ICS Review

# Transmission System Representation for Year 2015



- NYCA zonal interfaces
- ↔ NYCA zonal connections
- ↔ External connections
- Standard Grouping
- - - Grouping used for monitoring
- X NYCA zone
- X "Dummy" zone for analysis
- ↔ Dynamic internal transfer limits
- ↔ NYCA internal transfer limits
- ↔ External transfer limits

See Next Slide

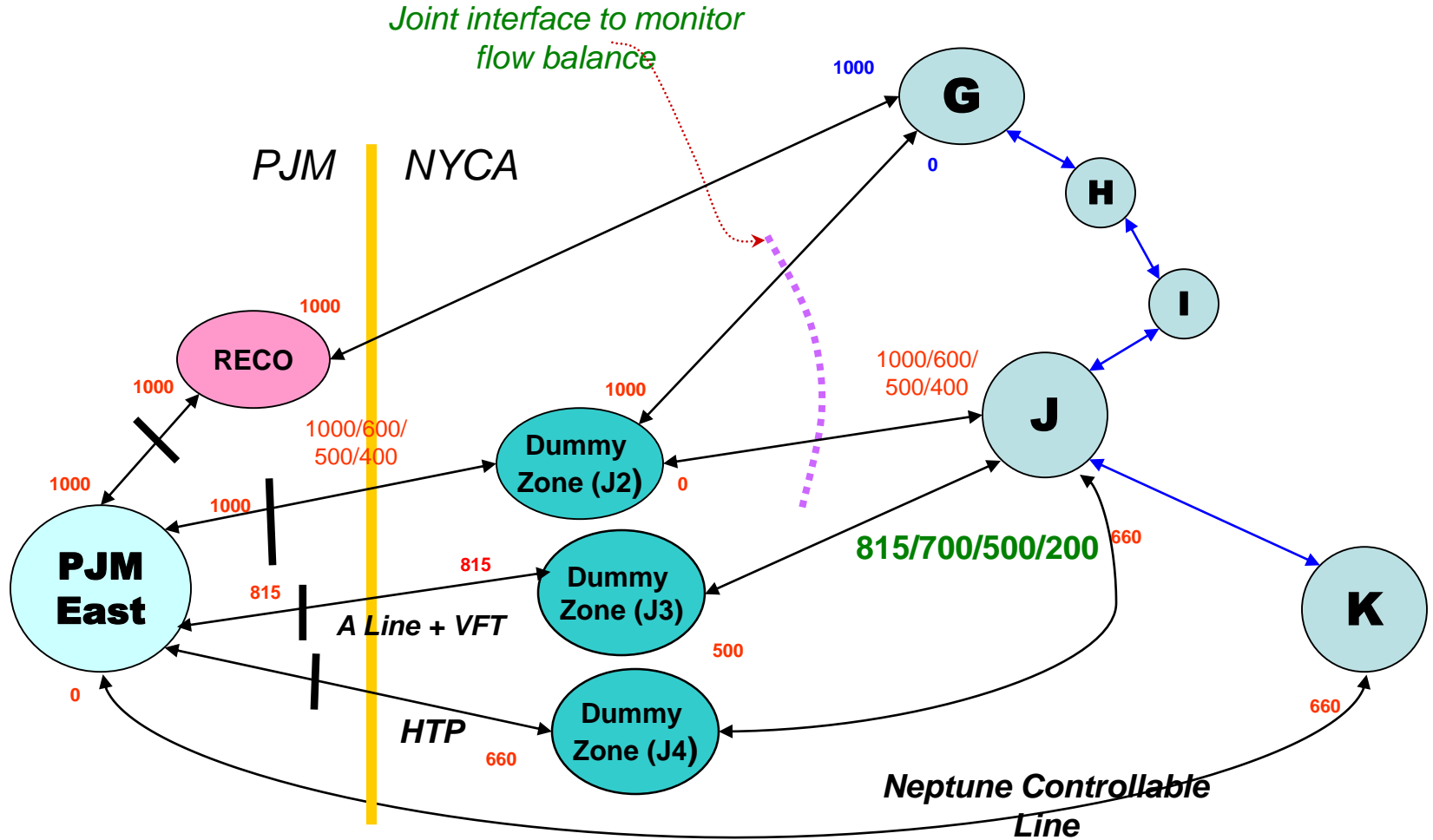
# IRM MARS Topology – Unit Sensitivities

Year	Interface	Oswego Complex Units*				
		All available	Any 1 out	Any 2 out	Any 3 out	Any 4 (or more) out
2015	Central East MARS	3250	3200	3140	3035	2920
	CE Group	4800	4725	4640	4485	4310
2016 - 2024	Central East MARS	3100	3050	2990	2885	2770
	CE Group	5000	4925	4840	4685	4510

\* 9 Mile Point 1, 9 Mile Point 2, Fitzpatrick, Oswego 5, Oswego 6, Independence (Modeled as one unit in MARS)  
 Note: The impact of Athens was not included due to its relative impact being small

Year	Interface	Huntley / Dunkirk Units*				
		All available	Any 1 out	Any 2 out	Any 3 out	All out
2015	Dysinger East	2950	2650	2200	1575	950
	Zone A Group	3450	2850	2300	1550	775
2016	Dysinger East	2900	2600	2150	1525	900
	Zone A Group	3425	2825	2275	1525	750
2017	Dysinger East	2850	2550	2100	1475	850
	Zone A Group	3400	2800	2250	1500	725
2018	Dysinger East	2825	2525	2075	1450	825
	Zone A Group	3375	2775	2225	1475	700
2019-2024	Dysinger East	2800	2500	2050	1425	800
	Zone A Group	3350	2750	2200	1450	675

\* Huntley 67, Huntley 68, Dunkirk 3, Dunkirk 4, Dunkirk 2 impact not included as it is relatively small



**(PJM East to RECO) + (PJM East to J2) + (PJM East to J3) + (PJM East to J4) = 3075 MW**

# IRM MARS Topology – Unit Sensitivities

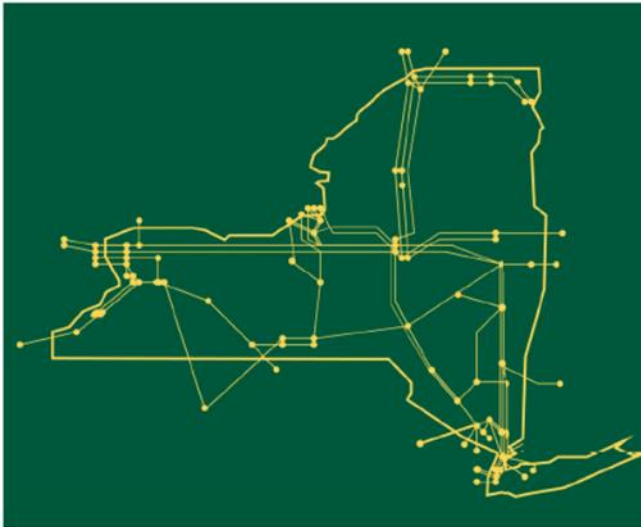
Year	Interface	Barrett Steam units (1 and 2)			
		Both available	Any 1 out	Both out	
2015-2024	LI Sum	297	260	144	
	CE-LIPA (towards Zone J)	510	403	283	
Year	Interface	Staten Island Units*			
		All available	AK 3 on, and any one of AK 2, Linden Cogen 1 or Linden Cogen 2 out	AK3 out	Any 2 (or more) out
2015	Dummy Zone J3 to J	200	500	700	815
Year	Interface	Staten Island Units*			
		All available	Any out		
2016-2024	Dummy Zone J3 to J	600	815		

\* Arthur Kill 2, Arthur Kill 3, Linden Cogen (Modeled as 2 units in MARS)

# IRM MARS Topology – Unit Sensitivities

Year	Interface	PSEG units*			
		All available	any 1 out	Any 2 out	All out
2015-2024	Dummy Zone J2 to J	1000	600	500	400
	PJM East to Dummy Zone J2	1000	600	500	400
* Hudson 2, Bergen 2 CC, Linden 2 CC (PJM)					
Year	Interface	Northport Units			
		All available	Any out		
2015-2024	Norwalk CT to K (NNC)	388	428		

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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