

NYISO'S Comprehensive Reliability Planning Process

2008 RNA Results and Review of Inputs

ESPWG Oct 4, 2007

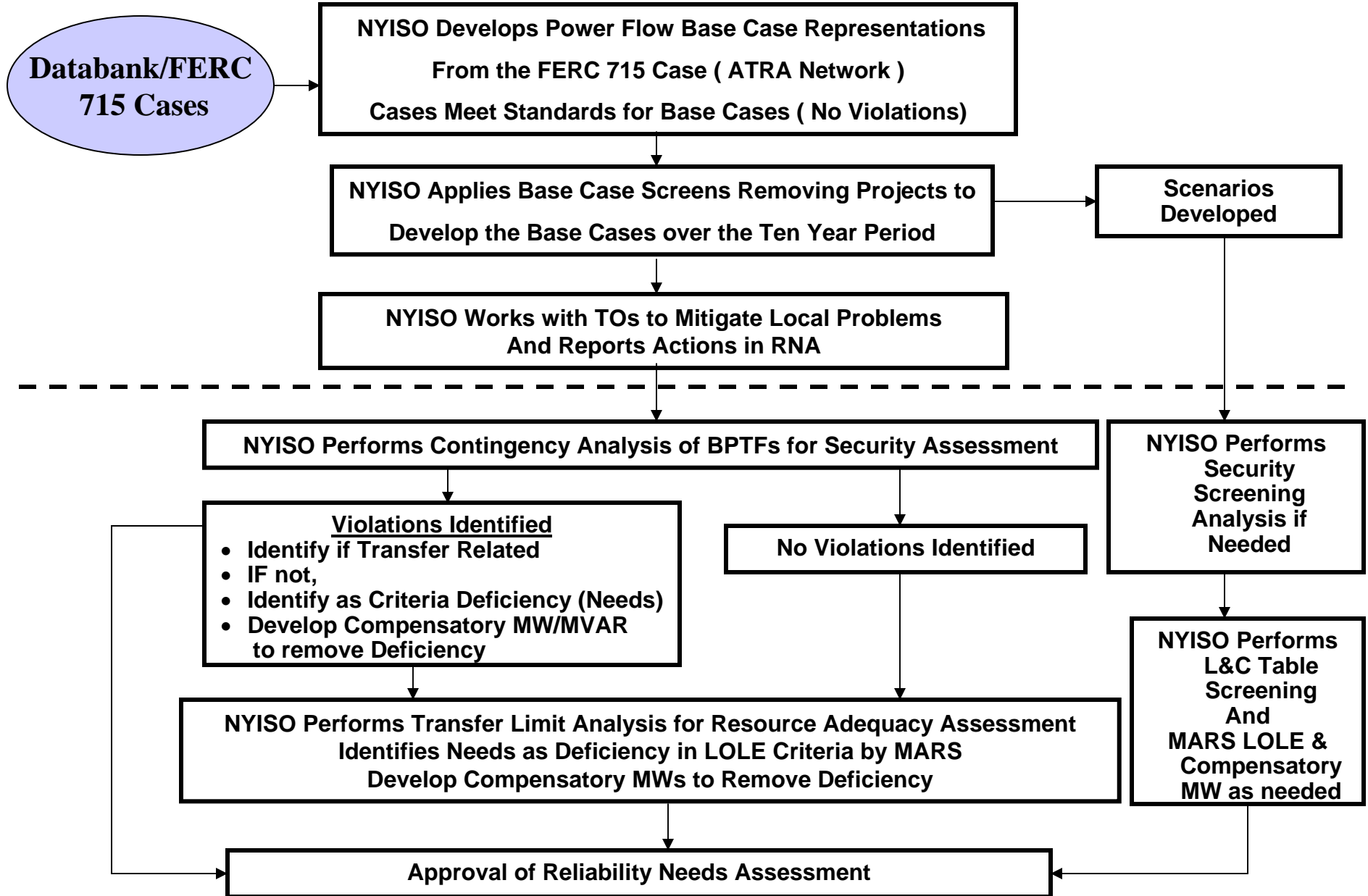
Bill Lamanna

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Presentation Topics

- Process Overview
- Review of Input Assumptions
- Summary of Results
- Scenarios

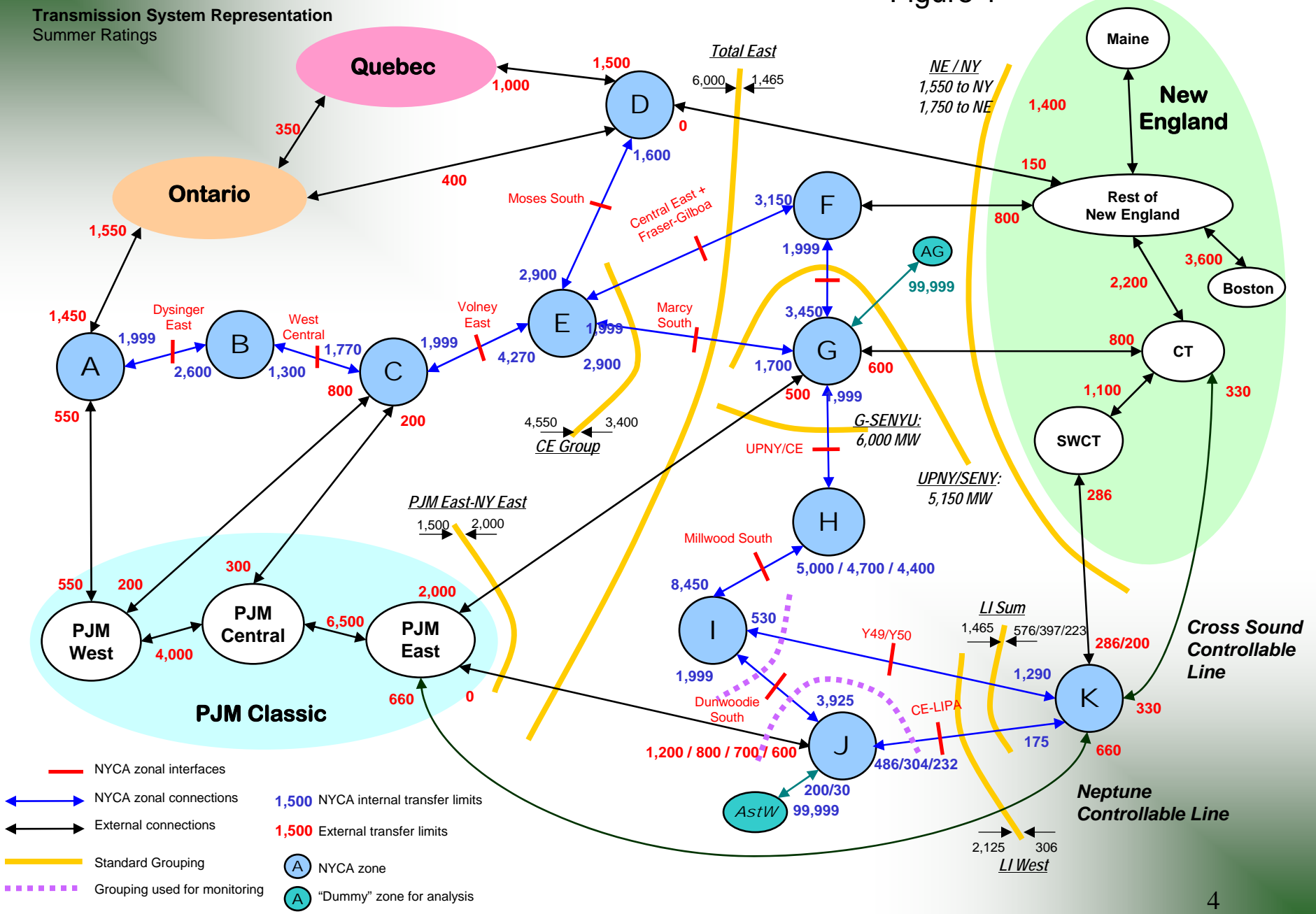
NYISO Reliability Planning Process



New York Control Area
Transmission System Representation
Summer Ratings

Draft

Figure 1



Review of Input Assumptions

- 2007 Load and Capacity Report
- Lovett 5, Russell 1-4, and Poletti Retired
- Gilboa Uprate, Prattsburgh Wind and Caithness Installed
- Updated External Representations
- For This RNA, Resource Adequacy Analysis Database Starts from Latest IRM Database
- Besicorp 660 MW Generation Analyzed as Scenario

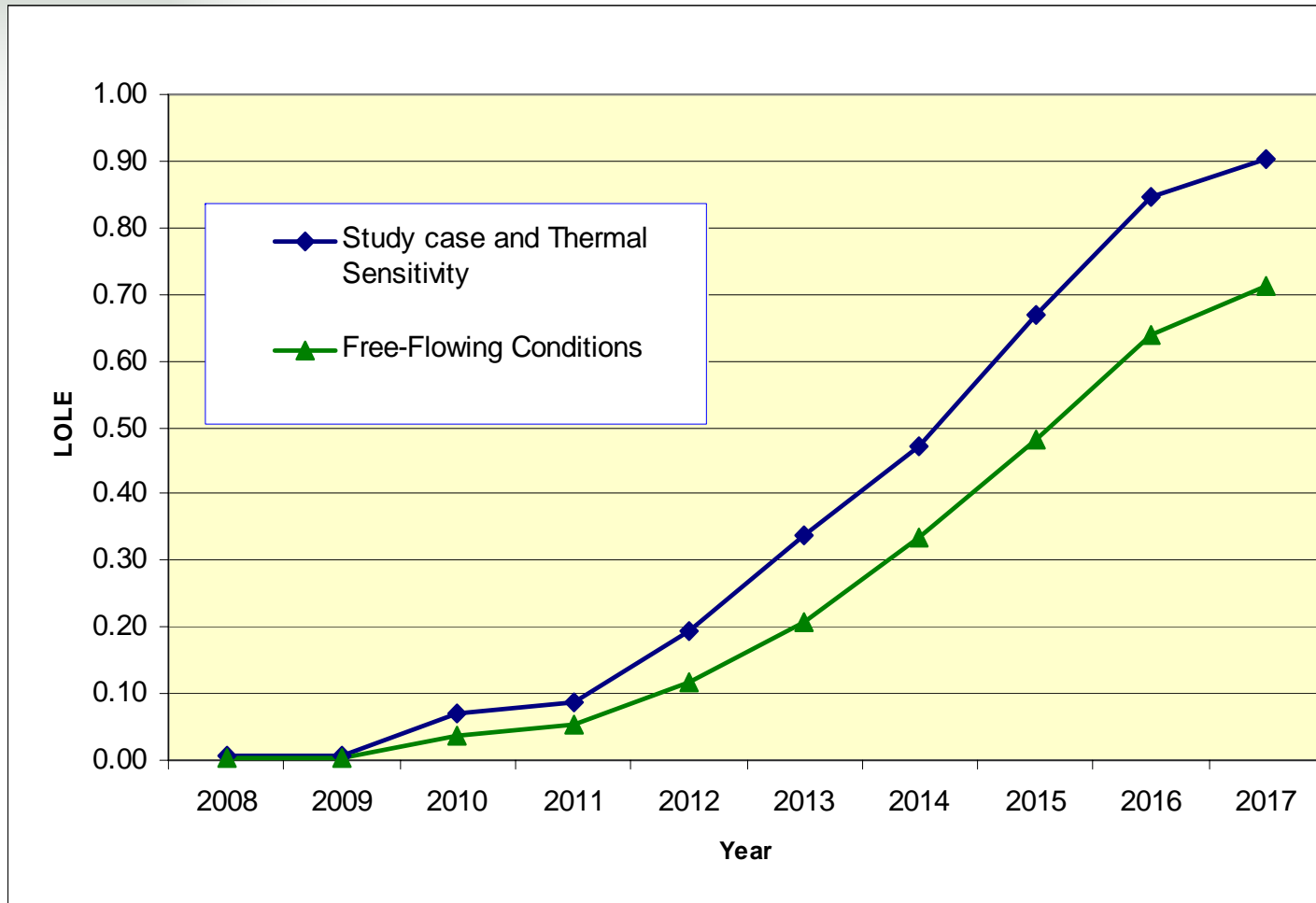
RNA 2008 Load & Resource Table

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Peak Load										
NYCA	33,871	34,300	34,734	35,141	35,566	35,962	36,366	36,749	37,141	37,631
Zone J	11,975	12,150	12,325	12,480	12,645	12,780	12,915	13,030	13,140	13,360
Zone k	5,485	5,541	5,607	5,664	5,730	5,791	5,855	5,919	6,002	6,076
Resources										
NYCA										
-Capacity	38,917	39,257	38,396	38,396	38,396	38,396	38,396	38,396	38,396	38,396
-SCR	1323	1323	1323	1323	1323	1323	1323	1323	1323	1323
Total	40,240	40,580	39,719	39,719	39,719	39,719	39,719	39,719	39,719	39,719
Zone J										
-Capacity	10,019	10,019	9,128	9,128	9,128	9,128	9,128	9,128	9,128	9,128
-SCR	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7	468.7
Total	10,487	10,487	9,596	9,596	9,596	9,596	9,596	9,596	9,596	9,596
Zone K										
-Capacity	5,612	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922
-SCR	159.5	159.5	159.5	159.5	159.5	159.5	159.5	159.5	159.5	159.5
Total	5,772	6,082	6,082	6,082	6,082	6,082	6,082	6,082	6,082	6,082
NYCA Resource Margin % (1)	118.8	118.3	114.4	113.0	111.7	110.4	109.2	108.1	106.9	105.5
Zons J Res./Load Ratio	87.6	86.3	77.9	76.9	75.9	75.1	74.3	73.6	73.0	71.8
Zons K Res./Load Ratio	105.2	109.8	108.5	107.4	106.1	105.0	103.9	102.7	101.3	100.1

Summary of Study Case Results

- Initial year of need is 2012 for 750 MW
 - *For Study Case, Thermal & Free Flow Cases*
 - *Transmission upgrades have brought transfer limits closer to thermal limits for key interfaces*
- There is a statewide need for additional resources from 2012 which increases through 2017
- Approximately 2750 MW of compensatory MW will be needed by 2017
 - *Load growth is nearly 1000MW above 2007 RNA (comparing 2017 with 2016)*

Summary of the LOLE Results for the RNA Study Case, Thermal and “Free Flowing” Sensitivities



Scenarios

	<u>Year of</u>	<u>LOLE</u>	
	<u>Need</u>	<u>2012</u>	<u>2017</u>
1. Study Case	2012	0.19	0.90
2. High Economic Growth	2010	0.73	2.21
3. NOx ("HEDD") Initiative	2009	0.33	2.86
3a. CO2 RGGI	Targeted	0.10	
4. The 15x15 Conservation	None	0.01	0.03
5. Besicorp 660 MW Generation	2012	0.16	0.79
6. In-City 500 MW Generation	2012	0.10	0.62
7. External 800 MW Addition	2012	0.13	0.75

Scenarios: CO2 or “RGGI” Case

- NYS cap: 64 million tons of CO2
- Year 2010 was analyzed
 - *Poletti retired*
 - *1250MW of additional carbon intensive units retired*
- Analysis was performed to determine the minimum number of allowances needed to meet reliability criteria.
 - *Result:: 52 million tons.*
 - *Risk to reliability if allowances are restricted below this level*
- Results will be impacted by actual levels of renewable resources and penetration of energy efficiency resources in the future