

**Review of the 2008 CRPP Evaluation of
Solutions and
Development of the CRP
ESPWG/TPAS
April 25, 2008**

Draft For Discussion Purposes only

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Summary of RNA Needs

- ◆ **Total of 2,750 Compensatory MWs Needed by 2017**
 - 500 MW in 2012
 - 1000 MW in 2013
 - 1250 MW in 2014
 - 1750 MW in 2015
 - 2500 MW in 2016
 - 2750 MW in 2017
- ◆ **Scenarios Indicating Less Needs (Lower LOLE)**
 - Neptune
 - Low Load Growth
 - Energy Efficiency
 - In City 500 MW
- ◆ **Updated TO Plans in Base Case Reduced Needs Entering the Evaluation of Solutions Phase**
- ◆ **NYISO reviews Updated TO Plans Submittal to Determine Whether It is Agreement With the Updated TO Plan**

Regulated Backstop Solutions

- ◆ **First Five Year Base Case – 2008 to 2012**
 - ***None Required- Updated TO Plans Satisfy Needs***
 1. **Additional phased in DSM of 500 MW in Zone J***
 - RBS – In RBS evaluation only
 - TO Update – In base case for all evaluations
 2. **UDRs Updated to Firm Capacity Levels**
- ◆ **Second Five Years – 2013 to 2017**
 - ***500 MW of new generation and/or DSM in Zone J***
 - ***500 MW of new generation and/or DSM in Zone G***
 - ***300 MW of new generation and/or DSM in Zone B***
 - ***300 MW of new generation and/or DSM in Zone K***
 - ***A new 345 kV transmission line between Zones F and G***
 - Permits the location of generation and DSM in upstate zones, rather than Zone G.
 - Two alternatives proposed which would use existing R-O-W
 - ***300 MW of new CC gen in Zone B submitted Individually***
 - ***115 kV Reinforcement in Zone A submitted Individually***

Note: This submittal evaluated as having no significant increase on transfer limits when evaluated with all regulated backstop solutions, local system performance enhanced

**** This submittal is under NYISO review for agreement with updated TO Plan determination***

Regulated Backstop Solutions

MW level	2,100 with Transmission		2,350 without transmission	
	Year	MW	Zone	MW
2013	300	B	300	B
	190	J	190	J
	121	K	121	K
2014	315	J	315	J
	40	K	40	K
2015	270	J	270	J
	44	K	44	K
2016	250	G	250	G
	40	J	40	J
	44	K	44	K
2017	250	G	250	G
	185	J	435	J
	47	K	47	K
Total	2096		2346	

Generation Resources in Zone G Were Assessed on the 138 kV System

Generation Resources in Zone B Were Assessed on the 115 kV System

Generation Resources in Zone J Were Assessed on the 345 kV System

Table 4.4.2-d: Transfer Limits for Transmission Alternatives (in MW)

Interface	Existing System	Leeds-PV	Schodack-PV
F-G	3,475	3,475	4,350
UPNY-SENY	5,150	6,025	6,025

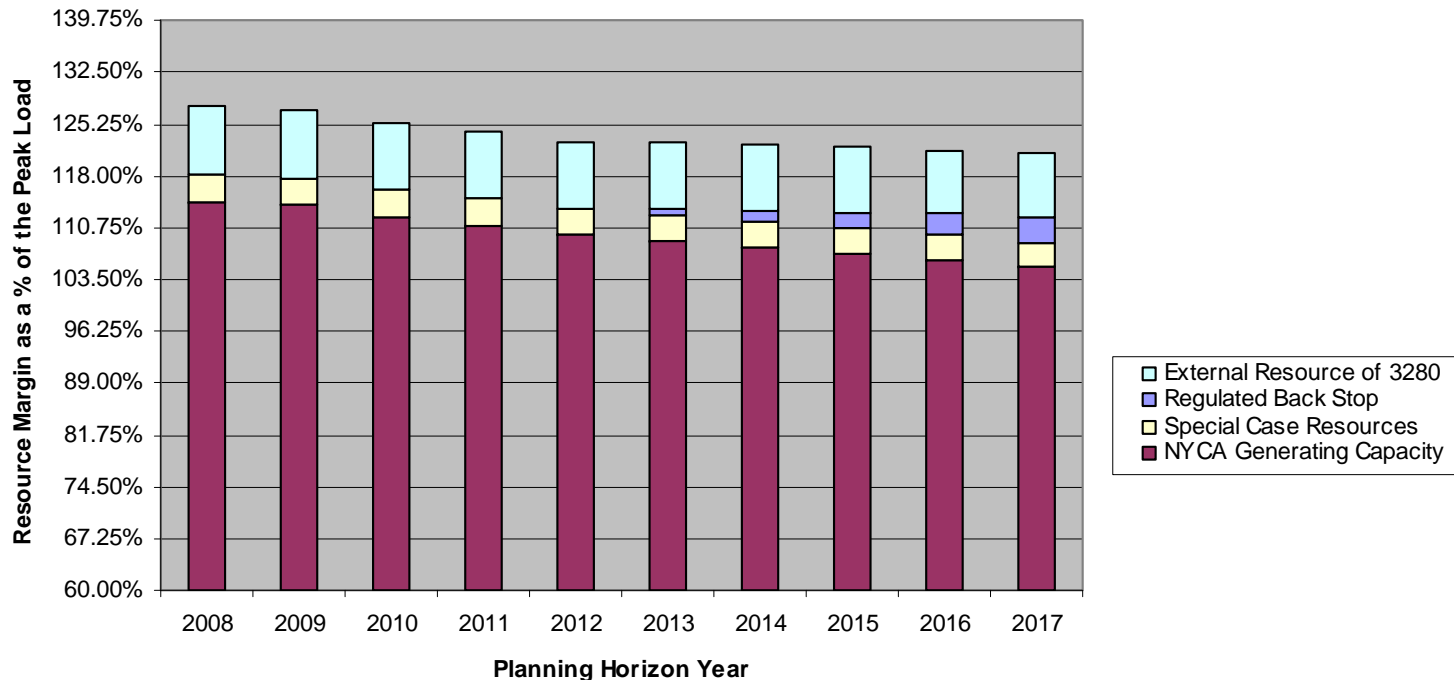
Regulated Backstop Solutions

Interface	Year				
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Central East + FG	3,150 ^V	3,150 ^V	3,150 ^V	3,150 ^V	3,100 ^T
F-G	3,475 ^T	3,475 ^T	3,475 ^T	3,475 ^T	3,475 ^T
UPNY/SENY	5,150 ^T	5,150 ^T	5,150 ^T	5,150 ^T	5,150 ^T
I-J	3,925 ^T	4,000 ^T	4,400 ^C	4,400 ^C	4,400 ^C
I-K	1,290 ^T	1,290 ^T	1,290 ^C	1,290 ^C	1,290 ^C
I-J&K	5,215 ^T	5,290 ^T	5,515 ^V	5,465 ^V	5,440 ^V

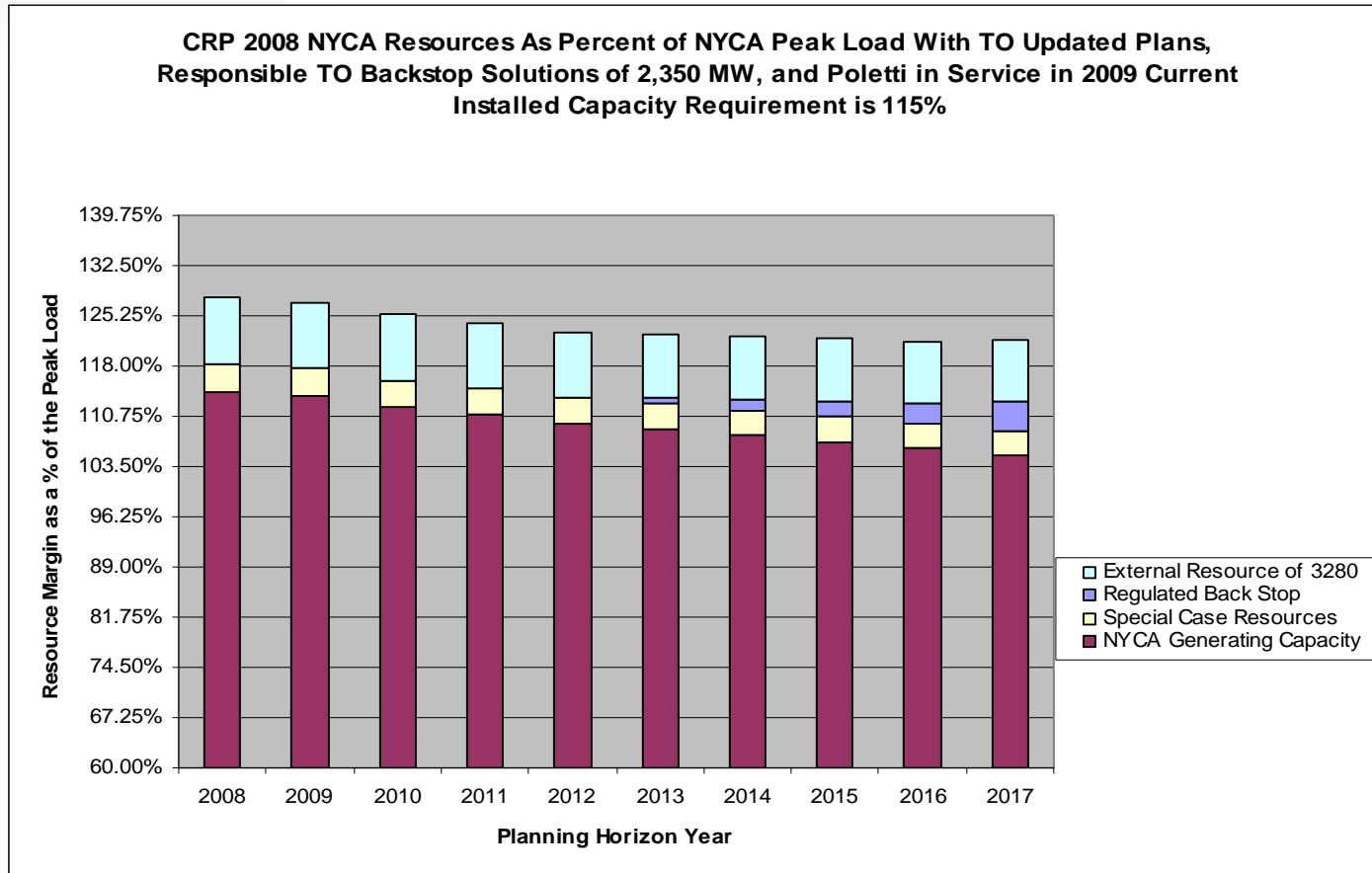
Solutions are Verified to be Adequate to Maintain Transfer Limits Constant Over The Second Five Year Period

Regulated Backstop Solutions

CRP 2008 NYCA Resources As Percent of NYCA Peak Load With TO Updated Plans, Responsible TO Backstop Solutions of 2,100 MW with Leeds_Pleasant Valley Transmission Upgrade, and Poletti in Service in 2009 Current Installed Capacity Requirement is 115%



Regulated Backstop Solutions



Regulated Backstop Solutions

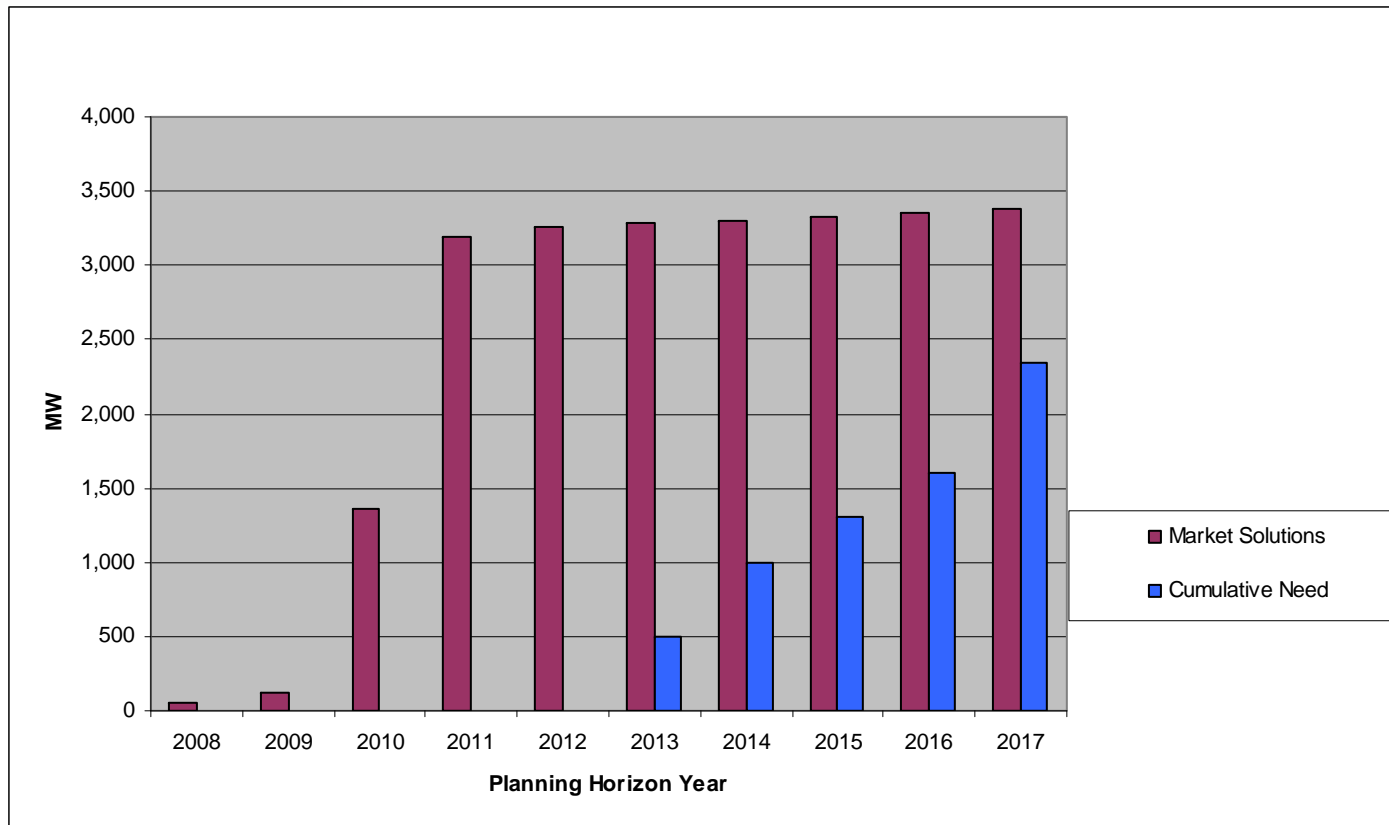
Table 4.4.2-h: NYCA LOLE Table for the Second Five Years with TO Regulated Backstops Totaling 2,350 MW of Resources without Transmission Upgrades

AREA	2013	2014	2015	2016	2017
Zone B (Upstate NY)	0.04	0.05	0.06	0.07	0.08
Zone E (Upstate NY)	0.02	0.02	0.02	0.03	0.03
Zone G (Hudson Valley or SENY)	0.00	0.00	0.00	0.00	0.00
Zone I (Hudson Valley or SENY)	0.08	0.07	0.07	0.08	0.09
Zone J (Hudson Valley or SENY)	0.08	0.08	0.08	0.09	0.09
Zone K (Long Island or SENY)	0.00	0.00	0.00	0.00	0.00
NYCA	0.10	0.08	0.08	0.09	0.10

Market Based Solutions

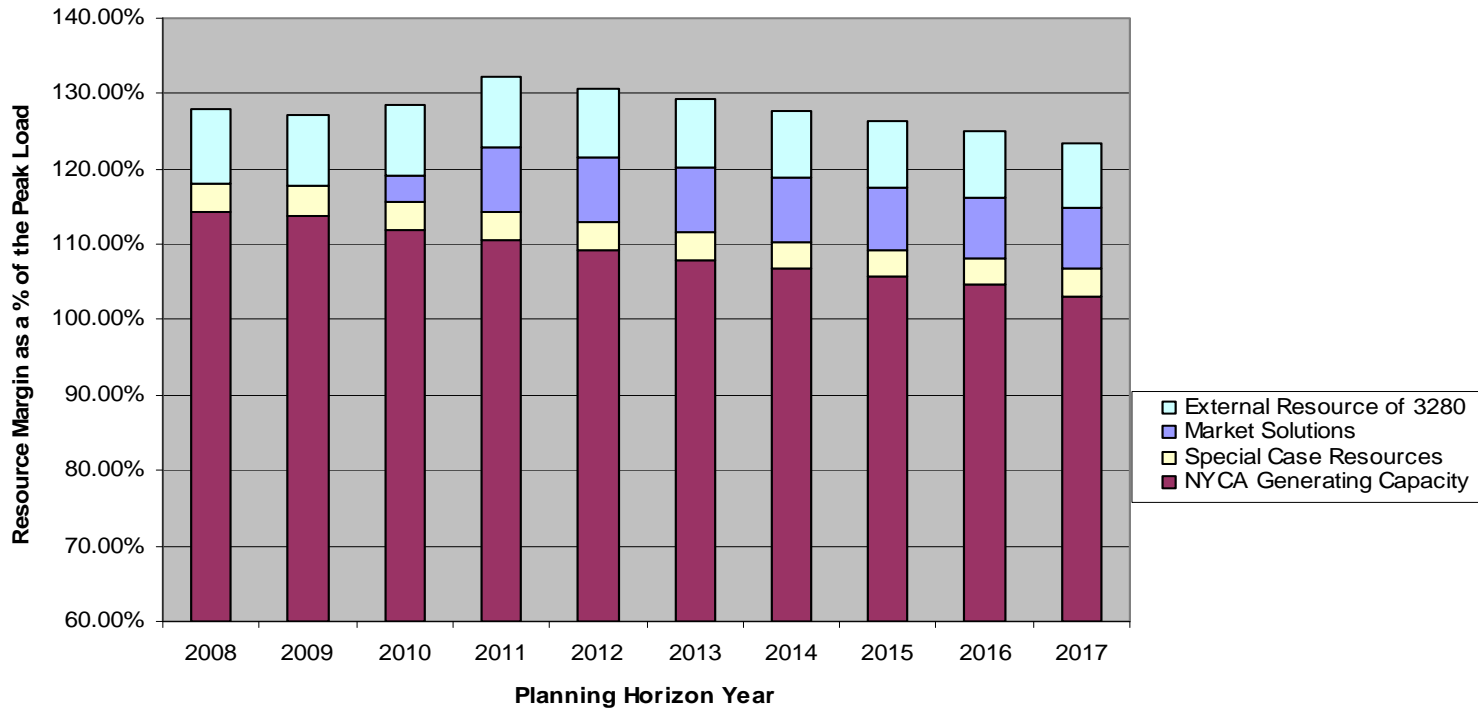
- ◆ **Total of 3,380 MW of Solutions Proposed**
- ◆ **Comprised of All Three types of Solutions**
 - ***425 MW DSM/SCR in zones of need, concentrated in zones G, H, and J***
 - ***1355 MW of Net New Generation Proposed***
 - ***935 MW in F and H***
 - ***420 MW in J (Lowest of exclusive projects)***
 - ***1600 MW of Controllable Transmission with Firm Capacity Identified into Zone J***
 - ***2060 of potential UDRs of Capacity Proposed***
 - ***Level of Firm Capacity modeled conservatively***
- ◆ **Enough to Satisfy Identified Reliability Needs Because of their proposed locations (zones) and scheduled implementation**

Market Based Solutions



CRP Market based Reserve Margin

CRP 2008 NYCA Resources As Percent of NYCA Peak Load With TO Updated Plans, Market Solutions of 3,380 MW, and Poletti in Service in 2009 Current Installed Capacity Requirement is 115%



Market Based Solutions

AREA	2013	2014	2015	2016	2017
Zone B (Upstate NY)	0.00	0.00	0.01	0.01	0.03
Zone E (Upstate NY)	0.00	0.00	0.00	0.00	0.01
Zone G (Hudson Valley or SENY)	0.00	0.00	0.00	0.00	0.00
Zone I (Hudson Valley or SENY)	0.00	0.00	0.01	0.01	0.03
Zone J (Hudson Valley or SENY)	0.00	0.00	0.01	0.01	0.03
Zone K (Long Island or SENY)	0.00	0.00	0.00	0.00	0.01
NYCA	0.00	0.00	0.01	0.02	0.04

**NYCA LOLE Table for the Second Five Years with TO Updated Plans
and Market Solutions LOLE (probability of occurrences in days per year)**

Alternative Regulated Solutions

- ◆ **ARSs were submitted in response to First Request for Solutions**
- ◆ **Request for ARS issued formally on April 4**
- ◆ **Responses Were Due by April 21**
- ◆ **ARS Were Evaluated Individually Although Market Solutions Were Enough to Satisfy Reliability Needs**

Alternative Regulated Solutions

- ◆ **One Alternative Generation Proposal**

 - Located in Zone G

 - Provides Voltage Support and MWs

 - Satisfies Some Needs,

 - Measured as Delta LOLE from Base or -0.16

- ◆ **One Alternative Transmission Proposal**

 - Increases Transfer Capability Over Central East and
UPNY/SENY

 - Satisfies Some Needs,

 - Measured as Delta LOLE from Base or -0.12

Finding : Transmission Security

- ◆ **Over the ten year planning horizon, load growth and generator retirements result in a reduction in the transfer limits of key transmission interfaces and import limits into load pockets.**
- ◆ **The reduction in transfer limits is the result of the inability to maintain voltage stability at the current transfer limits.**
- ◆ **Reduced transfer limits translate into increased resource needs. Satisfying these resource needs with resources can improve transfer limits if sited in the right location.**
- ◆ **Updated TO plans and proposed solutions increase transfer limits to above those identified in the base study period. For conservatism, maintained at a constant level over the second five year period.**
- ◆ **Work is ongoing in differentiating between BPTF need versus local problem.**
- ◆ **NYISO Reactive Power Working Group has under review a number of initiatives to enhance reactive power planning and operations.**

Schedule: Proposed Schedule With Existing Meeting Schedules

- ◆ **Apr 25, 2008** First Draft of Comprehensive Reliability Plan 2008 Discussed at TPAS/ESPWG
- ◆ **Apr 29, 2008** First Draft Distributed to ESPWG/TPAS
- ◆ **May 1, 2008** Second Scheduled Meeting of ESPWG for Discussion of Draft Comprehensive Reliability Plan
- ◆ **May 7, 2008** Third Scheduled Meeting of ESPWG for Discussion of Draft Comprehensive Reliability Plan
- ◆ **May 12, 2008** Regularly Scheduled ESPWG Meeting
- ◆ **May 15, 2008** Cutoff Date to Send CRP to Operating Committee
- ◆ **May 22, 2008** Operating Committee Review and Approval
- ◆ **June 10, 2008** Management Committee Review and Approval
- ◆ **July 14, 2008** NYISO BOD Review and Approval