

The Comprehensive Reliability Planning Process Briefing

4/16/07

Contained in the NYISO's Tariff

- ◆ Comprehensive Reliability Planning Process (“CRPP”)
- ◆ Approved by the Federal Energy Regulatory Commission (“FERC”)
- ◆ Effective October 19, 2004
- ◆ Contained in Attachment Y to the NYISO's Open Access Transmission Tariff (“OATT”)

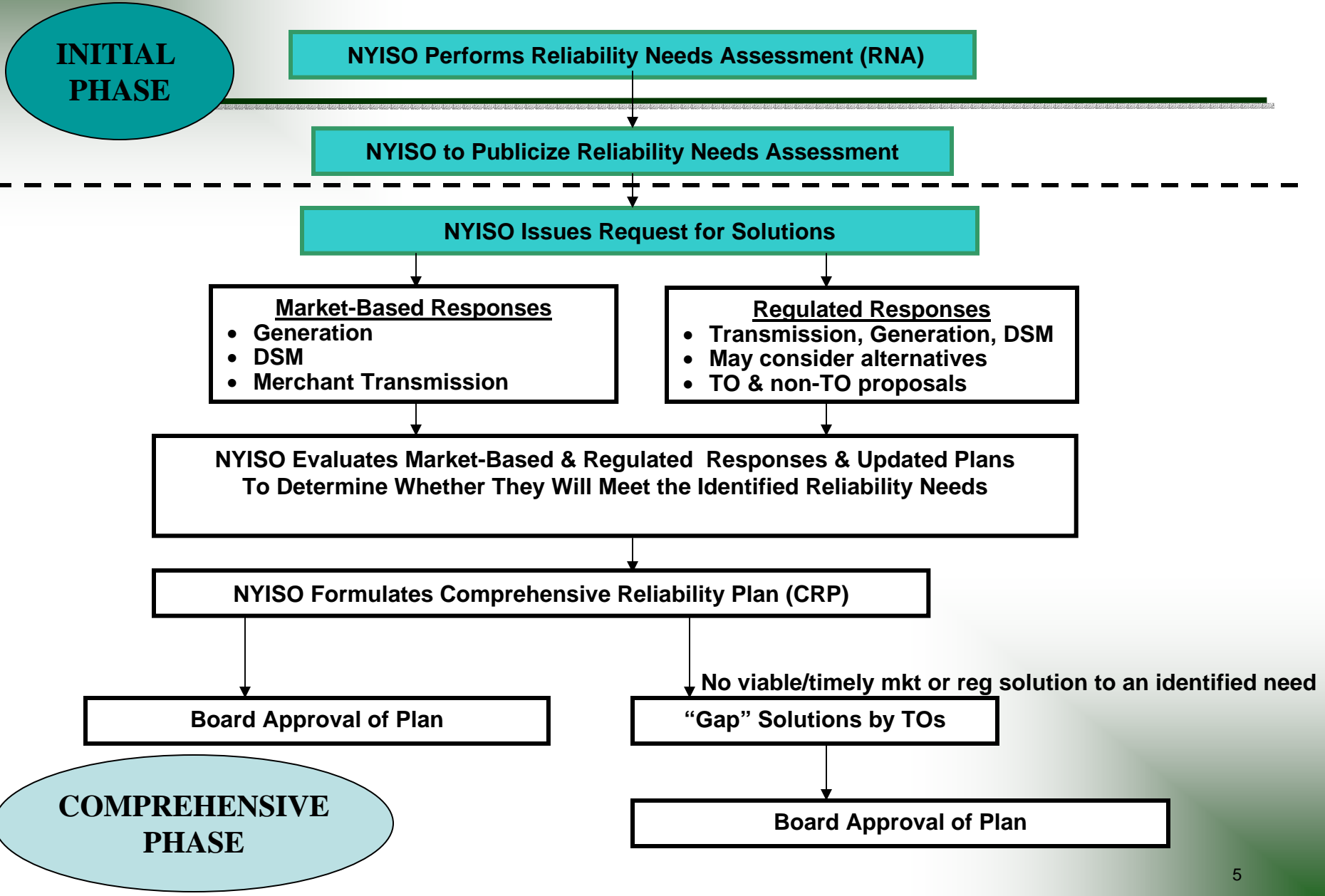
Objectives of the CRPP - 1

- ◆ Evaluate the reliability needs of NY Bulk Power Transmission System
- ◆ Study and identify factors and issues that might adversely impact the reliability of the System
- ◆ Provide a process whereby solutions to identified needs are proposed, evaluated and implemented in a timely manner to maintain System reliability

Objectives of the CRPP - 2

- ◆ Provides an opportunity for the development of market-based solutions
- ◆ Coordinates the NYISO's reliability assessments with Neighboring Control Areas
- ◆ *Not a substitute for Transmission Owners' plans for their bulk and non-bulk (local distribution) power systems.*

NYISO Reliability Planning Process



Reliability Needs Assessment (“RNA”) - 1

- ◆ The NYISO prepares a RNA to identify Bulk Power System Reliability Needs
- ◆ NYISO develops RNA in consultation with Market Participants, at working group meetings
- ◆ “Reliability Need” defined as a violation or potential violation of a Reliability Criteria

Reliability Needs Assessment (“RNA”) - 2

- ◆ “Reliability Criteria” are the electric power system planning and operating policies, standards, criteria, rules, etc. of the
 - *North American Electric Reliability Corporation (“NERC”)*
 - *Northeast Power Coordinating Council, Inc (“NPCC”)*
 - *New York State Reliability Council (“NYSRC”)*

- ◆ For example: Loss of Load Expectation (“LOLE”), or the probability that customers will lose electric service, shall not exceed one occurrence in ten years (or .1 days per year)

RNA Preparation - 3

- ◆ Market Participants provide data inputs for NYISO studies
- ◆ Transmission Owners submit plans for their own bulk and non-bulk power systems to the NYISO
- ◆ NYISO considers Transmission Owners' plans in preparing the RNA, and ultimately the Comprehensive Reliability Plan

RNA Preparation - 4

- ◆ NYISO develops and studies alternative scenarios that account for unexpected, but possible changes. E.g., additional growth in consumption beyond forecast.
- ◆ RNA evaluates bulk power system needs over a five-year period, and a ten-year period.
- ◆ Base Case model represents New York System and assesses whether facilities meet all reliability criteria for resource adequacy and transmission adequacy in each year for five years over the ten-year Study Period.

RNA Preparation - 5

- ◆ Considers changes on the system, such as growth in consumption over time.
- ◆ Studies facilities' for thermal, voltage, stability, and short circuit characteristics.
- ◆ RNA does not identify specific facilities needed, but states needs in terms of failure to meet reliability criteria, such as an LOLE of not more than one occurrence in 10 years.

RNA Preparation- 6

- ◆ RNA designates the Transmission Owner(s) responsible for meeting the Reliability Needs

- ◆ RNA also analyzes historic “congestion” costs
 - *“Congestion” occurs when a transmission facility cannot carry all of the power generators seek to sell or customers seek to purchase at the lowest price*
 - *Congestion results are presented in accordance with agreed- upon metrics developed through the NYISO stakeholder process*

RNA Review

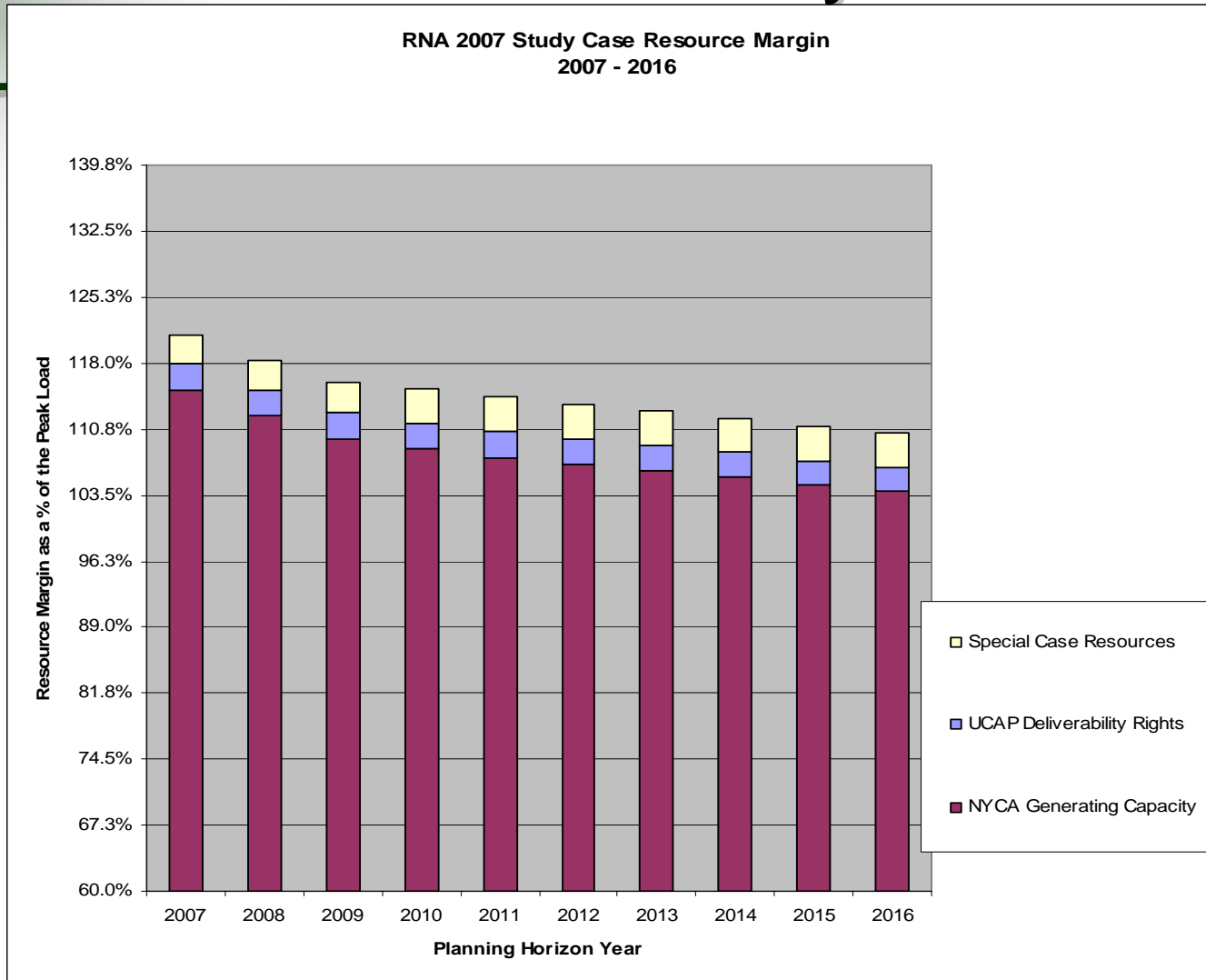
- ◆ Review of draft RNA by NYISO Working Groups
- ◆ Operating Committee Vote
- ◆ Management Committee Vote
- ◆ Board of Directors' Approval (with or without modifications)



RNA Results



RNA Results: RNA Study Case



Note: NYCA Resource Margin only includes resources internal to New York (generation located in New York, generation radially connected to New York, UDRs, and SCRs) and does not include external resources of 2755 MW that have historically participated in the NYCA installed capacity market. The LOLE includes support from neighboring control areas.

RNA Results - Reliability Needs - 1

- ◆ The first year of need for the study period of 2007 to 2016 is 2011.
- ◆ The needs increase throughout the study period from 2011 to 2016.
- ◆ For 2011, the need is not the result of a statewide resource deficiency but the result of a resource deficiency in Load Zones G through J.
- ◆ This deficiency can be satisfied by compensatory MW located in those Load Zones or by increasing transfer capability into those Load Zones.

RNA Results - Reliability Needs - 2

- ◆ The need for the balance of the planning period from 2012 – 2016 is the result of a statewide deficiency need.
- ◆ Over the study period it is estimated that compensatory MW equivalent to resources of between 1,750 MW to 2,000 MW will be required by 2016 to satisfy the identified needs.
- ◆ The needs can also be satisfied by increasing transfer capability from resource long areas to resource short areas or through reducing demand.

RNA Results In Summary

- ◆ Compensatory MWs are indicative of potential solutions to solve reliability criteria violations be they the result of resource or transmission deficiencies or a combination of both.
- ◆ The type of solutions and their location and the resulting transfer levels will determine the amount and type of resources necessary to meet reliability criteria.
- ◆ The designated responsible Transmission Owners (TOs) for 2011 are Consolidated Edison Company, Central Hudson Gas and Electric and Orange & Rockland Electric Utilities. All of the NYCA TOs except for the New York Power Authority are designated as responsible TOs for the period 2012 through 2016.

CRPP Next Steps

- ◆ Request for Solutions Mailed on March 3
 - *Responses Due May 1*
- ◆ Evaluation of Solutions
 - *To be conducted During May and June*
- ◆ Preparation of CRP Report
 - *During May and June*
- ◆ Stakeholder Review and Approval of CRP
 - *During June and July*
- ◆ NYISO BOD Approval of CRP
 - *During August*

Solutions Phase

- ◆ Three types of solutions:

1. Market-Based Solutions



2. Regulated Backstop Solutions

3. Alternative Regulated Responses.

Market-Based Solutions

Preferred by CRPP and regulators.

With proper signals from the market and needs identification by the NYISO, the market can respond to reliability needs with new projects.

- ◆ Subject to confidentiality, NYISO and TO to provide any party who wishes to develop a market-based response access to needed data.
- ◆ Market Participants may suggest “at any time” changes to NYISO procedures or rules that could result in additional market alternatives.

Market-Based Solutions – Types

CRPP Neutral as to Resource Type:

- ◆ Demand side resources (e.g., conservation measures to reduce consumption)
- ◆ Supply side resources: generators, including base-load, peaking units, renewable resource-based generation
- ◆ Merchant transmission facilities (new transmission lines or upgrades)
- ◆ *NYISO reviews viability of market solutions to determine whether they qualify to meet identified reliability needs.*

Regulated Backstop Solutions

- ◆ First RNA, NYISO may , and did, solicit market-based and regulated backstop solutions at the same time.
- ◆ Responsible TOs must propose solutions to all reliability needs identified by NYISO.
- ◆ Implemented as “backstop” only if market solutions not proposed.

Regulated Solution Types

CRPP Neutral as to resource types:

- ◆ Demand Side resources (TO's conservation programs)
- ◆ Transmission facilities; new lines, upgrades to lines, devices to increase capability of existing lines (e.g. capacitor banks to maintain voltage levels)
- ◆ Generation facilities; new generators to meet peak load, base load generators, upgrades to existing generators

Alternative Regulated Solutions

- ◆ In the event that no market solution is proposed that qualifies to meet reliability needs.
- ◆ May be proposed by third parties or TOs at any time to Transmission Owners and/or NYISO.
- ◆ Transmission or generation facility or demand-side resource.

NYISO Evaluates All Proposed Solutions

- ◆ To determine whether Reliability Needs in RNA would be met
- ◆ Market-based and regulated backstop solutions
- ◆ Alternative regulated responses if market-based solutions do not resolve a Reliability Need
- ◆ Results reported in Comprehensive Reliability Plan (“CRP”)

Gap Solutions - 1

- ◆ In the event that neither market-based nor regulated solutions satisfy Reliability Needs in a timely manner
- ◆ NYISO determines in CRP that a gap solution is necessary to maintain system reliability
- ◆ Imminent threat to system reliability, NYISO Board after consulting New York Department of Public Service may request TOs to propose gap solution outside of normal annual CRPP

Gap Solutions - 2

- ◆ Gap solution is designed to be temporary in nature so as not to interfere with a permanent market-based solution
- ◆ TOs to propose solution “as soon as reasonably possible”
- ◆ Any party may submit alternative gap solution

Comprehensive Reliability Plan (“CRP”)

- ◆ Contains NYISO’s findings, including whether a backstop regulated solution is necessary to maintain system reliability
- ◆ Considers all solutions and plans
 - *market-based*
 - *regulated backstop*
 - *alternative regulatory solutions*
 - *Transmission Owners’ plans*
- ◆ *Transmission Owners continue to plan for their own bulk and local system needs, and NYISO considers those plans in crafting CRP*

CRP – Determination of Necessity

- ◆ NYISO determines whether it is necessary for TOs to proceed with a backstop regulated solution
- ◆ NYISO requests TOs to submit their proposed solution to state agencies to begin approval process
- ◆ TOs make the necessary regulatory filing(-s)
- ◆ Developers of alternative regulatory solutions may also file with state agencies to begin approval process
- ◆ NYISO may determine that regulated solution should proceed in parallel market-based solution

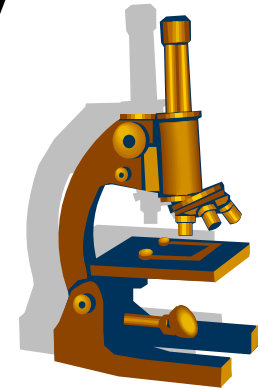
CRP Process

- ◆ Draft CRP reviewed by NYISO Working Groups
- ◆ Operating Committee vote
- ◆ Management Committee vote
- ◆ Board of Directors approval
- ◆ *CRP provided to regulatory agencies for consideration in review of proposals*



Market Monitor Review

- ◆ NYISO has independent Market Monitor, Potomac Economics, to identify whether competitive markets are working properly
- ◆ Market Monitor reviews RNA and CRP
- ◆ *Determines “whether market rule changes are necessary to address an identified failure, if any, in one of the NYISO’s competitive markets”*



Other NYISO Roles

- ◆ Monitor progress of all solutions
- ◆ Develop principles for allocating costs of regulated responses among responsible TOs
 - *TOs recover costs of regulated responses under NYISO's tariff or in accordance with PSL*
- ◆ Establish procedures for administering **CRPP**
- ◆ *Remember, the CRPP is a process that takes place every year*

