

**Draft**  
**Comprehensive**  
**Reliability Planning**  
**Process Manual**

*for discussion purposes only*

*Draft March 2006*

**Version: 1.0**

**Revision Date:** date

**Committee Acceptance:** date

This document was prepared by:

*NYISO Customer Support*

New York Independent System Operator  
3890 Carman Rd  
Schenectady, NY 12303  
(518) 356-6060  
[www.nyiso.com](http://www.nyiso.com)

**Draft**  
*for discussion purposes only*

***Disclaimer***

The information contained within this manual, along with the other NYISO manuals, is intended to be used for informational purposes and is subject to change. The NYISO is not responsible for the user's reliance on these publications or for any erroneous or misleading material.

<sup>©</sup>*Copyright 2006 New York Independent System Operator*

## Table of Contents

<b>1. OVERVIEW .....</b>	<b>1-1</b>
1.1 Background.....	1-1
<b>2. TARIFF PROCEDURES AND CRITERIA .....</b>	<b>2-1</b>
2.1 Open Processes and Methodologies .....	2-1
2.1.1 Procedures to Establish Qualifications for Valid Market Based Response (With ESPWG) (6.3) .....	2-1
2.1.2 Criteria to Determine the Viability of Regulated Solutions Based on Project Status (With ESPWG) (9.0a) .....	2-1
2.1.3 Criteria to Determine the Viability of Market Based Solutions Based on Project Status (With ESPWG) (9.0b) .....	2-1
2.1.4 Criteria for Halting a Regulated Solution (With ESPWG) (9.0c) .....	2-1
2.1.5 Criteria to Determine the Cutoff Date for Availability Determination for a Market Based Solution (With ESPWG) (9.0d).....	2-1
2.1.6 Criteria to Determine Beneficiaries of Regulated Solutions to Reliability Needs (With MPs) (10.2).....	2-1
2.1.7 Procedure for Reliability Dispute Resolution (With PSC) (8.3).....	2-1
<b>3. SUBMISSION OF DATA INPUTS .....</b>	<b>3-1</b>
3.1 TOs Submit Transmission Plans .....	3-1
3.1.1 NYISO MPs (Coordinate with TPAS & ESPWG).....	3-1
3.1.2 Coordinate with Adjacent Control Areas .....	3-1
3.2 Neighboring Control Area Assessments.....	3-1
3.2.1 Review PJM Recent RTEP.....	3-1
3.2.2 Review ISONE Recent RTEP.....	3-1
3.2.3 Review Ontario Reports.....	3-1
3.2.4 Review HQ Reports .....	3-1
3.2.5 Meet with Neighbors to Finalize Input Assumptions.....	3-1
3.2.6 Review Results with Neighbors .....	3-1
3.3 Transmission Owner Input .....	3-1
3.3.1 Solicit Transmission Owner Input Regarding Plans .....	3-1
3.3.2 Meet With TOs Individually for Input .....	3-1
3.3.3 Meet With TOs Collectively .....	3-1
3.4 Stakeholder Input .....	3-2
3.4.1 Solicit Other Stakeholders for Input .....	3-2
3.4.2 Meet With Sector Groups Collectively .....	3-2
<b>4. DEVELOP BASE CASE &amp; SCENARIOS .....</b>	<b>4-1</b>
4.1 Develop Base Case .....	4-1
4.1.1 Base Case - First Five Years.....	4-1
4.1.2 Base Case - Second Five Years.....	4-1
4.2 Develop Scenarios .....	4-1
4.2.1 Develop Load Forecast Scenarios .....	4-1
4.2.2 Develop Resource Scenarios .....	4-1
<b>5. RELIABILITY NEEDS ASSESSMENT.....</b>	<b>5-1</b>
5.1 Load and Capacity Data Book Screening Analysis .....	5-1

5.1.1 Develop L & C by Zone .....	5-1
5.1.2 Group Resources by Scenario Groups.....	5-1
5.1.3 Assess the Impact of Ranges of Sensitivity Parameters .....	5-1
5.1.4 Develop tables with Specific Sensitivity Parameters Values .....	5-1
5.1.5 Develop L & C by Locational Requirements .....	5-1
5.1.6 Assessment of Load Pockets by L & C.....	5-1
<b>5.2 Transmission Adequacy Assessment.....</b>	<b>5-1</b>
5.2.1 Review Other Existing Transmission Adequacy Studies Related to CRPP.....	5-1
5.2.2 Perform Analysis for 5 Year Base Case Period .....	5-1
5.2.3 Perform Detailed Analysis for Second Five Year Period .....	5-1
5.2.4 Perform Analysis for Intermediate Years .....	5-1
5.2.5 Determine Year of Need and Gap Solutions .....	5-1
5.2.6 Perform Detailed Analysis for Scenario Analysis .....	5-2
<b>5.3 Develop MW Transfer Capability for Resource Delivery.....</b>	<b>5-2</b>
5.3.1 Assess Future Validity of IRM Transmission Model Based on Existing Studies .....	5-2
5.3.2 Assess Future Validity of Other IRM Assumptions Based on Existing Studies .....	5-2
5.3.3 If Required, Perform Additional Analysis to Provide for IRM Model Updates .....	5-2
5.3.4 Assess Transfer Capability into Load Pockets from Existing Studies .....	5-2
5.3.5 Assess Transfer Capability Support Levels from Neighboring Systems.....	5-2
5.3.6 Assess Treatment of Future Projects in Capacity Markets (UDR, etc).....	5-2
<b>5.4 Resource Adequacy Assessment.....</b>	<b>5-2</b>
5.4.1 Review Other Existing Resource Adequacy Studies Related to CRPP.....	5-2
5.4.2 Perform Analysis for 5 Year Base Case Period .....	5-2
5.4.3 Perform Detailed Analysis for Second Five Year Period .....	5-2
5.4.4 Perform Analysis for Intermediate Years .....	5-2
5.4.5 Determine Year of Need and Gap Solutions .....	5-3
5.4.6 Perform Detailed Analysis for Scenario Analysis .....	5-3
<b>5.5 Short Circuit Assessment .....</b>	<b>5-3</b>
5.5.1 Review Other Existing Short Circuit Adequacy Studies Related to CRPP.....	5-3
5.5.2 Perform Analysis for 5 Year Base Case Period .....	5-3
5.5.3 Perform Detailed Analysis for Tenth Year of Study Period.....	5-3
5.5.4 Perform Analysis for Intermediate Years of First Five Year Period.....	5-3
5.5.5 Determine Year of Need and Gap Solutions .....	5-3
5.5.6 Perform Detailed Analysis for Scenario Analysis .....	5-3
<b>5.6 Baseline Reliability Needs Assessment.....</b>	<b>5-3</b>
5.6.1 Assess Resource, Transmission Adequacy & Short Circuit Collectively .....	5-3
5.6.2 Determine if all Applicable Reliability Criteria is Met .....	5-3
5.6.3 Identify Potential NYISO Market Failure.....	5-3
<b>5.7 Evaluation of Alternate Reliability Scenarios .....</b>	<b>5-3</b>
5.7.1 Compile Issues/Results of Assessments, Incorporate Into Scenarios .....	5-4
5.7.2 Perform Additional Reliability Analyses of Scenarios Identified in Screening.....	5-4
<b>5.8 Perform Sensitivity Studies .....</b>	<b>5-4</b>
5.8.1 Evaluate Alternate System Configurations .....	5-4
5.8.2 Evaluate Operational Modes.....	5-4

## Table of Figures

If you have figures and tables in this manual, they must be listed on this page.

## Table of Tables

**Draft**  
for discussion purposes only

## Revision History

Revision	Date	Changes
1.0	Add date	Initial Release

**Draft**  
for discussion purposes only

## 1. OVERVIEW

H1 Text

### 1.1 Background

H2 Text

Draft  
for discussion purposes only

## 2. TARIFF PROCEDURES AND CRITERIA

### 2.1 Open Processes and Methodologies

- 2.1.1 Procedures to Establish Qualifications for Valid Market Based Response (With ESPWG) (6.3)
- 2.1.2 Criteria to Determine the Viability of Regulated Solutions Based on Project Status (With ESPWG) (9.0a)
- 2.1.3 Criteria to Determine the Viability of Market Based Solutions Based on Project Status (With ESPWG) (9.0b)
- 2.1.4 Criteria for Halting a Regulated Solution (With ESPWG) (9.0c)
- 2.1.5 Criteria to Determine the Cutoff Date for Availability Determination for a Market Based Solution (With ESPWG) (9.0d)
- 2.1.6 Criteria to Determine Beneficiaries of Regulated Solutions to Reliability Needs (With MPs) (10.2)
- 2.1.7 Procedure for Reliability Dispute Resolution (With PSC) (8.3)

### 3. SUBMISSION OF DATA INPUTS

#### 3.1 TOs Submit Transmission Plans

##### 3.1.1 NYISO MPs (Coordinate with TPAS & ESPWG)

##### 3.1.2 Coordinate with Adjacent Control Areas

#### 3.2 Neighboring Control Area Assessments

##### 3.2.1 Review PJM Recent RTEP

##### 3.2.2 Review ISONE Recent RTEP

##### 3.2.3 Review Ontario Reports

##### 3.2.4 Review HQ Reports

##### 3.2.5 Meet with Neighbors to Finalize Input Assumptions

##### 3.2.6 Review Results with Neighbors

#### 3.3 Transmission Owner Input

##### 3.3.1 Solicit Transmission Owner Input Regarding Plans

##### 3.3.2 Meet With TOs Individually for Input

##### 3.3.3 Meet With TOs Collectively

### 3.4 Stakeholder Input

#### 3.4.1 Solicit Other Stakeholders for Input

#### 3.4.2 Meet With Sector Groups Collectively

Draft  
for discussion purposes only

## 4. DEVELOP BASE CASE & SCENARIOS

### 4.1 Develop Base Case

#### 4.1.1 Base Case - First Five Years

#### 4.1.2 Base Case - Second Five Years

### 4.2 Develop Scenarios

#### 4.2.1 Develop Load Forecast Scenarios

Base Forecast from L & C Data Report

Develop Zonal Forecast

High Forecast from Load Forecasting WG

Low Forecast from Load Forecasting WG

Summarize Assumptions

Presentation / Feedback to ESPWG

#### 4.2.2 Develop Resource Scenarios

Base Forecast from 2005 L & C Data Book

2005 AT RA Catch Up Class Year Process for First Five Years

L & C Data Report for Second Five Years

**Develop List of Resource Scenario Parameters**

**Develop Resource Parameters Criteria**

**Analysis of Resource Scenarios**

**Variations in Proposed New Resources**

**Variations in Existing Resources**

**Variations in Neighboring System Resources**

**Impact of Environmental Regulations**

**Impact of Renewable Portfolio Standard**

**Impact of Changes in Criteria, Practices, Standards, Procedures, etc**

**Impact of Fuel Price and Supply**

**Draft**  
*for discussion purposes only*

## 5. RELIABILITY NEEDS ASSESSMENT

### 5.1 Load and Capacity Data Book Screening Analysis

5.1.1 Develop L & C by Zone

5.1.2 Group Resources by Scenario Groups

5.1.3 Assess the Impact of Ranges of Sensitivity Parameters

5.1.4 Develop tables with Specific Sensitivity Parameters Values

Repeat Above for Scenario Analysis

5.1.5 Develop L & C by Locational Requirements

5.1.6 Assessment of Load Pockets by L & C

### 5.2 Transmission Adequacy Assessment

5.2.1 Review Other Existing Transmission Adequacy Studies Related to CRPP

5.2.2 Perform Analysis for 5 Year Base Case Period

5.2.3 Perform Detailed Analysis for Second Five Year Period

5.2.4 Perform Analysis for Intermediate Years

5.2.5 Determine Year of Need and Gap Solutions

### 5.2.6 Perform Detailed Analysis for Scenario Analysis

## 5.3 Develop MW Transfer Capability for Resource Delivery

### 5.3.1 Assess Future Validity of IRM Transmission Model Based on Existing Studies

### 5.3.2 Assess Future Validity of Other IRM Assumptions Based on Existing Studies

### 5.3.3 If Required, Perform Additional Analysis to Provide for IRM Model Updates

### 5.3.4 Assess Transfer Capability into Load Pockets from Existing Studies

### 5.3.5 Assess Transfer Capability Support Levels from Neighboring Systems

### 5.3.6 Assess Treatment of Future Projects in Capacity Markets (UDR, etc)

## 5.4 Resource Adequacy Assessment

### 5.4.1 Review Other Existing Resource Adequacy Studies Related to CRPP

### 5.4.2 Perform Analysis for 5 Year Base Case Period

### 5.4.3 Perform Detailed Analysis for Second Five Year Period

### 5.4.4 Perform Analysis for Intermediate Years

**5.4.5 Determine Year of Need and Gap Solutions**

**5.4.6 Perform Detailed Analysis for Scenario Analysis**

**5.5 Short Circuit Assessment**

**5.5.1 Review Other Existing Short Circuit Adequacy Studies Related to CRPP**

**5.5.2 Perform Analysis for 5 Year Base Case Period**

**5.5.3 Perform Detailed Analysis for Tenth Year of Study Period**

**5.5.4 Perform Analysis for Intermediate Years of First Five Year Period**

**5.5.5 Determine Year of Need and Gap Solutions**

**5.5.6 Perform Detailed Analysis for Scenario Analysis**

**5.6 Baseline Reliability Needs Assessment**

**5.6.1 Assess Resource, Transmission Adequacy & Short Circuit Collectively**

**5.6.2 Determine if all Applicable Reliability Criteria is Met**

**5.6.3 Identify Potential NYISO Market Failure**

**5.7 Evaluation of Alternate Reliability Scenarios**

- 5.7.1 Compile Issues/Results of Assessments, Incorporate Into Scenarios**
  
- 5.7.2 Perform Additional Reliability Analyses of Scenarios Identified in Screening**

## **5.8 Perform Sensitivity Studies**

- 5.8.1 Evaluate Alternate System Configurations**
  
- 5.8.2 Evaluate Operational Modes**

Draft  
for discussion purposes only