

Request to Develop or Modify Reliability Rules (NYSRC Policy No. 1-3)

Submit request to p.raymond40@gmail.com via the NYSRC site www.nysrc.org

NOTE: MEASUREMENTS G-M1, G-M2 AND G-M3 REVISIONS RECOMMENDED BY CON EDISON

Item	Response
1. Respondent	
Name	David Mahlmann
Organization	NYISO
Address	10 Krey Blvd. Rensselaer, NY 12144
Phone & Fax numbers	518-356-6101
Email address	dmahlmann@nyiso.com
2. Title of proposed rule change	System Restoration Reliability Rule and Measurement Modifications (PRR #99)
3. New rule or modification of NYSRC RR?	
If a new rule is proposed, provide any relevant citation to existing standards	N/A
If a modification to an existing rule is proposed, provide NYSRC, NPCC and NERC RR references	NYSRC G-R1, G-R2 and G-R3; NERC EOP-005-3 (proposed revision); and NPCC Directory #8
4. Wording of proposed rule change	<p>Rule G-R1: A NYCA System Restoration Plan (NYCA SRP) shall be maintained to restore the NYCA system to a Normal Operating State in a safe, and orderly, and prompt manner following a major or total blackout in the event of a partial or total shutdown. The <i>NYCA</i> SRP shall be comprised of the NYISO system restoration plan and transmission owner restoration plans.</p> <p>Rule G-R2: A <i>NYCA</i> Blackstart Capability Plan (<i>NYCA BCP</i>) shall be established as part of the <i>NYCA</i> SRP required by Reliability Rule G-R1. The <i>NYCA BCP</i> shall include requirements necessary to ensure that the quantity and location of <i>Blackstart Facilities</i> in the <i>NYCA</i> are sufficient and that they can perform their intended functions as specified in the coordinated <i>NYCA</i> SRP. The <i>NYCA BCP</i> shall be comprised of the <i>NYISO</i> and <i>transmission owner blackstart plans</i>.</p> <p>Rule G-R3Rule G-R2: The NYISO and each transmission owner shall provide its personnel with a coordinated training program that will ensure effective implementation of the NYCA SRP as required in Reliability Rules G-R1 and G-R2.</p>
5. Rationale for proposed rule change	<p>NYSRC system restoration rules and measurements have been modified to assure consistency with recent NERC and NPCC criteria changes. In addition:</p> <ol style="list-style-type: none"> 1) Revise the restoration rules and measurements to delete the requirement to maintain a NYCA Blackstart Capability Plan, including the removal of G-R2, to be consistent with NERC EOP-005-3 changes. 2) Revise the Measurement G-M1 in the following areas: <ol style="list-style-type: none"> a) Reword the existing measurements to clarify requirements.

	<ul style="list-style-type: none"> b) Add MVAR requirements to blackstart facility documentation c) Tighten the measure for blackstart unit testing by setting a minimum of NPCC Directory #8 procedures. d) Tighten the measure for evaluating the potential of transmission owner SRP plan revisions to affect the coordination of the NYISO and TO restoration plans from 14 days after the implementation of the changes, to two months prior to implementation of the changes. e) Add a measure that requires the NYISO to verify that the TO SRPs are developed and maintained to the same requirements as the NYISO restoration plan <p>3) Add a measure in G-M4 that requires the NYISO to verify that the TO operating personnel are trained on their local SRP to the same requirements that NYISO operating personnel are trained on the NYISO SRP.</p>
Identify Advantages	See above rational for rule change.
Identify disadvantages	None
6. Measurement(s)	See Attachment A for measurement modifications.
7. Full Compliance Statement (To be prepared by RCMS)	See Attachment B for compliance element modifications.
8. Levels of Non-Compliance (To be prepared by RCMS)	
Level 1	
Level 2	
Level 3	
Level 4	
9. Responsible Entity	NYISO
10. Comments	
11. Implementation Plan	NYCA system restoration procedures, revised in accordance rule and measurement changes in PRR 99, shall be submitted to RCMS, along with other compliance documentation, by 7/1/09 for a scheduled NYSRC compliance review for Measurements G-M1 through G-M4.
12. Date of Submission	9/15/08, 10/27/08, 12/5/08, 12/29/08, 1/2/09, 1/6/09, 1/14/09, 2/5/09, 2/13/09, 4/17/09, <u>6/12/09</u> , <u>6/29/09</u>

ATTACHMENT A

MEASUREMENT G-M1, G-M2, G-M3, and G-M4 MODIFICATIONS

Present Measurement	Proposed Modifications
<p><u>G-M1:</u> The NYISO shall maintain a procedure for the implementation of a <i>NYCA</i> SRP. This procedure shall include the following requirements applicable to both the <i>NYISO</i> and coordinated <i>transmission owner</i> restoration plan elements of the <i>NYCA</i> SRP as may be appropriate to restore the system:</p> <ol style="list-style-type: none"> The <i>NYCA</i> SRP shall require that system restoration take place at two levels: restoration of the <i>NY</i> backbone system in accordance with a <i>NYISO</i> restoration plan and restoration of local areas in accordance with <i>transmission owner</i> restoration plans. The <i>NYCA</i> SRP shall ensure coordination of the <i>NYISO</i> and <i>transmission owner</i> restoration plan elements of the <i>NYCA</i> SRP. The <i>NYCA</i> SRP shall be coordinated with the restoration plans of neighboring control areas as required. The <i>NYISO</i> shall have procedures in place that, within 14 calendar days after receipt of a modification to a transmission owner’s restoration plan or a neighboring control area’s restoration plan, the <i>NYISO</i> will (1) complete a review of the modified plan, or (2) if the impact of the modified plan is such that a more extensive review is required, establish, in consultation with the transmission owner or control area, a specific date for the completion of the review as expeditiously as possible. This review will identify any required modification to the <i>NYCA</i> SRP and any actions to ensure coordination of the <i>NYCA</i> SRP with the transmission owners or neighboring control area will be identified. <i>NYCA</i> SRP procedures shall include requirements applicable to the <i>NYISO</i>, the <i>TOs</i>, and the <i>Blackstart Providers</i> for establishing and maintaining a <i>NYCA</i> BCP. This <i>NYCA</i> BCP shall be coordinated with neighboring <i>control areas</i>. Requirements of the <i>NYCA</i> BCP shall include maintaining a database that contains all <i>Blackstart</i> Facilities, including the name, location, megawatt capacity, type of unit(s), annual testing requirements to demonstrate the <i>Blackstart</i> Facilities can perform their intended <i>NYCA</i> BCP and <i>NYCA</i> SRP functions, latest date of test, and starting method. This database shall be updated on an annual basis. The <i>NYISO</i> procedures shall require all <i>Market Participants</i> in general, and <i>Blackstart Providers</i> in particular, to follow instructions from the <i>NYISO</i> and/or <i>transmission owners</i> in the execution of the <i>NYCA</i> SRP. The <i>NYISO</i> shall establish and maintain procedures to verify the <i>NYCA</i> SRP by actual testing or by simulation. The <i>NYISO</i> shall annually certify that these testing requirements have been met. The <i>NYCA</i> SRP shall establish a list of all <i>Blackstart</i> Facilities as defined by the <i>NYCA</i> BCP. The <i>NYCA</i> BCP 	<p><u>G-M1:</u> The <i>NYISO</i> shall develop and maintain a <i>NYCA</i> System Restoration Plan (<i>NYCA</i> SRP) that will assure the prompt restoration of the <i>NYCA</i> system following a major or total blackout. The <i>NYCA</i> SRP shall define that system restoration take place at two integrated levels: restoration of the <i>NYCA</i> backbone system in accordance with a <i>NYISO</i> System Restoration Plan (<i>NYISO</i> SRP) and restoration of local areas in accordance with transmission owner system restoration plans (transmission owner SRPs). The <i>NYCA</i> SRP shall include the following minimum requirements: <i>(Includes requirements from old G-M1.1)</i></p> <ol style="list-style-type: none"> Procedures for coordinating the <i>NYISO</i> SRP and the transmission owner SRPs. <i>(Includes requirements from old G-M1.2)</i> Required actions to be included in each transmission owner’s restoration plan, consistent with <i>NYISO</i> procedures and NYSRC, NPCC, and NERC criteria. <i>(New requirement)</i> Procedures for coordinating the SRPs of the <i>NYISO</i> and neighboring Reliability Coordinators, including restoration of interconnections. <i>(Includes requirement from old G-M1.2 and new requirement)</i> Identification of blackstart facilities required for implementing the <i>NYISO</i> SRP, including the names, location, megawatt capabilities, megavar capabilities, and unit type. <i>(Includes requirements from old G-M1.3)</i> Identification of blackstart facility test requirements to verify that each blackstart facility in the <i>NYISO</i> SRP is capable of meeting the requirements of the <i>NYISO</i> SRP. These tests, at minimum, shall be conducted once per capability year and include those tests described in Table BS-1 of NPCC Directory #8, System Restoration. <i>(Includes requirements from old G-M1.3)</i> Procedures requiring that each transmission owner identify blackstart resources that are necessary for implementing its SRP. <i>(moved to G-M3, including developing test procedures to ensure those blackstart facilities under its control are able to perform their intended functions.) including test requirements to ensure those blackstart facilities under its control are able to perform their intended functions.</i> These procedures shall also require transmission owners to identify the name, location, megawatt capacity, megavar capacity, and type of <u>blackstart resource(s) unit(s)</u>. The identity of transmission SRP blackstart facilities shall be made available to the <i>NYISO</i> and to affected transmission owners. <i>(Includes requirements from old G-M1.4 and new requirements)</i>

<p>shall also require that the identity of certain <i>Blackstart Facilities</i> from this list shall be made available to affected <i>transmission owners</i>.</p> <p>5. The <i>NYCA SRP</i> shall contain a detailed test plan corresponding to each <i>Blackstart Facility</i> in the <i>NYCA BCP</i>. Such test plans, at a minimum, shall unambiguously state what constitutes a successful <i>blackstart</i> simulation test for each <i>Blackstart Facility</i> in the <i>NYCA BCP</i>.</p> <p>6. The <i>NYCA SRP</i> shall be designed with a priority of minimizing the time to restore the system, while allowing the system operator flexibility to respond to as found system conditions.</p> <p>7. The <i>NYCA SRP</i> shall include the necessary operating instructions and procedures to cover loss of vital telecommunications channels during restoration events.</p> <p>8. The <i>NYCA SRP</i> shall require that <i>NYISO</i> and each <i>transmission owner's</i> emergency restoration processes include the requirement to establish protocols for disseminating information to entities including the <i>NYISO</i>, <i>Transmission Owners</i>, <i>Generation Owners</i>, and neighboring control areas during a system disturbance.</p> <p>9. The <i>NYCA SRP</i> shall require that the coordination of <i>NYISO</i> and <i>transmission owner</i> restoration plans be demonstrated by drill and by simulation.</p> <p>10. <i>NYISO</i> and <i>transmission owner</i> restoration plans shall be reviewed and updated annually and whenever changes are made in the <i>NYS Power System</i>. This review shall include the results of an annual assessment of the impact of system expansion or reconfiguration plans on the SRP, as required by Reliability Rule B-R5 and related Measurement B-M3. The <i>NYCA SRP</i> shall include a requirement to establish and maintain a process that compares scheduled outages and/or the unavailability of <i>NYCA BCP Blackstart Facilities</i> or any system element that can affect the <i>NYCA SRP</i>, and determine the effect on the <i>NYCA SRP</i>. The information resulting from the process shall be made available to the <i>NYISO</i> and the operating section of the appropriate <i>transmission owner</i>. (G-R1 & G-R2)</p>	<p>7. Identification of the necessary operating instructions and procedures to cover loss of telecommunications channels during a system disturbance. (<i>Includes requirements from old G-M1.7</i>)</p> <p>8. Identification of protocols for disseminating information to operating entities identified in the plan during a system disturbance. (<i>Includes requirements from old G-M1.8</i>)</p> <p>9. Procedures for ensuring that the coordination of <i>NYISO</i> and <i>transmission owner SRPs</i> be demonstrated by drill or and by simulation. (<i>Includes requirements from old G-M1.9</i>)</p> <p>10. Procedures requiring <i>transmission owners</i> to notify the <i>NYISO</i> of any proposed changes to <i>transmission owner SRP facilities</i> or procedures that could effect the coordination of the <i>NYISO</i> and <i>TO</i> restoration plans at least two months prior to their implementation. (<i>Includes requirements from old G-M1.10</i>)</p> <p>11. Procedures requiring that the <i>NYISO</i> and <i>transmission owner SRPs</i> be reviewed and updated annually and whenever changes are made in the <i>NYS Power System</i>. This review shall evaluate the impact of planned system expansion or reconfiguration on these <i>SRPs</i>, prior to implementation. (<i>Includes requirements from old G-M1.10</i>)</p> <p>12. Identification of guidelines which provide the basis for alternative restoration actions if normal restoration procedures cannot be executed due to system conditions. (<i>New requirement</i>)</p> <p>13. Procedures for coordinating annual updates to the <i>NYISO SRP</i> and restoration plans of neighboring <i>Reliability Coordinators</i>. (<i>New requirement</i>)</p>
<p><u>G-M2:</u> Each <i>transmission owner</i> shall establish and maintain a restoration plan in accordance with <i>NYISO</i> procedures as required in Measurement G-M1. This restoration plan shall be coordinated with the restoration plans of the <i>NYISO</i> and other <i>transmission owners</i> and shall be part of the <i>NYCA SRP</i>. Each <i>transmission owner</i> that has a <i>blackstart</i> plan included in the <i>NYCA BCP</i> shall also establish and maintain a <i>blackstart</i> capability procedure as part of its restoration plan for facilities under its control, in accordance with <i>NYISO</i> procedures and the</p>	<p><u>G-M2:</u> Each <i>transmission owner</i> shall establish and maintain a restoration plan in accordance with the <i>NYCA SRP</i>, <i>NYISO</i> procedures, and Measurement G-M1. This restoration plan shall be coordinated by the NYISO with the restoration plans of the NYISO and other <i>transmission owners</i> and shall be part of the <i>NYCA SRP</i>. The <i>transmission owner SRP</i> shall include procedures to identify for procuring <u>blackstart resources that are necessary for implementing its SRP under the transmission owner's control, if needed,</u> including testing requirements,</p>

NYCA BCP. The *transmission owners* shall conduct annual training and a review of their individual procedures that compose the *NYCA SRP* with their operating personnel. Each *transmission owner* shall report to the *NYISO* the completion of the annual training and review.
(G-R1, G-R2 & G-R3)

G-M3:

Each *Blackstart Provider* shall complete a successful test of the startup and operation of each of its *Blackstart Facilities* included in the *NYCA BCP* in each *Capability Year* to demonstrate that its *Blackstart Facilities* can perform their intended functions in accordance with the procedures required in Measurement G-M1. Each *Blackstart Provider* shall provide documentation of these test results to the appropriate entity in accordance with *NYISO* and *transmission owner* procedures. *Blackstart Providers* shall attend *NYISO* and *transmission owner* restoration training as required. (G-R2)

G-M4:

The *NYISO* shall establish and maintain procedures for training *NYISO* and *Market Participant* operating personnel for the effective implementation of the *NYCA SRP*. These procedures shall include coordinated training to be conducted at least annually by the *NYISO* and each *transmission owner*. The *NYISO* training procedures shall include the following requirements:

1. The *NYISO* shall conduct restoration simulation exercises that include modeling of each *TO SRP*.
2. The *NYISO* and *transmission owners* shall conduct coordinated annual drills of simulated full or partial system shutdowns and restoration, and the *NYISO* shall issue a critique report of the simulation.
3. *Blackstart Providers* and other generation owners shall be required to attend *NYISO* and *transmission owner* training sessions as appropriate.
4. Training program records shall be prepared that show that operating personnel have been trained in the implementation of the *NYCA SRP*. These records shall include *transmission owner* participation in the annual *NYISO* drill of the *NYCA SRP*, and indicate that each *transmission owner* conducted an annual training and a review and of its *SRP*. These training program records shall be provided to the *NYSRC* upon request.

in accordance with the *NYCA SRP* and *NYISO* procedures. *Transmission owners* shall conduct an annual review of their *SRP*. *Transmission owners* shall conduct annual training of their operating personnel on their *SRP* procedures, including the procedures for coordinating with the *NYISO SRP*. Each *transmission owner* shall report to the *NYISO* the completion of the annual training and review (G-R1&2).

G-M3:

Each *Blackstart Provider* shall develop appropriate test procedures to ensure those blackstart facilities under its control are able to perform their intended functions. Each *Blackstart Provider* shall complete a successful test of the startup and operation of each of its *Blackstart Facilities* included in the *NYCA SRP* in each *Capability Year* to demonstrate that its *Blackstart Facilities* can perform their intended functions in accordance with the procedures required in Measurement G-M1. Each *Blackstart Provider* shall provide documentation of these test results to the appropriate entity in accordance with *NYISO* and *transmission owner* procedures. Each Blackstart Providers shall identify and maintain a list of critical components in their facilities (i.e. batteries's, diesel back-up generators, inverters, etc.) and perform quarterly tests within the capability year to verify verifying the condition of these critical components in accordance with good industry practice. -capability of the critical components and provide test results to the NYISO upon request-upon request. *Blackstart Providers* shall attend *NYISO* and *transmission owner* restoration training as required (G-R1&2).

G-M4:

The *NYISO* shall establish and maintain procedures for training *NYISO* and *Market Participant* operating personnel for the effective implementation of the *NYCA SRP*, in accordance with the following requirements:

1. *NYISO* procedures requiring coordinated training to be conducted at least annually by the *NYISO* and each *transmission owner*.
2. *NYISO* training procedures including restoration simulation exercises that include modeling of each *transmission owner's SRP*.
3. Conduct of annual simulations of full or partial system shutdowns and restoration, including the issuance of critique reports of their respective tests.
4. *NYISO* training procedures requiring *Blackstart Providers* and other generator owners to participate in training sessions and exercises as appropriate.
5. Maintaining program records showing that operating

	<p>personnel have been trained in the implementation of the NYCA SRP and participated in restoration exercises. These records shall be provided to the NYSRC upon request.</p> <p>6. NYISO procedures for certifying that transmission owner operating personnel have been trained on the transmission owner SRPs consistent with the requirements of NYISO SRP training procedures. The procedures shall require transmission owners to provide the NYISO restoration training program records upon request. (G-R2)</p>
--	--

ATTACHMENT B
C-M1, C-M2, C-M3, and C-M4 COMPLIANCE ELEMENT MODIFICATIONS

	C-M1	C-M2
Full Compliance Statement	The NYISO shall have a NYCA SRP that complies with all 13 requirements as defined in G-M1.	The NYISO certifies that each transmission owner has a SRP in accordance with G-M1, G-M2, and NYISO procedures.
Levels of Non-Compliance		
Level 1	The NYISO failed to comply with one of the requirements within G-M1.	The NYISO certifies that one or more transmission owners failed to comply with one requirement within G-M1, G-M2, or NYISO procedures.
Level 2	The NYISO failed to comply with two of the requirements within G-M1.	The NYISO certifies that one or more transmission owners failed to comply with two requirements within G-M1, G-M2, or NYISO procedures.
Level 3	The NYISO failed to comply with three of the requirements within G-M1.	The NYISO certifies that one or more transmission owners failed to comply with three requirements within G-M1, G-M2, or NYISO procedures.
Level 4	The NYISO failed to comply with four or more of the requirements within G-M1.	The NYISO certifies that one or more transmission owners failed to comply with four or more requirements within G-M1, G-M2, or NYISO procedures.

	C-M3	C-M4
Full Compliance Statement	The NYISO certifies that each Blackstart Provider complies with all blackstart facility testing and training requirements as defined in G-M1, G-M3, and NYISO procedures.	The NYISO system restoration training program is in accordance with all six requirements defined in G-M4.
Levels of Non-Compliance		
Level 1	The NYISO certifies that one Blackstart Provider did not supply testing results in accordance with NYISO or transmission owner procedures.	The NYISO system restoration training program does not address one of the requirements of G-M4.
Level 2	The NYISO certifies that two Blackstart Providers did not supply testing results in accordance with NYISO or transmission owner procedures and schedules.	The NYISO system restoration training program does not address two of the requirements of G-M4.
Level 3	The NYISO certifies that three Blackstart Providers did not supply testing results in accordance with NYISO or transmission owner procedures and schedules. OR The NYISO certifies that one or more Blackstart Providers failed to attend restoration training as required by the NYISO or transmission owner.	The NYISO system restoration training program does not address three of the requirements of G-M4.
Level 4	The NYISO certifies that four or more Blackstart Providers did not supply testing	The NYISO system restoration training program does not address four or more of the

	results in accordance with NYISO or transmission owner procedures or schedules.	requirements of G-M4.
--	---	-----------------------