

Request to Develop or Modify Reliability Rules and Requirements (NYSRC Policy No. 1-7)

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

Item	Information
1. PRR No. & Title of Reliability Rule or Requirement change	PRR 133 Revision of System Restoration Plan, F.1, and Retirement of System Restoration Training and Simulation Programs, F.2
2. Rule Change Requester Information	
Name	RRS
Organization	
3. New rule or revision to existing rule?	Revision
4. Need for rule change, including advantages and disadvantages	<p><u>The directive of the NYSRC is to have Reliability rules</u> Rules that are more stringent or specific than NERC and NPCC standards and criteria.</p> <p>A recent RRS review indicates that NERC <u>system restoration</u> training requirements are more stringent than virtually all NYSRC system restoration training requirements associated with Reliability Rule F.2. Therefore, this PRR retires Reliability Rule F.2 and related requirements while maintaining a more stringent system restoration training requirement in F.1.(R1.14).</p> <p><u>In addition, the RRS review indicates that NERC and NPCC standards and criteria are more stringent and specific as it relates to F.1 NYCA System Restoration Plan Requirements 1.5 and 3 that address procedures for black start test requirements. Therefore, this PRR modifies F.2 Requirements 1.5 and 3 to align them with the applicable NERC and NPCC Black Start testing requirements.</u></p>
5. Related NYSRC rules	
6. Section A – Reliability Rule Elements	
1. Reliability Rule	<p>F.1</p> <p>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 manner and as promptly as reasonably possible following a major or total blackout. The NYCA SRP shall be composed of a <i>NYISO</i> system restoration plan and <i>Transmission Owner</i> system restoration plans.</p>
2. Associated NERC & NPCC Standards and Criteria	
3. Applicability	
7. Section B – Requirements	
Requirements	<p>R1. The <i>NYISO</i> shall develop and maintain a NYCA SRP that provides assurance that the NYCA system will be restored in a safe and orderly manner and as promptly as reasonable possible following a major or total blackout.</p> <p>The NYCA SRP shall include system restoration at two integrated levels: restoration of the NYCA backbone system in accordance with a <i>NYISO</i> System Restoration Plan (<i>NYISO</i> SRP) and restoration of local areas in accordance with <i>Transmission Owner</i> system restoration plans (TO SRPs).</p>

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The NYISO shall develop and maintain an SRP that meets NERC and NPCC requirements. In addition, the NYCA SRP shall include the following ~~more stringent and more specific~~ ^{minimum} requirements:

R1.1 – R1.4 (no changes)

~~R1.13~~ (no changes)

~~**R1.14** Procedures for training NYISO and Market Participant operating personnel for the effective implementation of the NYCA SRP. The NYISO shall maintain program records showing that operating 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.~~

~~**R2 and R3** (no changes)~~
R1.5 Procedures for black start facility test requirements to verify that each black start unit in the NYISO and Transmission Owner SRPs is capable of meeting the requirements of these SRPs. These black start testing requirements shall include:

R1.5.1 Each black start facility shall be tested annually. The NYISO shall determine the time within the Capability Year that testing shall be completed. The NYISO shall determine the number of units within a black start facility that shall be tested annually.

R1.5.2 The NYISO procedures shall indicate that with due regard for reliability considerations and subject to approval by the Transmission Owner and the NYISO, a test performed by black start facilities in the Transmission Owner's SRP within one month beyond the Capability Year test period, or longer in force majeure cases, shall be considered a valid test for that Capability Year. On request by the NYSRC, the NYISO shall certify that reliability was considered when the NYISO and the Transmission Owner approved black start facility testing beyond the Capability Year.

R1.5.3 Each black start unit shall test the ability to start with no support from the transmission system or when designed to remain energized without connection to the remainder of the System.

R1.5.4 Each black start unit shall test the ability to energize a bus. If it is not possible to energize a bus during the test, the testing facility must affirm that the unit has the capability to energize a bus such as verifying that the breaker close coil relay can be energized with the voltage and frequency monitor controls disconnected from the synchronizing circuits.

R1.5.5 Each black start unit shall be tested such that once the unit has been started, it shall continue to demonstrate its capability to operate in a stable condition while isolated from the power system for a minimum of ten minutes.

~~The NYISO shall determine the time within the Capability Year that testing shall be completed. The NYISO procedures shall indicate that with due regard for reliability considerations and subject to approval by the Transmission Owner and the NYISO, a test performed by black start facilities in the~~

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~~Transmission Owner's SRP within one month beyond the Capability Year test period, or longer in force majeure cases, shall be considered a valid test for that Capability Year. On request by the NYSRC, the NYISO shall certify that reliability was considered when the NYISO and the Transmission Owner approved black start facility testing beyond the Capability Year.~~

~~Gas turbine, combined cycle, and hydro black start units:~~

~~Each Black Start Provider shall complete a successful test of the startup and operation of each of those black start facilities included in the NYISO and Transmission Owner SRPs for each Capability Year.~~

~~The NYISO shall determine the number of units within a black start facility that shall be tested annually.~~

~~Steam black start units:~~

~~Each Black Start Provider shall complete a successful test of the startup and synchronization to the transmission system of each unit included in the NYCA SRP every three Capability Years.~~

~~In addition, completion of successful tests requiring isolation from the transmission system, but not requiring startup and synchronization with the transmission system, shall be conducted during each intervening Capability Year. This intervening year test shall be conducted as follows: 1) a black start gas turbine isolated from the transmission system shall energize the internal light and power bus of the steam black start unit; and 2) auxiliary loads required to introduce fire into the boiler (fans, pumps, etc.) shall be added to the internal light and power bus. The intervening year test does not require fire in the boiler or synchronization to the transmission system.~~

~~The NYISO shall designate which steam units shall be tested during each Capability Year in accordance with the above testing requirements.~~

~~The NYISO shall determine the time within the Capability Year that testing shall be completed.~~

R1.6 – R1.13 (no changes)

R1.14 Procedures for training NYISO and Market Participant operating personnel for the effective implementation of the NYCA SRP. The NYISO shall maintain program records showing that operating 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.

R2 (no changes)

R3 Each Black Start Provider shall develop and implement appropriate test procedures in accordance with R1, R2, and NYISO requirements and procedures to ensure those black start facilities that are included in the NYISO's and Transmission Owner's SRPs are able to perform their intended functions.

R3.1. These black start testing requirements shall include:

R3.1.1 Each black start facility shall be tested annually. The NYISO shall

determine the number of units within a black start facility that shall be tested annually.

R3.1.2 Each black start unit shall test the ability to start with no support from the transmission system or when designed to remain energized without connection to the remainder of the System.

R3.1.3 Each black start unit shall test the ability to energize a bus. If it is not possible to energize a bus during the test, the testing facility must affirm that the unit has the capability to energize a bus such as verifying that the breaker close coil relay can be energized with the voltage and frequency monitor controls disconnected from the synchronizing circuits.

R3.1.4 Each black start unit shall be tested such that once the unit has been started, it shall continue to demonstrate its capability to operate in a stable condition while isolated from the power system for a minimum of ten minutes.

R3.1 Gas turbine, combined cycle, and hydro black start units:

Each Black Start Provider shall complete a successful test of the startup and operation of each of those black start facilities included in the NYISO and Transmission Owner SRPs for each Capability Year.

The NYISO will specify the number of units within a black start facility that shall be tested annually.

Steam black start units:

Each Black Start Provider shall complete a successful test of the startup and synchronization to the transmission system of each unit included in the NYCA SRP every three Capability Years.

R3.2 Completion of successful tests requiring isolation from the transmission system, but not requiring startup and synchronization with the transmission system, shall be conducted during each intervening Capability Year. This intervening year test shall be conducted as follows: 1) a black start gas turbine isolated from the transmission system shall energize the internal light and power bus of the steam black start unit; and 2) auxiliary loads required to introduce fire into the boiler (fans, pumps, etc.) shall be added to the internal light and power bus. The intervening year test does not require fire in the boiler or synchronization to the transmission system.

The NYISO will specify which steam units shall be tested during each Capability Year in accordance with the above testing requirements.

R3.23 With due regard for reliability considerations and subject to approval by the Transmission Owner and the NYISO, a test performed by black start facilities in the Transmission Owner's SRP within one month beyond the Capability Year test period, or longer in force majeure cases, shall be considered a valid test for that Capability Year. Each Black Start Provider shall provide documentation of these test results to the appropriate entity in accordance with NYISO and Transmission Owner procedures.

R3.34 Each Black Start Provider shall annually provide a letter to the NYISO

	<p><u>confirming that it identifies and maintains a list of critical components in its facilities (i.e., batteries, diesel back-up generators, inverters etc.) and performs tests to verify the condition of these critical components in accordance with good industry practice. Test results will be provided to the NYISO upon request.</u></p> <p><u>R3.45 Black Start Providers shall attend NYISO and Transmission Owner restoration training as required.</u></p>
	<p>Retire System Restoration Training Reliability Rule F.2 and associated Requirements.</p>
8. Section C – Compliance Elements	
1. Measures	<p>M1. The NYISO has a NYCA SRP and documented procedures that fully comply with requirements in accordance with sub-requirements in R1.1 through R1.13 and has identified NYISO SRP black start facilities in accordance with R1.4. <u>The NYISO has developed an NYCA SRP in accordance with R1 that includes documented- procedures specified by sub-requirements R1.1 through R1.16. The NYISO also certified that it identified NYISO SRP black start facilities in accordance with R1.4, and completed certain actions, when required, in accordance with R1.5.2, R1.11, and R1.14.</u></p> <p>M2. The NYISO certified that each TO has a SRP in accordance with R2 and each TO has confirmed that the black start <i>resources</i> that each TO has identified as necessary for implementing its SRP will assure that the TO system will be restored in a safe and orderly manner, and as promptly as reasonably possible following a major or total blackout.</p> <p>M3. As defined in R1 and R3, the NYISO certified that for the <i>Capability Year</i> specified by the NYSRC: (1) it received the annual letter from each <i>Black Start Provider</i> confirming that it maintained a list of critical components and tests these components accordingly, <u>in accordance with R3.3</u>, (2) it received sufficient documentation from each <i>Black Start Provider</i> showing that the <i>Black Start Provider</i> developed required test procedures and accordingly successfully tested its black start facilities for each <i>Capability Year</i> <u>in accordance with R3.1</u>, and (3) each <i>Black Start Provider</i> met NYISO training requirements <u>in accordance with R3.4</u>,</p>
2. Levels of Non-Compliance	<p>For Measure 1</p> <p>Level 1: The NYISO has an NYCA SRP, but the SRP failed to include procedures – or the NYISO failed to complete actions – needed to fully comply with one of the sub-requirements within R1.</p> <p>Level 2: The NYISO has an NYCA SRP, but the SRP failed to include procedures – or the NYISO failed to complete actions – needed to fully comply with two of the sub-requirements within R1. OR The NYISO failed to identify NYISO black start facilities in accordance with</p>

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	<p>R1.4.</p> <p>Level 3: The NYISO has an NYCA SRP, but the SRP failed to include procedures – or the NYISO failed to complete actions – needed to that fully comply with three of the sub-requirements within R1.</p> <p>Level 4: The NYISO has an NYCA SRP, but the SRP failed to include procedures – or the NYISO failed to complete actions – needed to that fully comply with four or more of the sub-requirements within R1.</p> <p>For Measure 2</p> <p>Level 1: The NYISO certified that all <i>Transmission Owners</i> have SRPs, but one or more failed to fully comply with one of the three of the black start testing, SRP coordination, or training requirements in their SRPs as specified in R2.1, R2.2, and R2.3.</p> <p>Level 2: The NYISO certified that all <i>Transmission Owners</i> have SRPs, but one or more failed to fully comply with two of three of the black start testing, SRP coordination, or training requirements in their SRPs as specified in R2.1, R2.2, and R2.3. OR The NYISO certified that one or more <i>Transmission Owner</i> failed to confirm that black start <i>resources</i> it has identified will assure that its system will be restored in a safe and orderly manner, and as promptly as reasonably possible.</p> <p>Level 3: The NYISO certified that all <i>Transmission Owners</i> have SRPs, but one or more failed to fully comply with all of the black start testing, SRP coordination, and training requirements in their SRPs as specified in R2.1, R2.2, and R2.3.</p> <p>Level 4: The NYISO certified that one or more <i>Transmission Owners</i> do not have a SRP.</p> <p>For Measure 3</p> <p>Level 1: N.A. The NYISO certified that, for the Capability Year specified by the NYSRC, one Black Start Provider did not provide a letter to the NYISO satisfying required testing of critical facility components, or did not comply with black start facility testing requirements in accordance with R1, R2, and R3, and NYISO or Transmission Owner procedures.</p> <p>Level 2: The NYISO certified that for the Capability Year specified by the NYSRC, one or more Black Start Providers did not address one or more of the testing requirements in their test procedures as specified in R1.3. The NYISO certified that, for the Capability Year specified by the NYSRC, two Black Start Providers did not provide a letter to the NYISO satisfying required testing of critical facility components, or did not comply with black start facility testing requirements in accordance with R1, R2, R3, and NYISO or Transmission Owner procedures and schedules.</p> <p>Level 3: The NYISO certified that, for the <i>Capability Year</i> specified by the NYSRC, one or morethree <i>Black Start Providers</i> did not provide a letter to the NYISO satisfying required testing of critical facility components, or did not</p>
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	<p>comply with black start facility testing requirements in accordance with R1, R2, R3, and NYISO or Transmission Owner procedures and schedules.</p> <p>OR</p> <p>The NYISO certified that one or more <i>Black Start Providers</i> failed to attend restoration training as required by the NYISO or <i>Transmission Owner</i>.</p> <p>Level 4: The NYISO certified that, for the <i>Capability Year</i> specified by the NYSRC, one or more Black Start Providers four or more Black Start Providers did not provide a letter to the NYISO satisfying required testing of critical facility components, or did not comply with black start facility testing requirements in accordance with R1, R2, R3, and NYISO or <i>Transmission Owner</i> procedures and schedules.</p>
3. Compliance Monitoring Process (See Policy 4):	
3.1 Compliance Monitoring Responsibility	No changes
3.2 Reporting Frequency	No changes
3.3 Compliance Reporting Requirements	No changes
9. Implementation Plan	<p>A NYISO Tariff change will be required before the rule changes in this PRR can be implemented. Following NYSRC Executive Committee approval of PRR 133, the NYISO shall pursue the tariff revisions necessary to establish the authority needed to comply with this rule change. Within 60 days of receiving FERC approval for the Tariff change, the NYISO shall submit evidence to the NYSRC RCMS that the NYISO has modified its appropriate procedures to comply with PRR 133 rule changes. Within 90 days of Executive Committee approval of PRR 133, the NYISO shall revise as its procedures as necessary in accordance with R1 changes; and require the TOs and Black Start Providers to revise their procedures as necessary in accordance with R2 and R3, respectively.</p>
10. Comments	
11. Date Rule Adopted	
12. PRR Revision Dates	5/25/16, 7/21/16, 8/10/16, <u>8/12/2016</u>