

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

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| Item | Information |
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| 1. PRR No. & Title of Reliability Rule or Requirement change | PRR 127 C-R1 and C-R2 Table C-1 Revision |
| 2. Rule Change Requester Information | |
| Name | Martin Paszek |
| Organization | Con Edison |
| 3. New rule or revision to existing rule? | Table C-1 Revision |
| 4. Need for rule change, including advantages and disadvantages | <p>In operations, the current rule allows the use of 10-minute operating reserves to address loading above LTE rate on a cable resulting from a generation contingency. However, the current rule is silent on performing this same action when it is caused by a transmission contingency. This silence may have the consequence that following a literal reading of the rule an operator may have to shed load when it could have been avoided by making use of 10-minute reserves. The rationale of the change in Table C-1 is to remove this unintended operational restriction and in doing so enhance reliability.</p> <p>This change would provide not only additional operational flexibility but could avoid operating errors caused by potentially confusing rules that require them to distinguish violations based on the contingency (generation versus transmission) that caused them and condition the selection of the appropriate operator action. In addition, utilization of generation together with transmission may address a violation in a more robust fashion.</p> <p>On the planning side, the intent of the rule is to create a criteria level of margin to address operational issues that operators may be faced with. As such, for transmission contingencies, the use of 10-minute operating reserves is not allowed although it is allowed for generation contingencies. The system planner is not faced with an impending load shedding action; instead he would consider adding a facility such that the system would meet the criteria if the same transmission contingency were to happen.</p> <p>As a consequence, the change being proposed is to change Table C-1 to allow the use of 10-minute reserves for operators to have additional resources to address transmission contingencies, but not to change Table B-1.</p> <p>This new language for the Loss of Transmission Facilities would mirror the language utilized, within the same section, for the Loss of Generation:</p> <p>Existing Table C-1:</p> <p>“An underground cable circuit may be loaded to its STE rating following:</p> <p><u>Loss of Generation</u> - provided ten (10) minute operating reserve and/or phase angle regulation is available to reduce the loading to its LTE rating within fifteen (15)</p> |

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| | <p>minutes and not cause any other facility to be loaded beyond its LTE rating.</p> <p><u>Loss of Transmission Facilities</u> - provided phase angle regulation is available to reduce the loading to its LTE rating within fifteen (15) minutes and not cause any other facility to be loaded beyond its LTE rating.”</p> <p>Proposed Table C-1 (the additional words inserted are italicized):</p> <p>“An underground cable circuit may be loaded to its STE rating following:</p> <p><u>Loss of Generation</u> - provided ten (10) minute operating reserve and/or phase angle regulation is available to reduce the loading to its LTE rating within fifteen (15) minutes and not cause any other facility to be loaded beyond its LTE rating.</p> <p>“<u>Loss of Transmission Facilities</u> - <i>provided ten (10) minute operating reserve and/or</i> phase angle regulation is available to reduce the loading to its LTE rating within fifteen (15) minutes and not cause any other facility to be loaded beyond its LTE rating.”</p> <p>***</p> <p>Advantage: Enhances reliability by providing additional flexibility to System Operators that may prevent the shedding of load.</p> <p>Disadvantage: None</p> |
| 5. Related NYSRC rules | C-R1_R1 and C-R2_R2 |
| 6. Section A – Reliability Rule Elements | |
| 1. Reliability Rule | C-R1 and C-R2 - No changes |
| 2. Associated NERC & NPCC Standards and Criteria | No change |
| 3. Applicability | No change |
| 7. Section B – Requirements | |
| Requirements | <p>C-R1_R1. Normal and <i>emergency</i> operating transfer capabilities shall be established to meet the respective performance requirements in Table C-1 for the <i>contingency</i> events specified in Table B-2.</p> <p>C-R2_R2 Voltage reduction need not be initiated and firm load need not be shed to observe a post-contingency loading requirement until the contingency occurs, provided that adequate response time for this action is available after the contingency occurs and other measures shall maintain post-contingency loadings within applicable emergency ratings. Emergency measures, including the pre-shedding of firm load, if necessary, must be affected to limit transfers to within the performance requirements specified in Table C-1.</p> |
| 8. Section C – Compliance Elements | |
| 1. Measures | No change |
| 2. Levels of Non-Compliance | No change |
| 3. Compliance Monitoring | No change |

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| Process (See Policy 4): | |
| 3.1 Compliance Monitoring Responsibility | No change |
| 3.2 Reporting Frequency | No change |
| 3.3 Compliance Reporting Requirements | No change |
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| 9. Implementation Plan | The NYISO shall revise appropriate procedures within 90 days of Executive Committee approval of PRR 127. |
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| 10. Comments | |
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| 11. Date Rule Adopted | |
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| 12. PRR Revision Dates | 4/6/15, 4/30/15, 8/14/15 |

Table C-1

Operating Transfer Capabilities – Performance Requirements

| Type of Assessment | Performance Requirements for Thermal, Voltage and Stability Assessments |
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| <p>Thermal</p> | <p>a. Pre-Contingency Criteria</p> <ol style="list-style-type: none"> 1. For normal transfers, no transmission facility shall be loaded beyond its <i>normal rating</i>. 2. For <i>emergency</i> transfers, no transmission facility shall be loaded beyond its <i>normal rating</i>. However, a facility may be loaded up to the <i>LTE rating</i> pre-contingency if the <i>STE rating</i> is reduced accordingly. <p>b. Post-Contingency Criteria</p> <ol style="list-style-type: none"> 1. For normal transfers, no facility shall be loaded beyond its <i>LTE rating</i> following the most severe of contingencies "a" through "g" specified in Table B-2 in Reliability Rule Section B. <p>An underground cable circuit may be loaded to its <i>STE rating</i> following:</p> <p><u>Loss of Generation</u> - provided <i>ten (10) minute operating reserve</i> and/or phase angle regulation is available to reduce the loading to its <i>LTE rating</i> within fifteen (15) minutes and not cause any other facility to be loaded beyond its <i>LTE rating</i>.</p> <p><u>Loss of Transmission Facilities</u> - provided <i>ten (10) minute operating reserve</i> and/or phase angle regulation is available to reduce the loading to its <i>LTE rating</i> within fifteen (15) minutes and not cause any other facility to be loaded beyond its <i>LTE rating</i>.</p> <p>For contingencies "b", "c", "e", "f", and "g" in Table B-2 that are not confined to the loss of a single <i>element</i>, <i>Transmission Owners</i> may request the <i>NYISO</i> for an exception to allow the post-contingency flow on a facility up to its <i>STE rating</i>. This is permissible provided operating measures are available to reduce the flow below the <i>LTE rating</i> within fifteen (15) minutes and not cause any other facility to be loaded beyond its <i>LTE rating</i>.</p> <p>Operating exceptions shall be well documented, including <i>NYISO</i> comments, and must be approved by the <i>NYSRC</i>.</p> <ol style="list-style-type: none"> 2. For <i>emergency</i> transfers, no facility shall be loaded beyond its <i>STE rating</i> following the more severe of contingencies "a" or "d" listed in Table B-2. The <i>STE rating</i> is based on an assumed pre-loading equal to the <i>normal rating</i>. A limiting facility may be loaded up to the <i>LTE rating</i>, pre-contingency, if the <i>STE rating</i> is reduced accordingly. |
| <p>Voltage</p> | <p><i>Reactive power</i> shall be maintained within the <i>NYS Bulk Power System</i> in order to maintain voltages within applicable pre-disturbance and post-disturbance limits, for both normal and <i>emergency</i></p> |

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| | <p>transfers, as specified below:</p> <ul style="list-style-type: none"> a. Pre-Contingency Criteria For both normal and <i>emergency</i> transfers, no bus voltage will be below its pre-contingency low <i>voltage limit</i> nor be above its pre-contingency high <i>voltage limit</i>. The pre-contingency voltage on a bus is permitted to operate below its pre-contingency low <i>voltage limit</i> or above its pre-contingency high <i>voltage limit</i> if all corrective actions short of <i>load shedding</i> have been taken and conditions are not indicative of system problems, or sufficient time and <i>resources</i> exist to take corrective action to prevent voltage collapse should a <i>contingency</i> occur. b. Post-Contingency Criteria No bus voltage will fall below its post-contingency low <i>voltage limit</i> nor rise above its post-contingency high <i>voltage limit</i>. For normal transfers, contingencies "a" through "g" specified in Table B-2 are applicable. For <i>emergency</i> transfers, contingencies "a" through "g" specified in Table B-2 are applicable |
| <p>Stability</p> | <p>System <i>stability</i> transfer limits shall be consistent with the Reliability Rules and all applicable guidelines and procedures in the NYISO Transmission Planning Guideline #3-1, "Guideline for Stability Analysis and Determination of Stability-Based Transfer Limits".</p> <ul style="list-style-type: none"> a. For normal transfers, <i>stability</i> of the <i>NYS Bulk Power System</i> shall be maintained during and after the most severe of contingencies "a" through "g" specified in Table B-2. The <i>NYS Bulk Power System</i> must also be stable if the <i>faulted element</i> as described in Table B-2 is re-energized by <i>delayed reclosing</i> before any manual system adjustment, unless specific alternate procedures are documented. b. For <i>emergency</i> transfers, when <i>firm load</i> cannot be served, <i>stability</i> of the <i>NYS Bulk Power System</i> shall be maintained during and after contingencies "a" through "g" specified in Table B-2. The <i>NYS Bulk Power System</i> must also be stable if the <i>faulted element</i> as described in Table B-2 is re-energized by <i>delayed reclosing</i> before any manual system adjustment. |