

**Exhibit C**

**Order No. 672 Criteria**

**Exhibit C — Order No. 672 Criteria — Proposed Reliability Standard PRC-025-2**

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In Order No. 672,<sup>1</sup> the Commission identified a number of criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors and explains how the proposed Reliability Standard has met or exceeded the criteria:

**1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.<sup>2</sup>**

The purpose of proposed Reliability Standard PRC-025-2, which is unchanged from currently-effective Reliability Standard PRC-025-1, is to set load-responsive protective relays associated with generation Facilities at a level to prevent unnecessary tripping of generators during a system disturbance for conditions that do not pose a risk of damage to the associated equipment.

Reliability Standard PRC-025-1 requires applicable entities to apply relay settings in accordance with the criteria table in Attachment 1. Table 1 provides specific setting criteria for load-responsive protective relays in a variety of scenarios, with several options available. Proposed Reliability Standard PRC-025-2 enhances reliability by addressing certain issues that have been identified in the course of implementing PRC-025-1. These revisions include: (i) adding a provision to Attachment 1, Table 1 Relay Loadability Evaluation Criteria to address dispersed power producing resources that are unable to be set at 130 percent of the calculated current due to physical limitations of the protection equipment; (ii) adding to the Table 1 relay type description the protective relay 50 Element associated with instantaneous (i.e. without

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<sup>1</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

<sup>2</sup> Order No. 672 at P 321, 324.

intentional time delay) tripping of overcurrent based protection; (iii) clarifying, in the Table 1 Application column, that an entity must apply settings to all the applications described therein; (iv) clarifying that an entity, when employing simulation for setting relay associated with the transmission line interconnecting the generator or plant to the Transmission system, must simulate the 0.85 per unit depressed voltage at the remote end (i.e. Transmission system side) of the line; (v) removing the term “Pick Up” from the Attachment 1, Table 1 heading (new heading: “Setting Criteria”) to better align the setting to the calculated or simulated capability of the generator with an associated margin; and (vi) clarifying certain terminology and references. The revisions provide additional options and clarity, and thus the PRC-025 standard continues to provide a technically sound means of achieving the stated reliability goal.

**2. Proposed Reliability Standards must be applicable only to users, owners and operators of the bulk power system, and must be clear and unambiguous as to what is required and who is required to comply.<sup>3</sup>**

The proposed Reliability Standard is clear and unambiguous as to what is required and who is required to comply, in accordance with Order No. 672. Proposed Reliability Standard PRC-025-2 continues to apply to Generator Owners, Transmission Owners, and Distribution Providers. The proposed Reliability Standard clearly lists the types of Facilities subject to compliance. Table 1 in the proposed Reliability Standard is clear and provides information by application, relay type, voltage, and setting. The proposed standard clearly articulates the actions that each entity must take to comply.

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<sup>3</sup> Order No. 672 at P 322, 325.

**3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.<sup>4</sup>**

The Violation Risk Factor (“VRF”) and Violation Severity Level (“VSL”) for proposed Reliability Standard PRC-025-2, as reflected in **Exhibit A**, are unchanged from currently-effective Reliability Standard PRC-025-1. The VRF and VSL comport with NERC and Commission guidelines related to their assignment. The VSL is consistent with the corresponding Requirement and does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Reliability Standard includes clear and understandable consequences in accordance with Order No. 672.

**4. A proposed Reliability Standard must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.<sup>5</sup>**

The proposed Reliability Standard includes a Measure that support the proposed standard’s sole Requirement by clearly identifying what is required and how the Requirement will be enforced. This Measure, which remains substantively unchanged from the Measure in currently-effective Reliability Standard PRC-025-1, helps provide clarity regarding how the Requirement will be enforced, and helps ensure that the Requirement will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

**5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently — but do not necessarily have to reflect “best practices” without regard to implementation cost or historical regional infrastructure design.<sup>6</sup>**

The proposed Reliability Standard achieves its reliability goals effectively and efficiently in accordance with Order No. 672. The revisions reflected in proposed Reliability Standard PRC-

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<sup>4</sup> Order No. 672 at P 326.

<sup>5</sup> Order No. 672 at P 327.

<sup>6</sup> Order No. 672 at P 328.

025-2 effectively address the issues identified during the implementation of PRC-025-1 by clarifying the various options and approaches for setting relays. Further, the proposed standard adds a new setting option, Option 5b, for the overcurrent relay of a Protection System applied to an asynchronous generating unit including an Element utilized in the aggregation of dispersed power producing resources. This new Option helps to ensure reliability in those situations where manufacturer or physical limitations would prevent an entity from being able to set the relay in accordance with the requirements of currently effective PRC-025-1.

- 6. Proposed Reliability Standards cannot be “lowest common denominator,” i.e., cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.<sup>7</sup>**

The proposed Reliability Standard does not reflect a “lowest common denominator” approach. To the contrary, the revisions reflected in proposed Reliability Standard PRC-025-2 provide significant benefits for the reliability of the Bulk Power System by refining relay loadability requirements for generating Facilities to prevent unnecessary tripping of generators during a system disturbance: The proposed Reliability Standard does not sacrifice excellence in operating system reliability for costs associated with implementation of the Reliability Standard.

- 7. Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.<sup>8</sup>**

The proposed Reliability Standard applies throughout North America and does not favor one geographic area or regional model.

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<sup>7</sup> Order No. 672 at PP 329, 330.

<sup>8</sup> Order No. 672 at P 331.

**8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.<sup>9</sup>**

The proposed Reliability Standard has no undue negative effect on competition. The proposed Reliability Standard requires the same performance by each of applicable entity. The proposed Reliability Standard does not unreasonably restrict the available generation or transmission capability or limit use of the Bulk-Power System in a preferential manner.

**9. The implementation time for the proposed Reliability Standard is reasonable.<sup>10</sup>**

The proposed effective dates for the proposed Reliability Standard are just and reasonable and appropriately balance the urgency in the need to implement the proposed Reliability Standard against the reasonableness of the time allowed for those who must comply to develop necessary procedures, software, facilities, staffing or other relevant capability. NERC proposes an effective date for PRC-025-2 that is the first day of the first calendar quarter after regulatory approval. Reliability Standard PRC-025-1 would be retired immediately prior to the effective date of PRC-025-2.

Under the PRC-025-1 Implementation Plan, entities have either 60 or 84 months to come into compliance with the standard, depending on whether the entity can apply settings to its existing relays (October 1, 2019) or whether removal or replacement is necessary (October 1, 2021). The proposed PRC-025-2 implementation plan recognizes that entities are in the process of implementing the standard to meet these dates, but that certain revisions in PRC-025-2 may give reason for entities to re-evaluate their settings for load responsive protective relays or require further time for implementation. The proposed PRC-025-2 implementation plan provides a new phased compliance schedule that is intended to supersede the phased compliance schedule

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<sup>9</sup> Order No. 672 at P 332.

<sup>10</sup> Order No. 672 at P 333.

provided in the PRC-025-1 Implementation Plan. For existing Options, entities would have at least as much time to come into compliance with the standard as they would have under the PRC-025-1 implementation plan. New phased compliance dates are provided for new and revised Table 1 Relay Loadability Evaluation Criteria Options, including:

- New Option 5b: 24 or 48 months, depending on whether replacement or removal is necessary;
- For the 50 element only in Options 2a, 2b, 2c, 5a, 5b, 8a, 8b, 8c, 11, 13a, and 13b: 60 or 84 months, depending on whether replacement or removal is necessary;
- Revised Options 14b, 15b, 16b: 24 or 48 months, depending on whether replacement or removal is necessary.

For load-responsive relays that later become applicable to the standard, entities would continue to have 60 or 84 months to come into compliance, depending on whether replacement or removal is necessary.

The proposed implementation plan provides additional timing for new Option 5b due to the number of dispersed power generating resources that may be have been unable to apply the existing 130% threshold; however, the burden to adjust the settings to ensure the capability of the resource does not infringe on the protection setting is expected to be minimal.

The proposed implementation plan also provides a full 60 and 84 month implementation timeline to address the newly-added 50 element in certain Options. This timeline accounts for engineering review, potential equipment procurement, and outage coordination to commission the equipment and apply the appropriate settings.

The proposed implementation plan also allows entities sufficient time to address newly-revised Options addressing Transmission lines interconnecting the generating unit or plant to the

Transmission system. The proposed timeframe allows entities to re-evaluate their settings to account for line impedance effects and to make appropriate modifications to the settings.

The proposed effective dates are reflected in the proposed implementation plan, attached as **Exhibit B**.

**10. The Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.<sup>11</sup>**

The proposed Reliability Standard was developed in accordance with NERC's Commission-approved, ANSI-accredited processes for developing and approving Reliability Standards. **Exhibit E** includes a summary of the Reliability Standard development proceedings, and details the processes followed to develop the proposed Reliability Standard. These processes included, among other things, comment periods, pre-ballot review periods, and balloting periods. Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

**11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards.<sup>12</sup>**

NERC has identified no competing public interests regarding the request for approval of the proposed Reliability Standard. No comments were received indicating the proposed Reliability Standard is in conflict with other vital public interests.

**12. Proposed Reliability Standards must consider any other appropriate factors.<sup>13</sup>**

No other factors relevant to whether the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential were identified.

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<sup>11</sup> Order No. 672 at P 334.

<sup>12</sup> Order No. 672 at P 335.

<sup>13</sup> Order No. 672 at P 323.