

154 FERC ¶ 61,192  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Part 40

[Docket No. RM15-8-000; Order No. 823]

Relay Performance During Stable Power Swings Reliability Standard

(Issued March 17, 2016)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Federal Energy Regulatory Commission approves Reliability Standard PRC-026-1 (Relay Performance During Stable Power Swings), submitted by the North American Electric Reliability Corporation. Reliability Standard PRC-026-1 is designed to ensure that applicable entities use protective relay systems that can differentiate between faults and stable power swings.

EFFECTIVE DATE: This rule will become effective **[INSERT DATE 60 days after publication in the FEDERAL REGISTER]**.

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SUPPLEMENTARY INFORMATION:

154 FERC ¶ 61,192  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;  
Cheryl A. LaFleur, Tony Clark,  
and Colette D. Honorable.

Relay Performance During Stable Power Swings  
Reliability Standard

Docket No. RM15-8-000

ORDER NO. 823

FINAL RULE

(Issued March 17, 2016)

1. Pursuant to section 215 of the Federal Power Act (FPA), the Commission approves Reliability Standard PRC-026-1 (Relay Performance During Stable Power Swings).<sup>1</sup> The North American Electric Reliability Corporation (NERC), the Commission-certified Electric Reliability Organization (ERO), developed and submitted Reliability Standard PRC-026-1 for Commission approval. Reliability Standard PRC-026-1 applies to planning coordinators and to generator owners and transmission owners that apply certain load-responsive protective relays in specific, identified circumstances. Reliability Standard PRC-026-1 is designed to ensure the use of protective relay systems that can differentiate between faults and stable power swings.

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<sup>1</sup> 16 U.S.C. 824o.

2. The Commission determines that Reliability Standard PRC-026-1 satisfies the directive in Order No. 733 concerning undesirable relay operation due to power swings.<sup>2</sup>

The Commission concludes that Reliability Standard PRC-026-1 provides an equally effective and efficient alternative to the Order No. 733 directive requiring the use of protective relay systems that can differentiate between faults and stable power swings and, when necessary, retirement of protective relay systems that cannot meet this requirement.<sup>3</sup>

3. The Commission approves NERC's assigned violation risk factors, violation severity levels and implementation plan.

## **I. Background**

### **A. Mandatory Reliability Standards and Order No. 733 Directives**

4. Section 215 of the FPA requires a Commission-certified ERO to develop mandatory and enforceable Reliability Standards, subject to Commission review and

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<sup>2</sup> *Transmission Relay Loadability Reliability Standard*, Order No. 733, 130 FERC ¶ 61,221, at P 153 (2010), *order on reh'g and clarification*, Order No. 733-A, 134 FERC ¶ 61,127, *order on reh'g and clarification*, Order No. 733-B, 136 FERC ¶ 61,185 (2011).

<sup>3</sup> *Id.* P 150.

approval.<sup>4</sup> Pursuant to section 215 of the FPA, the Commission established a process to select and certify an ERO,<sup>5</sup> and subsequently certified NERC.<sup>6</sup>

5. On March 18, 2010, the Commission approved Reliability Standard PRC-023-1 (Transmission Relay Loadability) in Order No. 733. The Commission also directed NERC to develop a new Reliability Standard that required the use of protective relay systems that can differentiate between faults and stable power swings and, when necessary, the retirement of protective relay systems that cannot meet this requirement.<sup>7</sup> In Order No. 733, the Commission cited the findings of both NERC and the U.S.-Canada Power System Outage Task Force on the causes of the 2003 Northeast Blackout, explaining that the cascade during this event was accelerated by zone 2 and zone 3 relays that tripped facilities out of service because these devices could not distinguish between a dynamic, but stable, power swing and an actual fault.<sup>8</sup> While the Commission recognized that addressing stable power swings is a complex issue, Order No. 733

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<sup>4</sup> 16 U.S.C. 824(d) and (e).

<sup>5</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>6</sup> *North American Electric Reliability Corp.*, 116 FERC ¶ 61,062, *order on reh'g and compliance*, 117 FERC ¶ 61,126 (2006), *aff'd sub nom. Alcoa, Inc. v. FERC*, 564 F.3d 1342 (D.C. Cir. 2009).

<sup>7</sup> Order No. 733, 130 FERC ¶ 61,221 at P 150.

<sup>8</sup> *Id.* PP 3-4, 130 (citing U.S.-Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations, at 80 (2004); and August 14, 2003 Blackout: NERC Actions to Prevent and Mitigate the Impacts of Future Cascading Blackouts, at 13 (2004)).

observed that there was no Reliability Standard to address relays tripping for stable power swings despite their contribution to the 2003 Northeast Blackout. Accordingly, the Commission directed NERC to develop a Reliability Standard to address undesirable relay operation due to stable power swings.<sup>9</sup>

6. On February 17, 2011, the Commission denied rehearing in Order No. 733-A, stating that “[w]e continue to believe that not addressing stable power swings constitutes a gap in the current Reliability Standards and must be addressed.”<sup>10</sup> Accordingly, the Commission affirmed the directive in Order No. 733 that NERC develop a Reliability Standard addressing stable power swings.<sup>11</sup> The Commission clarified that it did not require a Reliability Standard containing an absolute obligation to prevent protection relays from operating unnecessarily during stable power swings or an across-the-board elimination of all zone 3 relays; the Commission only required the development of a Reliability Standard that addresses protection systems that are vulnerable to stable power swings (resulting from Category B and Category C contingencies from the NERC Planning Standards in place at that time) that result in inappropriate tripping.<sup>12</sup> In Order No. 733-B, the Commission denied further clarification on this issue.

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<sup>9</sup> *Id.* P 153.

<sup>10</sup> Order No. 733-A, 134 FERC ¶ 61,127 at P 104.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.* P 107.

**B. NERC Petition and Reliability Standard PRC-026-1**

7. On December 31, 2014, NERC submitted a petition seeking approval of Reliability Standard PRC-026-1, as well as the associated violation risk factors, violation severity levels and implementation plan.<sup>13</sup> NERC avers that Reliability Standard PRC-026-1 satisfies the Order No. 733 directive to develop a new Reliability Standard that requires the use of protective relay systems that can differentiate between faults and stable power swings. According to NERC, Reliability Standard PRC-026-1 sets forth requirements that prevent the unnecessary tripping of bulk electric system elements in response to stable power swings.<sup>14</sup> NERC further explains that the identification of bulk electric system elements with protection systems at-risk of operating as a result of a stable or unstable power swing and the subsequent review by the applicable generator owner or transmission owner “provides assurance that relays will continue to be secure for stable power swings if any changes in system impedance occur.”<sup>15</sup>
8. According to NERC, Reliability Standard PRC-026-1 is “directly responsive” to the Order No. 733 directive that NERC develop a Reliability Standard addressing undesirable relay operation due to stable power swings.<sup>16</sup> However, NERC explains that

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<sup>13</sup> Reliability Standard PRC-026-1 is available on the Commission’s eLibrary document retrieval system in Docket No. RM15-8-000 and on the NERC website, [www.nerc.com](http://www.nerc.com).

<sup>14</sup> *See* NERC Petition at 4.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 23 (citing Order No. 733, 130 FERC ¶ 61,221 at P 153).

the Reliability Standard PRC-026-1 “includes an alternative to the Commission’s approach to require ‘the use of protective relay systems that can differentiate between faults and stable power swings and, when necessary, phases out protective relay systems that cannot meet this requirement.’”<sup>17</sup> NERC notes that in Order No. 733-A, the Commission clarified that it had not intended “to prohibit NERC from exercising its technical expertise to develop a solution to an identified reliability concern that is equally effective and efficient as the one proposed in Order No. 733.”<sup>18</sup> In support of its alternative solution, NERC states that “it is generally preferable to emphasize dependability over security when it is not possible to ensure both for all possible system conditions.”<sup>19</sup> NERC also avers that “[p]rohibiting use of certain types of relays, such as those protective relay systems that cannot differentiate between faults and stable power swings, may have unintended negative outcomes for Bulk-Power System reliability.”<sup>20</sup>

9. Reliability Standard PRC-026-1 has four requirements and two attachments. NERC explains that Attachment A “provides clarity on which load-responsive protective relay functions are applicable” under the standard.<sup>21</sup> Specifically, Attachment A provides that Reliability Standard PRC-026-1 applies to:

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<sup>17</sup> *Id.* (quoting Order No. 733, 130 FERC ¶ 61,221 at P 162).

<sup>18</sup> *Id.* at 11 (citing Order No. 733-A, 134 FERC ¶ 61,127 at P 11).

<sup>19</sup> *Id.* at 24.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.* at 31.

any protective functions which could trip instantaneously or with a time delay of less than 15 cycles on load current (i.e., “load-responsive”) ....

According to NERC, the 15 cycle time delay “is representative of an expected power swing having a slow slip rate of 0.67 Hertz (Hz) and is the average time that a stable power swing with that slip rate would enter the relay’s characteristic, reverse direction, and then exit the characteristic before the time delay expired.”<sup>22</sup> NERC states that the proposed standard does not apply to “functions that are either immune to power swings, block power swings, or prevent non-immune protection function operation due to supervision of the function.”<sup>23</sup> Attachment B contains the criteria for the evaluation of load-responsive protective relays that are within the scope of Reliability Standard PRC-026-1.<sup>24</sup>

10. Under NERC’s proposed implementation plan for Reliability Standard PRC-026-1, Requirement R1 would become effective 12 months after Commission approval, and Requirements R2, R3 and R4 become effective 36 months after Commission approval.

**C. Notice of Proposed Rulemaking**

11. On September 17, 2015, the Commission issued a Notice of Proposed Rulemaking (NOPR) proposing to approve Reliability Standard PRC-026-1 as just, reasonable, not

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<sup>22</sup> *Id.* at 30.

<sup>23</sup> *Id.* at 31.

<sup>24</sup> *See id.* at 35-38.

unduly discriminatory or preferential and in the public interest.<sup>25</sup> The NOPR stated that Reliability Standard PRC-026-1 appears to adequately address the Commission's directive in Order No. 733 by helping to prevent the unnecessary tripping of bulk electric system elements in response to stable power swings. The NOPR also proposed to accept NERC's proposed approach as an equally effective and efficient method to achieve the reliability goal underlying the Commission's Order No. 733 directive.

12. In the NOPR, the Commission also expressed concern that NERC's exclusion of load responsive relays with a time delay of 15 cycles or greater, as proposed in Attachment A to Reliability Standard PRC-026-1, could result in a gap in reliability. The Commission explained that, pursuant to Attachment A, Reliability Standard PRC-026-1 applies to "any protective functions which could trip instantaneously or with a time delay of less than 15 cycles on load current (i.e., "load-responsive")...." The Commission further explained that, although NERC offered a technical rationale for the less than 15 cycle threshold, explaining that load-responsive relays set to trip instantaneously or with a "slight time delay" are most susceptible to power swings, NERC did not supply information on the burden of including relays with a time delay of 15 cycles or greater under Reliability Standard PRC-026-1.<sup>26</sup> The Commission stated that the lack of this information is significant in light of the fact that an entity would not be required under

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<sup>25</sup> *Relay Performance During Stable Power Swings Reliability Standard*, Notice of Proposed Rulemaking, 80 Fed. Reg. 57,549 (Sept. 24, 2015), 152 FERC ¶ 61,200 (2015).

<sup>26</sup> See NOPR, 152 FERC ¶ 61,200 at P 14 (citing NERC Petition at 29-30).

Reliability Standard PRC-026-1 to investigate an element identified by a planning coordinator as potentially susceptible to power swings or investigate an element following a known power swing trip if the relay(s) involved have a time delay of 15 cycles or greater.<sup>27</sup>

13. The NOPR requested comments on the potential burden of modifying the applicability of Reliability Standard PRC-026-1 to include relays with a time delay of 15 cycles or greater in instances where either: (1) an element has been identified by a planning coordinator as potentially susceptible to power swings; or (2) an entity becomes aware of a bulk electric system element that tripped in response to a stable or unstable power swing due to the operation of its protective relay(s), even if the element was not previously identified by the planning coordinator. The Commission stated that it may direct NERC to develop modifications to Reliability Standard PRC-026-1 depending on the response to the questions on the applicability of Reliability Standard PRC-026-1.

14. In response to the NOPR, seven entities submitted comments. A list of commenters appears in Appendix A. The comments have informed our decision making in this Final Rule.

## **II. Discussion**

15. Pursuant to section 215(d)(2) of the FPA, we approve Reliability Standard PRC-026-1 as just, reasonable, not unduly discriminatory or preferential, and in the public interest. We also approve NERC's proposed violation risk factors, violation severity

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<sup>27</sup> *Id.*

levels and implementation plan. While Reliability Standard PRC-026-1 does not prohibit the use of relays that cannot differentiate between faults and stable power swings, Reliability Standard PRC-026-1 addresses the prevention of unnecessary tripping of bulk electric system elements in response to stable power swings. Accordingly, we approve NERC's approach as an equally effective and efficient method to achieve the reliability goal underlying the Commission's directive in Order No. 733.

16. As discussed below, based on the NOPR comments, we conclude that the potential reliability gap identified in the NOPR, resulting from the exclusion of load responsive relays with a time delay of 15 cycles or greater as proposed in Attachment A to Reliability Standard PRC-026-1, is adequately addressed by the provisions of Reliability Standards TPL-001-4 and PRC-004-4.<sup>28</sup>

### **Load Responsive Relays With a Delay of 15 Cycles or Greater**

#### **Comments**

17. NERC, Luminant, NAGF, Tri-State, Idaho Power and EEI support the Commission's proposal to approve Reliability Standard PRC-026-1. In response to the NOPR's question regarding the burden of expanding the applicability of Reliability Standard PRC-026-1 to include load responsive relays with a time delay of 15 cycles or greater, NERC and other commenters offer two responses. First, commenters maintain

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<sup>28</sup> As of January 1, 2016, all requirements of Reliability Standard TPL-001-4 are subject to enforcement. Reliability Standard PRC-004-4 was approved May 29, 2015 and will be subject to enforcement July 1, 2016.

that the 15 cycle limitation in Reliability Standard PRC-026-1 does not result in a reliability gap because of how Reliability Standard PRC-026-1 interacts with other Reliability Standards to address the Commission's concern. Second, commenters assert that expanding the applicability of Reliability Standard PRC-026-1 would result in an unnecessary, significant burden or risk to reliability.

18. NERC, EEI, Tri-State and Luminant claim that no reliability gap results from the 15 cycle limitation in Reliability Standard PRC-026-1 because planning assessments required by Reliability Standard TPL-001-4 already address the Commission's concerns regarding relays with a time delay of 15 cycles or greater in instances where an element has been identified by a planning coordinator as potentially susceptible to power swings.<sup>29</sup> Specifically, NERC explains that a planning assessment conducted pursuant to Reliability Standard TPL-001-4 "will reveal Elements with load-responsive protective relays having time delays of 15 cycles or greater that trip due to power swings."<sup>30</sup> NERC further contends that, where an element that trips causes a violation of Reliability Standard TPL-001-4 performance criteria, "the Planning Coordinator is required to mitigate these conditions through a Corrective Action Plan."<sup>31</sup> EEI agrees with NERC's

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<sup>29</sup> NERC Comments at 5-6. *See also* Tri-State Comments at 4; Luminant Comments at 3.

<sup>30</sup> NERC Comments at 6.

<sup>31</sup> *Id.*

assessment and identifies Reliability Standard TPL-001-4, Requirement R4, Subpart 4.1.2 and Requirement R2, Subpart 2.7 as the corresponding requirements.<sup>32</sup>

19. In addition, NERC and industry commenters state that Reliability Standard PRC-004-4 addresses the Commission's concern regarding situations where a bulk electric system element trips in response to a stable or unstable power swing due to the operation of its protective relay(s).<sup>33</sup> Specifically, NERC explains that tripping unnecessarily "due to an actual stable power swing would be classified as a Misoperation under PRC-004-4 (*Protection System Misoperation Identification and Correction*)."<sup>34</sup> NERC explains that a "Generator Owner and Transmission Owner are required to develop a corrective action plan to address the cause(s) of the Misoperation, for example, tripping due to a load-responsive protective relay set with a time delay of 15 cycles or greater, unless reliability would not be improved."<sup>35</sup>

20. Regarding the potential burden of expanding the applicability of Reliability Standard PRC-026-1 to cover relays with a time delay of 15 cycles or greater, NERC and industry commenters state that expanding the applicability of Requirement R1, Criteria 4 (element has been identified by a planning coordinator) would increase the burden on

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<sup>32</sup> EEI Comments at 7.

<sup>33</sup> NERC Comments at 9-10. *See also* EEI Comments at 8; Tri-State Comments at 5.

<sup>34</sup> NERC Comments at 9.

<sup>35</sup> *Id.*

transmission owners and generator owners.<sup>36</sup> NERC states that there would be no increase in burden for the planning coordinator because the planning coordinator is required by Reliability Standard TPL-001-4, Requirement R4 “to perform contingency analyses based on computer simulation models for the Stability portion of the annual Planning Assessment.”<sup>37</sup> As noted above, NERC explains that where an element that trips during the annual planning assessment causes a violation of Reliability Standard TPL-001-4 performance criteria, “the Planning Coordinator is required to mitigate these conditions through a Corrective Action Plan.”<sup>38</sup>

21. NERC, however, states that expanding the applicability of Reliability Standard PRC-026-1 to cover relays with a time delay of 15 cycles or greater would “place additional burden on the Generator Owner and Transmission Owner for any Elements that are identified using Requirement R1, Criteria 4.”<sup>39</sup> NERC explains that the additional burden “would be determined by the increase in the quantity of load-responsive protective relays applied to that Element beyond what is proposed in PRC-026-1 (i.e. load-responsive protective relays with time delays of 15 cycles or greater).” NERC continues that the “increase in burden could be on the order of two to three times

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<sup>36</sup> *See id.* at 7, 9. *See also* EEI Comments at 6; Luminant Comments at 4; Idaho Power Comments at 2.

<sup>37</sup> NERC Comments at 5.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.* at 6.

in magnitude to address zone 2 (not communication-aided) and application of reverse zone and/or forward zone 4 remote back-up time delayed elements.”<sup>40</sup>

22. EEI contends that the additional burden would “vary greatly by entity size and asset configuration, however, the work associated with this effort would not be inconsequential and would consume significant dollars for large entities while tying up critical and often scarce engineering resources across the industry.”<sup>41</sup> EEI explains that even though the Commission proposes to limit the analysis to the two scenarios identified in the NOPR, the proposal would increase the number of relay elements evaluated by 100 to 200 percent at impacted transmission lines, generators and transformer terminals.<sup>42</sup>

23. ITC, while not taking a position on the merits of the particular requirements of Reliability Standard PRC-026-1, argues “that studies and information now available concerning relay performance during stable power swings controvert the Commission’s at-the-time reasonable determination in Order No. 733 that a Standard to address relay performance during stable power swings was warranted.”<sup>43</sup> In particular, ITC “urge[s] the Commission to consider the [NERC System Protection and Control Subcommittee] Report findings in issuing its final rule in this proceeding.”<sup>44</sup> ITC asserts that the SPSC

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<sup>40</sup> *Id.* at 7.

<sup>41</sup> EEI Comments at 6.

<sup>42</sup> *Id.*

<sup>43</sup> ITC Comments at 3.

<sup>44</sup> *Id.* (referencing NERC System Protection and Control Subcommittee, “Protection System Response to Power Swings” (2013) (SPSC Report)).

Report undercuts the rationale for promulgating Reliability Standard PRC-026-1 and argues that “the Commission should reconsider the necessity of PRC-026-1, particularly in light of the burden NERC has determined the new Standard would impose.”<sup>45</sup>

### **Commission Determination**

24. We find that Reliability Standard PRC-026-1 addresses the Commission’s directive in Order No. 733 by providing measures to mitigate the unnecessary tripping of bulk electric system elements in response to stable power swings. While it does not prohibit the use of relays that cannot differentiate between faults and stable power swings, we conclude that Reliability Standard PRC-026-1’s approach is an equally effective and efficient method to achieve the reliability goal underlying the Commission’s directive in Order No. 733.

25. While ITC asks that the Commission reconsider the necessity of PRC-026-1 in light of the SPSC Report, the Commission continues to believe in the necessity of a Reliability Standard that addresses the performance of relays during stable power swings. In response to ITC’s comments, the recommendations from the 2013 SPSC Report were used in the development of Reliability Standard PRC-026-1. As noted by NERC, Reliability Standard PRC-026-1 “is based on and is consistent with the recommendations

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<sup>45</sup> *Id.* at 4.

found in the [SPSC] Report.”<sup>46</sup> Accordingly, we conclude that Reliability Standard PRC-026-1 reflects the recommendations outlined in the SPSC Report.

26. Based on the NOPR comments, we are persuaded that the potential reliability gap identified in the NOPR, resulting from the exclusion of load responsive relays with a time delay of 15 cycles or greater as proposed in Attachment A to Reliability Standard PRC-026-1, is adequately addressed by requirements of Reliability Standards TPL-001-4 (Transmission System Planning Performance Standards) and PRC-004-4 (Protection System Misoperation Identification and Correction). We agree with commenters that these Reliability Standards adequately address the risk posed by load responsive relays with a time delay of 15 cycles or greater in the two cases identified in the NOPR. Accordingly, we do not direct any modifications to Reliability Standard PRC-026-1 at this time.

27. First, where an element has been identified by a planning coordinator as potentially susceptible to power swings, Reliability Standard TPL-001-4 addresses the NOPR’s concern by requiring applicable entities to both (1) identify elements with load-responsive protective relays having time delays of 15 cycles or greater that trip due to power swings and (2) mitigate through a corrective action plan where Reliability Standard TPL-001-4 performance criteria are not met. Specifically, Reliability Standard TPL-001-4 sets forth the parameters for certain studies associated with the annual

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<sup>46</sup> NERC Petition at 15-16.

planning assessment that are intended to identify, among other things, situations where a transmission system element trips due to an impedance swing resulting from a generator pulling out of synchronization.<sup>47</sup> An element that trips due to the criteria in Requirement R4, Subpart 4.1.2 fails to meet the performance requirements in Table 1 of Reliability Standard TPL-001-4. When an element fails to meet the performance requirements in Table 1, the planning coordinator is required to develop a “Corrective Action Plan(s) addressing how the performance requirements will be met.”<sup>48</sup> Therefore, Reliability Standard TPL-001-4 addresses the concerns raised in the NOPR regarding the exclusion of load responsive relays with a time delay of 15 cycles or greater from Requirement R1 of Reliability Standard PRC-026-1.

28. Second, where an entity becomes aware of a bulk electric system element that tripped in response to a stable or unstable power swing due to the operation of its protective relay(s), we agree with commenters that the tripping would be classified as a misoperation under Reliability Standard PRC-004-4.<sup>49</sup> Therefore, the generator owner or transmission owner would be required to develop a corrective action plan to address the cause(s) of the misoperation, which in this case would be tripping due to a load-responsive protective relay set with a time delay of 15 cycles or greater, unless the transmission owner or generation owner “explains in a declaration why corrective action

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<sup>47</sup> See Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements), Requirement R4, Subpart 4.1.2.

<sup>48</sup> *Id.*, Requirement R2, Subpart 2.7.

<sup>49</sup> See, e.g., NERC Comments at 9-10, EEI Comments at 8.

plans are beyond the entity's control or would not improve BES reliability.”<sup>50</sup>

Specifically, Reliability Standard PRC-004-4 requires entities to investigate and mitigate, through a corrective action plan, any misoperation.<sup>51</sup> A misoperation under Reliability Standard PRC-004-4 includes, in pertinent part, unnecessary trips for non-fault conditions resulting from power swings.<sup>52</sup> Therefore, Reliability Standard PRC-004-4 addresses the concerns raised in the NOPR regarding the exclusion of load responsive relays with a time delay of 15 cycles or greater from Requirement R2, Part 2.2 of Reliability Standard PRC-026-1.

29. Finally, concerns with the potential burden of expanding the applicability of Reliability Standard PRC-026-1 to cover relays with a time delay of 15 cycles or greater in order to address the potential reliability gap identified in the NOPR are moot given our determination above that the potential reliability gap identified in the NOPR is adequately addressed by existing Reliability Standard requirements.

### **III. Information Collection Statement**

30. The FERC-725G<sup>53</sup> information collection requirements contained in this Final Rule are subject to review by the Office of Management and Budget (OMB) regulations

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<sup>50</sup> Reliability Standard PRC-004-4 (Protection System Misoperation and Correction), Requirement R5.

<sup>51</sup> *See id.*

<sup>52</sup> *Id.*, Application Guidelines at 22.

<sup>53</sup> The requirements in the RM15-8-000 NOPR were submitted to OMB within FERC-725G3 (OMB Control Number 1902-0285). FERC-725G3 is a temporary collection that enabled timely submission to OMB. The requirements are now being

(continued...)

under section 3507(d) of the Paperwork Reduction Act of 1995 (PRA).<sup>54</sup> OMB's regulations require approval of certain informational collection requirements imposed by agency rules.<sup>55</sup> Upon approval of a collection(s) of information, OMB will assign an OMB control number and an expiration date. Respondents subject to the filing requirements of a rule will not be penalized for failing to respond to these collections of information unless the collections of information display a valid OMB control number.

31. The Commission solicited comments on the need for this information, whether the information will have practical utility, the accuracy of the burden estimates, ways to enhance the quality, utility, and clarity of the information to be collected or retained, and any suggested methods for minimizing respondents' burden, including the use of automated information techniques. Specifically, the Commission asked that any revised burden or cost estimates submitted by commenters be supported by sufficient detail to understand how the estimates are generated. The Commission did not receive any comments on the estimates in the NOPR.

Public Reporting Burden: The Commission approves Reliability Standard PRC-026-1. Reliability Standard PRC-026-1 will impose new requirements for the notification of particular bulk electric system elements from planning coordinator to generator owners and transmissions owners based on given criteria. Generator owners and transmissions

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submitted to the information collection intended for these requirements, specifically FERC-725G (OMB Control No. 1902-0252).

<sup>54</sup> 44 U.S.C. 3507(d).

<sup>55</sup> 5 CFR § 1320.11.

owner will evaluate those bulk electric system elements and load-responsive protective relay(s) according to Attachment B criteria and, if a load-responsive protective relay does not meet the Attachment B criteria, the generator owner/transmission owner must develop a corrective action plan. Our estimate below regarding the number of respondents is based on the NERC Compliance Registry as of June 26, 2015. According to the NERC Compliance Registry, NERC has registered 318 transmission owners, 884 generator owners, and 68 planning coordinators. However, under NERC's compliance registration program, entities may be registered for multiple functions, so these numbers incorporate some double counting. The total number of unique entities that may be identified as a notification provider (e.g. applicable entity) in accordance with proposed Reliability Standard PRC-026-1 will be approximately 1,074 entities registered in the United States as a transmission owner and/or generator owner. The total number of unique entities that may be identified as evidence retention entities (e.g. applicable entity) in accordance with proposed Reliability Standard PRC-026-1 will be approximately 1,092 entities registered in the United States as a transmission owner, generator owner and/or planning coordinator. The Commission estimates the annual reporting burden and cost as follows:

<b>RM15-8-000 (Mandatory Reliability Standards: Reliability Standard PRC-026-1)</b>						
	<b>Number of Respondents (1)</b>	<b>Annual Number of Responses per Respondent (2)</b>	<b>Total Number of Responses (1)*(2)=(3)</b>	<b>Average Burden &amp; Cost Per Response (4)</b>	<b>Total Annual Burden Hours &amp; Total Annual Cost (3)*(4)=(5)</b>	<b>Cost per Respondent (\$) (5)÷(1)</b>
Notifications to GO/TO per Requirement R1	1,074	1	1,074	8 \$485.28 <sup>56</sup>	8,592 \$521,191	\$485.28
Evidence Retention GO/TO/PC	1,092	1	1,092	12 \$450.00 <sup>57</sup>	13,104 \$491,400	\$450.00
<b>TOTAL</b>			<b>2,166</b>		<b>21,696 \$1,012,591</b>	

Title: FERC-725G, Mandatory Reliability Standards: Reliability Standard PRC-026-1.

Action: Collection of Information.

OMB Control No: 1902-0252.

Respondents: Business or other for-profit and not-for-profit institutions.

Frequency of Responses: One time and on-going.

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<sup>56</sup> The estimates for cost per response are derived using the following formula:

Average Burden Hours per Response \* \$60.66 per Hour = Average Cost per Response. The hourly average of \$60.66 assumes equal time is spent by the manager, electrical engineer, and information and record clerk. The average hourly cost (salary plus benefits) is: \$37.50 for information and record clerks (occupation code 43-4199), \$78.04 for a manager (occupation code 11-0000), and \$66.45 for an electrical engineer (occupation code 17-2071). (The figures are taken from the Bureau of Labor Statistics, May 2014 figures at [http://www.bls.gov/oes/current/naics2\\_22.htm](http://www.bls.gov/oes/current/naics2_22.htm)).

<sup>57</sup> The average hourly cost (salary plus benefits) is \$37.50. The BLS wage category code is 34-4199. This figure is also taken from the Bureau of Labor Statistics, May 2014 figures at [http://www.bls.gov/oes/current/naics2\\_22.htm](http://www.bls.gov/oes/current/naics2_22.htm).

Necessity of the Information: Reliability Standard PRC-026-1 will implement the Congressional mandate of the Energy Policy Act of 2005 to develop mandatory and enforceable Reliability Standards to better ensure the reliability of the nation's Bulk-Power System. Specifically, the Reliability Standard will address undesirable relay operation due to power swings.

32. Internal review: The Commission has reviewed the requirements pertaining to the Reliability Standard PRC-026-1 and made a determination that the requirements of this standard are necessary to implement section 215 of the FPA. These requirements conform to the Commission's plan for efficient information collection, communication and management within the energy industry. The Commission has assured itself, by means of its internal review, that there is specific, objective support for the burden estimates associated with the information requirements.

33. Interested persons may obtain information on the reporting requirements by contacting the Federal Energy Regulatory Commission, Office of the Executive Director, 888 First Street, NE, Washington, DC 20426 [Attention: Ellen Brown, e-mail: DataClearance@ferc.gov, phone: (202) 502-8663, fax: (202) 273-0873].

34. Comments concerning the information collections approved in this Final Rule and the associated burden estimates, should be sent to the Commission in this docket and may also be sent to the Office of Management and Budget, Office of Information and Regulatory Affairs [Attention: Desk Officer for the Federal Energy Regulatory Commission, phone: (202) 395-0710, fax: (202) 395-7285]. For security reasons, comments should be sent by e-mail to OMB at the following e-mail address:

oira\_submission@omb.eop.gov. Please reference the docket number of this Final Rule (Docket No. RM15-8-000) in your submission.

#### **IV. Regulatory Flexibility Act Analysis**

35. The Regulatory Flexibility Act of 1980 (RFA)<sup>58</sup> generally requires a description and analysis of this Final Rule that will have significant economic impact on a substantial number of small entities. Reliability Standard PRC-026-1 sets forth requirements that prevent the unnecessary tripping of bulk electric system elements in response to stable power swings. As shown in the information collection section, an estimated 1,092 entities are expected to evaluate bulk electric system elements and load-responsive protective relay(s) according to Attachment B criteria of PRC-026-1. Comparison of the applicable entities with the Commission's small business data indicates that approximately 661 are small entities<sup>59</sup> or 60.53 percent of the respondents affected by Reliability Standard PRC-026-1.

36. As discussed above, Reliability Standard PRC-026-1 will serve to enhance reliability by imposing mandatory requirements governing generator relay loadability, thereby reducing the likelihood of premature or unnecessary tripping of generators during

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<sup>58</sup> 5 U.S.C. 601-12.

<sup>59</sup> The Small Business Administration sets the threshold for what constitutes a small business. Public utilities may fall under one of several different categories, each with a size threshold based on the company's number of employees, including affiliates, the parent company, and subsidiaries. For the analysis in this NOPR, we apply a 500 employee threshold for each affected entity. Each entity is classified as Electric Bulk Power Transmission and Control (NAICS code 221121).

system disturbances. The Commission estimates that each of the small entities to whom the Reliability Standard PRC-026-1 applies will incur paperwork and record retention costs of \$935.28 per entity (annual ongoing).

37. The Commission does not consider the estimated costs per small entity to have a significant economic impact on a substantial number of small entities. Accordingly, the Commission certifies that Reliability Standard PRC-026-1 will not have a significant economic impact on a substantial number of small entities. Accordingly, no regulatory flexibility analysis is required.

#### **V. Environmental Analysis**

38. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect on the human environment.<sup>60</sup> The Commission has categorically excluded certain actions from this requirement as not having a significant effect on the human environment. Included in the exclusion are rules that are clarifying, corrective, or procedural or that do not substantially change the effect of the regulations being amended.<sup>61</sup> The actions herein fall within this categorical exclusion in the Commission's regulations.

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<sup>60</sup> *Regulations Implementing the National Environmental Policy Act of 1969*, Order No. 486, FERC Stats. & Regs. ¶ 30,783 (1987).

<sup>61</sup> 18 CFR 380.4(a)(2)(ii) (2015).

**VI. Effective Date and Congressional Notification**

39. This Final Rule is effective [**insert date 60 days after publication in the Federal Register**]. The Commission has determined, with the concurrence of the Administrator of the Office of Information and Regulatory Affairs of OMB, that this rule is not a “major rule” as defined in section 351 of the Small Business Regulatory Enforcement Fairness Act of 1996. This Final Rule is being submitted to the Senate, House, and Government Accountability Office.

**VII. Document Availability**

40. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through the Commission's Home Page (<http://www.ferc.gov>) and in the Commission's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington, DC 20426.

41. From the Commission's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number of this document, excluding the last three digits, in the docket number field.

42. User assistance is available for eLibrary and the Commission's website during normal business hours from the Commission's Online Support at 202-502-6652 (toll free at 1-866-208-3676) or email at [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov), or the Public Reference

Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at [public.referenceroom@ferc.gov](mailto:public.referenceroom@ferc.gov).

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

Note: the following Appendix will not appear in the *Code of Federal Regulations*.

**Appendix  
Commenters**

<b>Abbreviation</b>	<b>Commenter</b>
EEI	Edison Electric Institute
Idaho Power	Idaho Power Company
ITC	International Transmission Company
Luminant	Luminant Generation Company LLC
NERC	North American Electric Reliability Corporation
NAGF	North American Generator Forum
Tri-State	Tri-State Generation and Transmission Association, Inc.