

151 FERC ¶ 61,066  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

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

Physical Security Reliability Standard

Docket No. RM14-15-001

ORDER DENYING REHEARING

(Issued April 23, 2015)

1. In Order No. 802, the Commission approved Reliability Standard CIP-014-1 (Physical Security) submitted by the North American Electric Reliability Corporation (NERC).<sup>1</sup> Foundation for Resilient Societies (Resilient Societies) filed a request for rehearing of Order No. 802. For the reasons discussed in the body of this order, we deny rehearing.

**I. Background**

**A. March 7 Order**

2. On March 7, 2014, the Commission issued an order in which it determined that physical attacks on the Bulk-Power System could adversely impact the reliable operation of the Bulk-Power System, resulting in instability, uncontrolled separation, or cascading failures.<sup>2</sup> The March 7 Order stated that the then-current Reliability Standards did not specifically require entities to take steps to reasonably protect against physical security attacks on the Bulk-Power System. To carry out section 215 of the Federal Power Act (FPA) and to provide for the reliable operation of the Bulk-Power System, the March 7 Order directed NERC to develop and file for approval proposed Reliability Standards that address threats and vulnerabilities to the physical security of critical facilities on the Bulk-Power System.<sup>3</sup>

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<sup>1</sup> *Physical Security Reliability Standard*, Order No. 802, 79 Fed. Reg. 70,069 (Nov. 25, 2014), 149 FERC ¶ 61,140 (2014).

<sup>2</sup> *Reliability Standards for Physical Security Measures*, 146 FERC ¶ 61,166 (2014) (March 7 Order).

<sup>3</sup> 16 U.S.C. § 824o (2012).

3. The March 7 Order stated that the proposed Reliability Standards should require owners or operators of the Bulk-Power System to take at least three steps to address the risks that physical security attacks pose to the reliable operation of the Bulk-Power System. Specifically, the March 7 Order directed that the Reliability Standards should require: (1) owners or operators of the Bulk-Power System to perform a risk assessment of their systems to identify their “critical facilities”; (2) owners or operators of the identified critical facilities to evaluate the potential threats and vulnerabilities to those identified facilities; and (3) those owners or operators of critical facilities to develop and implement a security plan designed to protect against attacks to those identified critical facilities based on the assessment of the potential threats and vulnerabilities to their physical security.

**B. NERC Petition**

4. On May 23, 2014, NERC petitioned the Commission to approve Reliability Standard CIP-014-1 and its associated violation risk factors and violation severity levels, implementation plan, and effective date. NERC maintained that the proposed Reliability Standard complied with the directives in the March 7 Order.

**C. NOPR**

5. On July 17, 2014, the Commission issued a Notice of Proposed Rulemaking (NOPR) proposing to approve Reliability Standard CIP-014-1 as just, reasonable, not unduly discriminatory or preferential, and in the public interest.<sup>4</sup> The NOPR also proposed to direct NERC to develop two modifications to the Reliability Standard. First, the NOPR proposed to direct NERC to develop a modification to allow applicable governmental authorities (i.e., the Commission and any other appropriate federal or provincial authorities) to add or subtract facilities from an applicable entity’s list of critical facilities under Requirement R1. Second, the NOPR proposed to direct NERC to modify the Reliability Standard to remove the term “widespread” as it appears in the phrase “widespread instability” in Requirement R1. The NOPR also proposed to direct NERC to submit two informational filings, one addressing the protection of “High Impact” control centers and the other addressing resiliency measures, to be submitted, respectively, within six months and one year following the effective date of a final rule in this proceeding.

6. In response to the NOPR, the Commission received 33 sets of initial comments and 6 sets of reply comments.

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<sup>4</sup> *Physical Security Reliability Standard*, Notice of Proposed Rulemaking, 79 Fed. Reg. 42,734 (July 23, 2014), 148 FERC ¶ 61,040 (2014) (NOPR).

**D. Order No. 802**

7. In Order No. 802, the Commission adopted the NOPR in large part and approved Reliability Standard CIP-014-1 as just, reasonable, not unduly discriminatory or preferential, and in the public interest. The Commission adopted in part the NOPR proposal directing NERC to develop and submit modifications to the Reliability Standard concerning the use of the term “widespread” in Requirement R1. Order No. 802 determined that the term “widespread” is unclear and directed NERC, pursuant to FPA section 215(d)(5), to remove the term “widespread” from Reliability Standard CIP-014-1 or, alternatively, to propose modifications to the Reliability Standard that address the Commission’s concerns. The Commission, however, did not adopt the NOPR proposal that would have required NERC to develop and submit modifications to Reliability Standard CIP-014-1 to allow applicable governmental authorities (i.e., the Commission and any other appropriate federal or provincial authorities) to add or subtract facilities from an applicable entity’s list of critical facilities under Requirement R1. Order No. 802 determined that the Commission’s enforcement authority under FPA section 215(e), and particularly the use of targeted auditing following implementation of Reliability Standard CIP-014-1, will allow the Commission to address the concerns raised in the NOPR.

8. The Commission adopted the NOPR proposal to direct NERC to make an informational filing addressing whether Reliability Standard CIP-014-1 provides physical security for all “High Impact” control centers, as that term is defined in Reliability Standard CIP-002-5.1, necessary for the reliable operation of the Bulk-Power System. However, Order No. 802 extended the originally proposed six-month deadline for that informational filing to two years following the effective date of Reliability Standard CIP-014-1. The Commission did not adopt the NOPR proposal to direct NERC to make an informational filing addressing resiliency. Instead, Order No. 802 stated the Commission will continue to consider ways for industry to best inform the Commission of its current and future resiliency efforts, which could take the form of reports and/or technical conferences to address specific areas of concern (e.g., spare parts, fuel security, and advanced technologies).

**II. Discussion**

9. The Commission denies Resilient Societies’ rehearing request, for the reasons discussed below. However, as the Commission has stated in previous orders regarding the physical security of the Bulk-Power System, the Commission will remain vigilant when determining whether additional actions by industry are necessary to protect the physical security of the Bulk-Power System.

**A. Simultaneous Attacks on the Bulk-Power System****Order No. 802**

10. Reliability Standard CIP-014-1 does not require responsible entities to assess the criticality of Bulk-Power System facilities based on a simultaneous attack on multiple facilities. Instead, Reliability Standard CIP-014-1, Requirement R1 requires responsible entities to conduct a “transmission analysis or transmission analyses designed to identify the Transmission station(s) and Transmission substation(s) that if rendered inoperable or damaged could result in widespread instability, uncontrolled separation, or Cascading within an Interconnection.” Requirement R4 requires that applicable entities “shall conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each of their respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2.”

**Request**

11. Resilient Societies contends that the Commission erred in not “requir[ing] modeled contingency planning for scenarios of physical attack.”<sup>5</sup> Resilient Societies maintains that such planning is necessary because “[the purpose in] a physical attack by an intelligent, organized adversary ... would be to cause multiple failures simultaneously and thereby overwhelm N-1 resilience planning.”<sup>6</sup>

**Commission Determination**

12. The March 7 Order did not require NERC to address the simultaneous loss of multiple critical facilities in the physical security Reliability Standards, as Resilient Societies’ request suggests. Instead, the March 7 Order determined that the then-current Reliability Standards did not require entities to take steps to reasonably protect against physical security attacks on the Bulk-Power System.<sup>7</sup> To remedy this situation, the March 7 Order directed NERC to develop Reliability Standards that require responsible entities to identify and protect each of their critical facilities from an individual attack. In this regard, the March 7 Order defined a critical facility as “one that, if rendered inoperable or damaged, could have a critical impact on the operation of the interconnection through instability, uncontrolled separation or cascading failures on the

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<sup>5</sup> Resilient Societies Request at 8.

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

<sup>7</sup> March 7 Order, 146 FERC ¶ 61,166 at P 5.

Bulk-Power System.”<sup>8</sup> This definition addresses how a single facility, if it is rendered inoperable or damaged, could affect its Interconnection, rather than situations in which multiple facilities simultaneously are rendered inoperable or damaged. Moreover, the March 7 Order “anticipate[d] that the number of facilities identified as critical will be relatively small compared to the number of facilities that comprise the Bulk-Power System ... [and that the Commission’s] preliminary view is that most of these would not be ‘critical’ as the term is used in [the March 7 Order].”<sup>9</sup> Accordingly, NERC was not required to address in the physical security Reliability Standards scenarios of simultaneous physical attacks involving multiple critical facilities.<sup>10</sup>

13. As the Commission determined in Order No. 802, Reliability Standard CIP-014-1 satisfies the directives in the March 7 Order by requiring responsible entities to identify each of their critical facilities, assess their vulnerabilities, and develop security plans to address any assessed vulnerabilities.<sup>11</sup>

14. Accordingly, we deny Resilient Societies’ rehearing request regarding modeled contingency planning for simultaneous attacks on the Bulk-Power System. By protecting individual critical facilities, responsible entities will necessarily protect critical facilities against simultaneous attacks. If Resilient Societies is seeking to expand the scope of covered facilities to include those not individually critical, we are not prepared to do so at this early stage of industry experience with the new requirements. Our priority at this time is to have responsible entities protect the most critical facilities. While we are not persuaded to adopt the approach advocated by Resilient Societies, we remain open to a different approach in the future as industry continues to gain experience in this area and as risks may evolve.

**B. Applicability of Reliability Standard CIP-014-1**

**Order No. 802**

15. Reliability Standard CIP-014-1 applies to transmission owners and transmission operators that satisfy certain applicability criteria. In Order No. 802, the Commission approved the applicability criteria in Reliability Standard CIP-014-1 without the inclusion of generator owners and generator operators. In reaching that determination, Order

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<sup>8</sup> *Id.* P 6.

<sup>9</sup> *Id.* P 12.

<sup>10</sup> No entity, including Resilient Societies, sought rehearing of the March 7 Order.

<sup>11</sup> Order No. 802, 149 FERC ¶ 61,140 at P 18.

No. 802 credited NERC's position that a generation facility "does not have the same critical functionality as certain Transmission stations and Transmission substations due to the limited size of generating plants, the availability of other generation capacity connected to the grid, and planned resilience of the transmission system to react to the loss of a generation facility."<sup>12</sup>

### **Request**

16. Resilient Societies contends that the Commission erred in approving the exclusion of generator operators and reliability coordinators from the scope of Reliability Standard CIP-014-1. With respect to generator operators, Resilient Societies states that there are approximately 50 non-nuclear generation facilities in the United States with nameplate capacity of 2 GW "that modeling might show to be capable of causing cascading outage if successfully attacked."<sup>13</sup> With respect to reliability coordinators, Resilient Societies states that "[i]t is essential that Reliability Coordinators are designated as responsible entities, both to protect their own facilities and to enable their authority to review the adequacy of physical security capabilities for operating utilities in their coordinating areas."<sup>14</sup>

### **Commission Determination**

17. We deny Resilient Societies' rehearing request regarding the exclusion of generator operators from the scope of Reliability Standard CIP-014-1. In Order No. 802, the Commission agreed with NERC that a generation facility "does not have the same critical functionality as certain Transmission stations and Transmission substations due to the limited size of generating plants, the availability of other generation capacity connected to the grid, and planned resilience of the transmission system to react to the loss of a generation facility."<sup>15</sup>

18. Resilient Societies states, as it did in its NOPR comments, that there are roughly 50 non-nuclear generation facilities with nameplate capacity of 2 GW. Resilient Societies does not provide any new evidence from which to conclude that the loss of any one of those facilities would have a critical impact on the operation of the interconnection through instability, uncontrolled separation or cascading failures on the Bulk-Power

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<sup>12</sup> *Id.* P 99.

<sup>13</sup> Resilient Societies Request at 5.

<sup>14</sup> *Id.* at 7.

<sup>15</sup> Order No. 802, 149 FERC ¶ 61,140 at P 99.

System. Resilient Societies speculates that “modeling might show [these generation facilities] to be capable of causing cascading outages if successfully attacked.” In addition, Resilient Societies failed to address NERC’s point that the availability of other generation capacity connected to the Bulk-Power System and the planned resilience of the transmission system to react to the loss of a generation facility would likely mitigate the loss of a large generation facility. Further, the Commission-approved NERC Reliability Standards require transmission planning to allow for the continued operation of the Bulk-Power System when faced with large contingency events.<sup>16</sup>

19. We also deny Resilient Societies’ rehearing request regarding the exclusion of reliability coordinators that are not also transmission operators or transmission owners from the scope of Reliability Standard CIP-014-1. As discussed more fully below, Order No. 802 addressed the issue of whether all “High Impact” control centers (e.g., control centers operated by reliability coordinators), and thus all reliability coordinators, should be brought within the scope of Reliability Standard CIP-014-1 by directing NERC to make an informational filing containing an assessment of that issue.

20. In sum, we deny Resilient Societies’ rehearing request regarding the exclusion of generator operators and reliability coordinators from the applicability section of Reliability Standard CIP-014-1.

### **C. “High Impact” Control Centers**

#### **Order No. 802**

21. In Order No. 802, the Commission directed NERC to assess whether all “High Impact” control centers, as that term is defined in Reliability Standard CIP-002-5.1, should be protected under Reliability Standard CIP-014-1. The Commission directed NERC to make an informational filing containing such an assessment within two years following the effective date of Reliability Standard CIP-014-1.

#### **Request**

22. Resilient Societies contends that the Commission erred by “arbitrarily exempt[ing] NERC from standard-setting for high impact control centers for a period of two years while NERC prepares an ‘informational filing.’”<sup>17</sup> Resilient Societies maintains that the Commission did not justify the “arbitrary time period of two years and as a result the public might reasonably conclude that protection of ‘high impact’ control centers is not

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<sup>16</sup> See generally Reliability Standard TPL-001-4.

<sup>17</sup> Resilient Societies Request at 6.

important to the reliability and security of the Bulk Power System.”<sup>18</sup> Resilient Societies further contends that the Commission did not address Resilient Societies’ NOPR reply comments regarding the vulnerability of reliability coordinator control centers.

### **Commission Determination**

23. We deny Resilient Societies’ rehearing request regarding “High Impact” control centers. As discussed below, the Commission has already directed NERC to assess the need to include all “High Impact” control centers, including control centers operated by reliability coordinators and balancing authorities, in Reliability Standard CIP-014-1.

24. In the NOPR, the Commission recognized that Reliability Standard CIP-014-1 does not encompass “transmission owner back-up control centers or any control centers owned or operated by other functional entity types, such as reliability coordinators, balancing authorities, and generator operators.”<sup>19</sup> The NOPR then explained that:

Primary and back-up control centers of functional entities other than transmission owners and operators identified as “High Impact” may warrant assessment and physical security controls under this Reliability Standard because a successful attack could prevent or impair situational awareness, especially from a wide-area perspective, or could allow attackers to distribute misleading and potentially harmful data and operating instructions that could result in instability, uncontrolled separation, or cascading failures.<sup>20</sup>

25. As a result, the NOPR proposed to direct NERC to make an informational filing assessing whether all “High Impact” control centers should be protected under Reliability Standard CIP-014-1 within six months of the effective date of the Reliability Standard.

26. In Order No. 802, the Commission adopted the NOPR proposal but extended the deadline for submission of the informational filing until two years following the effective date of Reliability Standard CIP-014-1. The Commission explained that the extension of time was warranted because “NERC and applicable entities will be in a better position to provide this assessment after implementation of Reliability Standard CIP-014-1 and

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<sup>18</sup> *Id.*

<sup>19</sup> NOPR, 148 FERC ¶ 61,040 at P 36.

<sup>20</sup> *Id.* P 37.



Reliability Standard CIP-006-5, the latter of which provides some physical protection to “High Impact” control centers.”<sup>21</sup>

27. We therefore reject the assertion that Order No. 802 failed to address Resilient Societies’ concerns regarding control centers or that the two-year period afforded NERC to submit the informational filing was arbitrary. Since the NOPR, the Commission has explained its concerns regarding the fact that Reliability Standard CIP-014-1 does not encompass all “High Impact” control centers. Rather than impose an arbitrary deadline, Order No. 802 explained that the two-year deadline to submit the informational filing would allow NERC to incorporate in NERC’s assessment the impact of the implementation of Reliability Standard CIP-006-5, which will, independent of Reliability Standard CIP-014-1, extend some physical protection to “High Impact” control centers that are not protected under Reliability Standard CIP-014-1.

28. Thus, while identifying the applicability to certain primary and back-up control centers as a concern, the Commission in Order No. 802 stopped short of directing NERC to develop a modification to Reliability Standard CIP-014-1. Instead, Order No. 802 stated that “[s]hould the Commission find through [its compliance and enforcement efforts], or through the post-implementation reports and informational filing that NERC will submit, that Requirement R1 as currently written is not capturing all critical facilities, then the Commission will act upon that information.”<sup>22</sup> Nothing in Resilient Societies’ rehearing request persuades us to forego the directed informational filing and proceed immediately to a directive regarding applicability of CIP-014-1 to “High Impact” control centers. Accordingly, we deny Resilient Societies’ rehearing request regarding “High Impact” control centers.

#### **D. Specific Security Measures**

##### **Order No. 802**

29. In Order No. 802, the Commission stated that the March 7 Order required owners or operators of critical facilities to develop and implement a security plan designed to protect against attacks to those identified critical facilities based on the assessment of the potential threats and vulnerabilities to their physical security.<sup>23</sup> Reliability Standard CIP-014-1 does not identify - or require responsible entities to adopt - specific security

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<sup>21</sup> Order No. 802, 149 FERC ¶ 61,140 at P 58. Reliability Standard CIP-006-5 is scheduled to become effective on April 1, 2016.

<sup>22</sup> Order No. 802, 149 FERC ¶ 61,140 at P 59.

<sup>23</sup> *Id.* P 4.

measures in the physical security plan(s) developed in compliance with Requirement R5. Instead, Reliability Standard CIP-014-1, Requirement R6 requires responsible entities to submit their security plans to qualified third-party reviewers.

### **Request**

30. Resilient Societies contends that the Commission erred in approving Reliability Standard CIP-014-1 because the Reliability Standard does not contain “specific requirements or even suggested guidelines for physical security measures.”<sup>24</sup> Resilient Societies states that “[w]hile [the March 7 Order] did not require specific security measures, it could have been reasonably expected that NERC would have developed specific measures to be applied on an as-needed basis.”<sup>25</sup>

### **Commission Determination**

31. The March 7 Order, as Resilient Societies acknowledges, did not direct NERC to include specific security measures in the proposed Reliability Standards.<sup>26</sup> Instead, the March 7 Order stated that the “Reliability Standards need to require that owners or operators of identified critical facilities have a plan that results in an adequate level of protection against the potential physical threats and vulnerabilities they face at the identified critical facilities.”<sup>27</sup> As the Commission determined in Order No. 802, Reliability Standard CIP-014-1 satisfies this directive by requiring, in Requirement R5, responsible entities to develop security plans that address any vulnerabilities to critical facilities identified as part of the vulnerability assessment required in Requirement R4 and by requiring the submission of vulnerability assessments and security plans, under Requirement R6, to a qualified third-party reviewer. As such, Reliability Standard CIP-014-1 did not have to include specific security measures to satisfy the directive in the March 7 Order.<sup>28</sup>

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<sup>24</sup> Resilient Societies Request at 8.

<sup>25</sup> *Id.*

<sup>26</sup> March 7 Order, 146 FERC ¶ 61,166 at P 9 (“The Reliability Standards themselves need not dictate specific steps an entity must take to protect against attacks on the identified facilities.”).

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

<sup>28</sup> In addition, the Guidelines and Technical Basis section of Reliability Standard CIP-014-1 contain, for Requirements R4 and R5, information and references concerning the development of vulnerability assessments and security plans.

32. Accordingly, we deny Resilient Societies' rehearing request regarding specific security measures.

### **E. Costs and Benefits of Resilient Societies' Proposals**

#### **Request**

33. Resilient Societies contends that the Commission erred by not considering the "cost and benefits of protective measures, including adverse impact on human populations were an attack to occur," associated with Resilient Societies' proposed inclusion of certain generation facilities and control centers within the scope of Reliability Standard CIP-014-1.<sup>29</sup>

#### **Commission Determination**

34. The determinations in Order No. 802 regarding the requirements of Reliability Standard CIP-014-1, including their scope and applicability, were not based on issues of cost but rather whether the Reliability Standard satisfied the directives in the March 7 Order and whether the Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.<sup>30</sup> For the reasons discussed above, Resilient Societies' rehearing request does not support our revisiting the determinations in Order No. 802 that Reliability Standard CIP-014-1 satisfies the directives in the March 7 Order and that the Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.

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<sup>29</sup> Resilient Societies Request at 10.

<sup>30</sup> 16 U.S.C. § 824o(d)(1) (2012). While the Commission has previously stated that it expects NERC and industry to consider costs and benefits during the standard development process, the Commission has never stated that FPA section 215 requires a specific cost-benefit analysis. *See Reliability Standards for Geomagnetic Disturbances*, Order No. 779, 78 Fed. Reg. 30,747 (May 23, 2013), 143 FERC ¶ 61,147, at P 28 (2013). In any case, while Resilient Societies claims that its proposals are "cost-effective," it provides no cost information to support such a conclusion. Resilient Societies Request at 10.

The Commission orders:

The Commission denies Resilient Societies' rehearing request, for the reasons discussed in the body of this order.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.