

**DEPARTMENT OF ENERGY****Federal Energy Regulatory Commission****18 CFR Part 40**

[Docket No. RM08-3-000; Order No. 716]

**Mandatory Reliability Standard for Nuclear Plant Interface Coordination**

Issued October 16, 2008.

**AGENCY:** Federal Energy Regulatory Commission, DOE.**ACTION:** Final rule.

**SUMMARY:** Pursuant to section 215 of the Federal Power Act (FPA), the Commission approves the Nuclear Plant Interface Coordination Reliability Standard developed by the North American Electric Reliability Corporation (NERC). In addition, pursuant to section 215(d)(5) of the FPA, the Commission directs NERC to

develop a modification to the Reliability Standard to address a specific concern. The Reliability Standard requires a nuclear plant generator operator and its suppliers of back-up power and related transmission and/or distribution services to coordinate concerning nuclear licensing requirements for safe nuclear plant operation and shutdown and system operating limits. The Commission also approves four related definitions for addition to the NERC Glossary of Terms, and directs various changes to proposed violation risk factors, which measure the potential impact of violations of the Reliability Standard on the reliability of the Bulk-Power System.

**DATES: Effective Dates:** The final rule will become effective November 26, 2008.

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**SUPPLEMENTARY INFORMATION:**

	Para- graph Nos.
I. Background .....	2
A. Proposed Reliability Standard NUC-001-1 .....	2
B. Proposed NERC Glossary Definitions .....	9
C. Notice of Proposed Rulemaking .....	10
D. Procedural Matters .....	12
II. Discussion .....	13
A. Approval of NUC-001-1 .....	14
B. Applicability .....	20
1. Notification of Parties to Interface Agreements .....	22
2. Transmission Entities and Agreements on NPIRs .....	32
3. Dispute Resolution .....	74
C. Form of Agreements .....	83
D. Enforcement and Conflicts with Other Regulations .....	89
E. Scope of Agreements .....	95
1. Commission Questions .....	98
2. Other Scope Related Issues .....	105
F. Coordination .....	117
1. Coordination Among Transmission Entities .....	119
2. Addressing System Changes .....	128
G. Violation Risk Factors .....	132
1. General Violation Risk Factor Issues .....	137
2. Requirement-Specific Issues .....	151
H. Violation Severity Levels .....	188
III. Information Collection Statement .....	193
IV. Environmental Analysis .....	203
V. Regulatory Flexibility Act Analysis .....	204
VI. Document Availability .....	207

Appendix A: List of Comments to Notice of Proposed Rulemaking.

Before Commissioners: Joseph T. Kelliher, Chairman; Suedeen G. Kelly, Marc Spitzer, Philip D. Moeller, and Jon Wellinghoff.

1. Pursuant to section 215 of the Federal Power Act (FPA),<sup>1</sup> the Commission approves the Nuclear Plant Interface Coordination Reliability Standard (NUC-001-1) developed by the North American Electric Reliability Corporation (NERC), the Commission-

certified Electric Reliability Organization (ERO). In addition, pursuant to section 215(d)(5) of the FPA, the Commission directs NERC to develop a modification to the Reliability Standard to address a specific concern.<sup>2</sup> The Reliability Standard requires a nuclear plant generator operator and its suppliers of back-up power and transmission and/or distribution

services to coordinate concerning nuclear licensing requirements for safe nuclear plant operation and shutdown and system operating limits (SOLs).<sup>3</sup>

<sup>1</sup> 16 U.S.C. 824o (2006).

<sup>2</sup> 16 U.S.C. 824o(d)(5).

<sup>3</sup> NERC proposes to define nuclear plant generator operator as any generator operator or generator owner that is a nuclear plant licensee responsible for operation of a nuclear facility licensed to produce commercial power. See the discussion of NERC's proposed Glossary terms below. The Reliability Standard itself defines those suppliers who provide such generation, transmission and distribution services pursuant to agreements under

The Commission also approves four related definitions for addition to the NERC Glossary of Terms,<sup>4</sup> and directs various changes to proposed violation risk factors, which measure the potential impact of violations of the Reliability Standard on the reliability of the Bulk-Power System.<sup>5</sup>

## I. Background

### A. Proposed Reliability Standard NUC-001-1

2. On November 19, 2007, NERC filed its petition for Commission approval of the Nuclear Plant Interface Coordination Reliability Standard, designated NUC-001-1 (November 19, 2007 Petition).<sup>6</sup> NERC supplemented the filing on December 11, 2007 (December 11, 2007 Supplement) to propose four related NERC Glossary terms: "Nuclear Plant Generator Operator," "Nuclear Plant Off-site Power Supply (Off-site Power)," "Nuclear Plant Licensing Requirements (NPLRs)," and "Nuclear Plant Interface Requirements (NPIRs)." In the November 19, 2007 Petition, NERC stated that the proposed Reliability Standard addresses the coordination of interface requirements for two domains: (i) Bulk-Power System planning and operations and (ii) nuclear power plant licensing requirements for off-site power necessary to enable safe nuclear plant operation and shutdown.

3. Reliability Standard NUC-001-1 applies to nuclear plant generator operators and "transmission entities." To account for the variations in nuclear plant design and grid interconnection characteristics, the Reliability Standard defines transmission entities as "all entities that are responsible for providing services related to Nuclear Plant Interface Requirements (NPIRs)" and lists eleven types of functional

NUC-001-1 as "transmission entities," as discussed below.

<sup>4</sup> See, e.g., *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, RM06-16-000, 72 FR 16416, FERC Stats. & Regs. ¶ 31,242, at P 1893 (Apr. 4, 2007), *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007) (approving the NERC Glossary of Terms Used in Reliability Standards (as revised) (Glossary) originally filed April 4, 2006).

<sup>5</sup> The Commission is not proposing any new or modified text to its regulations. Rather, as set forth in 18 CFR Part 40, a proposed Reliability Standard will not become effective until approved by the Commission, and the ERO must post on its Web site each effective Reliability Standard.

<sup>6</sup> NUC-001-1 is attached in Appendix A to the March 20 Notice of Proposed Rulemaking (NOPR) in this proceeding, and is available on the Commission's eLibrary document retrieval system in Docket No. RM08-3-000 and also on NERC's Web site, <http://www.nerc.com>. See 18 CFR Part 40, *Mandatory Reliability Standard for Nuclear Plant Interface Coordination*, NOPR, Docket No. RM08-3-000, 73 FR 16,586 (March 28, 2008), FERC Stats. and Regs. ¶ 32,629 (2008).

entities that could provide services related to NPIRs.<sup>7</sup>

4. In the November 19, 2007 Petition, NERC explained that nuclear plant generator operators and transmission entities operate according to separate, established reliability and safety procedures. To provide for coordination of these separate procedures, the ERO developed NUC-001-1 to require a nuclear plant generator operator to coordinate operations and planning with its transmission entities by developing procedures that reflect nuclear plant licensing requirements and SOLs,<sup>8</sup> including interconnection reliability operating limits (IROLs), affecting nuclear plant operations.<sup>9</sup> The Reliability Standard requires nuclear plant generator operators and transmission entities to develop expectations and procedures for coordinating operations to meet the nuclear plant licensing requirements, as well as SOLs and IROLs, and to develop agreements or arrangements, which may include mutually agreed upon procedures or protocols, reflecting those expectations and procedures. These agreements or arrangements are known as interface agreements. The resulting operations and planning requirements developed in the agreements to address the nuclear plant licensing requirements, SOLs and IROLs are called nuclear plant interface requirements or NPIRs.<sup>10</sup> NERC stated that Requirements R3 through R8, which state that the interface agreement parties will address the NPIRs in planning, operations, and facility upgrade and outage coordination, provide additional specificity on these expectations.

5. In the November 19, 2007 Petition, NERC noted that nuclear plant generator operators must already fulfill nuclear licensing requirements for off-site power.<sup>11</sup> NERC stated that, while

<sup>7</sup> The list of functional entities consists of transmission operators, transmission owners, transmission planners, transmission service providers, balancing authorities, reliability coordinators, planning authorities, distribution providers, load-serving entities, generator owners and generator operators. Applicability issues are addressed in a separate section, below.

<sup>8</sup> The NERC Glossary defines system operating limit or SOL as "the value \* \* \* that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. \* \* \*"

<sup>9</sup> The NERC Glossary defines IROL as a "system operating limit that, if violated, could lead to instability, uncontrolled separation, or Cascading Outages that adversely impact the reliability of the bulk electric system."

<sup>10</sup> See NUC-001-1, Requirement R2 and the proposed NERC Glossary term, Nuclear Plant Interface Requirements (NPIR).

<sup>11</sup> The Nuclear Regulatory Commission (NRC), which regulates facilities that are associated with

various forms of agreements exist to meet the nuclear power plant general design criterion for off-site power, NUC-001-1 places a new, mandatory and enforceable obligation under section 215 of the FPA on both nuclear plant generator operators and transmission entities. NUC-001-1 requires these entities to inform one another of limits and requirements on their systems and to enter into agreements to coordinate and operate their systems to address nuclear plant licensing requirements and related system limits.

6. The nuclear plant licensing requirements addressed in the Reliability Standard include requirements for off-site power to enable safe operation and shutdown during an electric system or plant event and requirements for avoiding nuclear safety issues as a result of changes in electric system conditions during a disturbance, transient, or normal conditions. NERC cited general design criterion 17 for nuclear power plants, which requires nuclear plant generator operators to obtain off-site electric power that will provide sufficient capacity to permit safety systems to function, assure that reactor coolant design limits are not exceeded, prevent core cooling, and maintain containment integrity and other vital functions.

7. NERC stated that NUC-001-1, in combination with the nuclear license general design criteria requirements, achieves the vital public interest of assuring safe nuclear power generation. According to NERC, the Reliability Standard is beneficial to nuclear plant generator operators because it will assist them in meeting nuclear plant licensing requirements to safely produce nuclear power. It is also beneficial to Bulk-Power System users, due to the significant support that nuclear power plants provide to the Reliable Operation of the Bulk-Power System.

8. NERC requested that NUC-001-1 take effect in areas subject to the Commission's jurisdiction on the first day of the first full calendar quarter falling 15 months after Commission approval.

### B. Proposed NERC Glossary Definitions

9. In the December 11, 2007 Supplement, NERC proposed to add the following four terms to the NERC Glossary:

reactor safety or emergency response at a nuclear generation plant, has regulatory requirements for offsite power systems, as provided in the NRC regulations, 10 CFR Part 50, Appendix A—General Design Criteria for Nuclear Power Plants, criterion 17.

*Nuclear Plant Generator Operator:* Any Generator Operator or Generator Owner that is a [n]uclear [p]lant [l]icensee responsible for operation of a nuclear facility licensed to produce commercial power.

*Nuclear Plant Off-site Power Supply or Off-site Power:* The electric power supply provided from the electric system to the nuclear power plant distribution system as required per the nuclear power plant license.

*Nuclear Plant Licensing Requirements (NPLRs):* Requirements included in the design basis of the nuclear plant and statutorily mandated for the operation of the plant, including nuclear power plant licensing requirements for: (1) Off-site power supply to enable safe shutdown of the plant during an electric system or plant event; and (2) Avoiding preventable challenges to nuclear safety as a result of an electric system disturbance, transient, or condition.

*Nuclear Plant Interface Requirements (NPIRs):* The requirements, based on NPLRs and Bulk Electric System requirements, that have been mutually agreed to by the Nuclear Plant Generator Operator and the applicable Transmission Entities.

#### C. Notice of Proposed Rulemaking

10. On March 20, 2008, the Commission issued a Notice of Proposed Rulemaking (NOPR), which proposed to approve Reliability Standard NUC-001-1 as mandatory and enforceable. In the NOPR, the Commission also raised a number of concerns and asked for clarification from the ERO and comments from the public. The Commission proposed to approve the NERC definitions and proposed revisions to the violation risk factors for NUC-001-1.

11. As described more fully below, the ERO and other interested parties provided comments in response to the NOPR. These comments are summarized and addressed in the discussion portion of this Final Rule.

#### D. Procedural Matters

12. The NOPR required that comments be filed within 30 days after publication in the **Federal Register**, or April 28, 2008. On April 16, 2008, the Commission granted a motion filed by EEI and NEI extending the comment date to May 13, 2008. Approximately 23 entities filed comments, including several late-filed comments. The Commission accepts these late filed comments. Appendix A provides a list of the commenters.

## II. Discussion

13. In this Final Rule, the Commission approves Reliability Standard, NUC-001-1, effective as proposed by the ERO. In addition, pursuant to section 215(d)(5) of the FPA, the Commission directs the ERO to develop a modification to one provision, Requirement R9.3.5, to clarify the

impact of the Requirement on two important operating procedures, in response to comments received. This Final Rule largely accepts the explanations and clarifications provided in the ERO's comments and addresses the positions raised by NERC and the other commenters on the specific issues raised in the NOPR. As proposed in the NOPR, this Final Rule does not take any action on the regional difference, because it applies outside of the United States and is not applicable to any facilities within the Commission's jurisdiction.<sup>12</sup> The Final Rule directs modifications to the violation risk factors for the Reliability Standard, as discussed below. Finally, the Final Rule approves the additional Glossary terms.

#### A. Approval of NUC-001-1

14. NERC and other commenters generally support the NOPR proposal to approve Reliability Standard NUC-001-1.<sup>13</sup> EEI, Ameren, Dominion, and Ontario IESO and Hydro One state that they support approval of the Reliability Standard as improving coordination between nuclear plant generator operators and transmission entities.

15. In contrast, CenterPoint Energy asserts that NUC-001-1 is flawed and unnecessary, arguing that it deals with contractual matters that should be addressed through a tariff or standard agreement, not a Reliability Standard, to ensure that nuclear plant generator operators do not receive unreasonable competitive advantages over other competitors.<sup>14</sup> CenterPoint Energy also states that the Commission should mitigate potential market power and transparency concerns created by the Reliability Standard in regions where an independent transmission operator is not the entity that performs interconnected operations with the nuclear plant generator operators.<sup>15</sup> CenterPoint Energy is concerned that a requirement in a NPIR could result in a change in transmission operations and cause significant reliability or market disruptions. According to CenterPoint Energy, this could be mitigated by a requirement that nuclear plant generator operators retain documentation "whenever a nuclear plant operator

<sup>12</sup> NERC proposes to adopt as a regional difference for Canada a separate definition of nuclear plant licensing requirements that does not reference regulatory requirements for off-site power supply for safe plant shutdown because Canada does not have regulatory standards for off-site power comparable to those established by the NRC.

<sup>13</sup> See, e.g., Constellation, Detroit Edison, Dominion, EEI, Entergy, Exelon, Ontario IESO and Hydro One, Midwest ISO, and Ontario Power comments.

<sup>14</sup> CenterPoint Energy comments at 1.

<sup>15</sup> *Id.* at 3.

effectively alters transmission operating decisions of the independent operator due to alleged NPIR concerns."<sup>16</sup>

16. National Grid emphasizes that NUC-001-1 is intended to address technical aspects of the interface between transmission entities and nuclear plant generator operators as opposed to the commercial aspects. According to National Grid, the proposed Reliability Standard obliges all responsible entities to work together on creating NPIRs suitable to each nuclear power plant, whether the service provided to the nuclear power plant is subject to federal or state jurisdiction. According to National Grid, execution of an interface agreement and subsequent compliance with NPIRs should not change the jurisdictional status of the services provided. National Grid also requests that the Commission direct the ERO and its Regional Entities to ensure that nuclear plant generator operators look to the proper transmission entities for the provision of NPIR-related services and that they bear incremental costs of NPIR compliance.

#### Commission Determination

17. Pursuant to section 215(d) of the FPA, the Commission approves Reliability Standard NUC-001-1 as mandatory and enforceable. The Commission finds that coordination of nuclear licensing requirements and grid operating limits through auditable interface agreements will ensure that an important resource is operated safely and reliably, while minimizing grid disturbances from separation of nuclear power plants from the grid, due to the loss or degradation of auxiliary power supply. Further, the Commission disagrees with CenterPoint Energy that the Reliability Standard is flawed and unnecessary. Nuclear power plants represent an important power resource and provide reliability support throughout the Bulk-Power System. Unlike other large units, nuclear power plants are subject to separate regulatory oversight that mandates stringent operating and auxiliary power requirements, which, if not met, require the plant to separate from the grid. We find that NUC-001-1 is an appropriate means to ensure that the particular requirements faced by nuclear power plants are met, maximizing the reliability support to be provided while minimizing the potential for grid disruption caused by separation.

18. CenterPoint Energy provides no evidence to support its claims that assertions by nuclear plant generator operators concerning NPIRs could be

<sup>16</sup> *Id.* at 4.

used to affect grid or market operations. We note that the NRC oversees a nuclear power plant's development of and compliance with its licensing requirements related to facilities that are associated with reactor safety or emergency response through its regulatory proceedings. NUC-001-1 supplements NRC oversight of nuclear plant facilities by providing oversight of the transmission entities that operate facilities on the Bulk-Power System providing off-site power supply and delivery service to meet nuclear plant licensing requirements.

19. Neither National Grid nor CenterPoint Energy has provided any information on how the NPIRs could result in undue negative impact on competition. Because all jurisdictional tariffs have requirements for the provision of non-discriminatory service, the Commission does not anticipate that transmission entities would agree to NPIRs that do not provide for comparable service. While comparable service includes appropriate cost allocations, that subject is outside of the scope of this proceeding.<sup>17</sup> In regard to National Grid's non-cost-related comments, National Grid has not suggested any way in which the Reliability Standard could change the jurisdictional status of service provided to a nuclear plant generator operator, and therefore, we do not see a need to address this concern here.

#### B. Applicability

20. Reliability Standard NUC-001-1 applies to nuclear plant generator operators and transmission entities, such as off-site power suppliers and entities that provide distribution and transmission services that affect plant operations. NERC states that the Reliability Standard meets the criteria that it apply to users, owners and operators of the Bulk-Power System because it will apply to transmission entities, which are responsible for providing NPIR-related services. Therefore, these entities are subject to the Reliability Standard and may be registered pursuant to the NERC compliance registry process.

21. The Commission approves the applicability provisions of NUC-001-1 as appropriately identifying the applicable entities, while providing the flexibility to accommodate differing design criteria, grid configurations and

services procured by the various nuclear power plants addressed. The Commission finds appropriate the ERO's use of the term transmission entities in NUC-001-1 to refer to the subset of registered entities that provide services to nuclear plant generator operators. Similarly, the term nuclear plant generator operators refers to the subset of generator owners and generator operators that are NRC licensees. While the Commission prefers that Reliability Standards apply to all entities within a functional category defined in the Registry Criteria, it has approved appropriate limitations incorporated into an applicability provision.<sup>18</sup> We address the specific questions raised by the Commission in the NOPR, as well as responses and comments, on an issue-by-issue basis below.

#### 1. Notification of Parties to Interface Agreements

22. Requirement R1 of NUC-001-1 provides: “[t]he Nuclear Plant Generator Operator shall provide the proposed NPIRs in writing to the applicable transmission entities and shall verify receipt.” In the NOPR, the Commission indicates its understanding that Requirement R1 means that if a nuclear plant generator operator fails to provide all appropriate NPIRs to an applicable transmission entity, the operator will not be in compliance with the Reliability Standard.<sup>19</sup> Further, the Commission observed that a nuclear plant generator operator will know, as a result of the NRC licensing process, which applicable entities to contact and what services are needed to meet NRC requirements.

#### a. Comments

23. NERC and Entergy agree that it is unlikely that a nuclear plant generator operator would fail to obtain appropriate services and identify and contact transmission entities. They concur that a nuclear plant generator operator will know the applicable services it needs through the NRC licensing process. NERC explains that, as an NRC licensing requirement, the nuclear plant generator operator would have previously coordinated with transmission entities.

24. Entergy describes the NRC licensing process and explains that a nuclear plant generator operator will

know the capability of its offsite power supplier to supply the power required during operations as well as situations that could result in a loss of off-site power. Entergy concludes that “it is very unlikely” that a nuclear plant generator operator would fail to contact the entities necessary to receive the appropriate services.

25. NEI agrees with the Commission's observation that nuclear plant generator operators are capable of identifying and contacting the appropriate transmission entities. However, NEI opposes any proposal to expand this notification requirement into an affirmative requirement that nuclear plant generator operators must “obtain appropriate services” from transmission entities. NEI requests that the Commission clarify that this is a notification requirement, not a requirement to obtain services (that, according to NEI, should not be included in the Reliability Standard).

26. According to NEI, the obligations of the nuclear plant generator operator to provide notice to transmission entities should be limited to those entities known or reasonably knowable by the nuclear plant generator operator, since the identity of some transmission entities could be proprietary. NEI argues that transmission entities that have been notified by the nuclear plant generator operator that they are responsible for providing services relating to NPIRs should then have the obligation to provide further notice to other applicable transmission entities that provide services to the first transmission entities.

27. ATC proposes replacing the phrase “proposed NPIRs” with a reference to nuclear plant licensing requirements including an explicit recognition of a transmission entity's ability to propose transmission system operating limits to be addressed as NPIRs in the interface agreement. According to ATC, this will remedy the current conundrum, where a nuclear power plant is obligated to “propose NPIRs,” while NPIRs are defined as having been agreed to by both parties.

#### b. Commission Determination

28. The Commission accepts NERC's proposal to require nuclear plant generator operators to identify entities that provide services related to off-site power supply or delivery. With NERC's and other industry representatives' assurances, the Commission is satisfied that the appropriate transmission entities can be identified based on the nuclear plant generator operators' historical compliance with NRC licensing requirements to obtain off-site

<sup>17</sup> See NERC November 19, 2007 Petition, Exhibit B, *Record of Proposed Reliability Standard Development*, “Consideration of Comments, Draft 2 SAR on Nuclear Plant Offsite Power Reliability, May 23, 2005” at 3 of 25 (agreeing that the Nuclear Reliability Standard does not address cost recovery issues).

<sup>18</sup> See, e.g., MOD-010-0 (limiting applicability to members of NERC functional classes specified in the MOD-011-0, Requirement R1); and PRC-007-0 (limiting applicability to members of functional classes owning and operating an underfrequency load shedding program).

<sup>19</sup> NOPR at P 21.

power and develop solutions with grid operators to avoid service interruptions from foreseeable grid disturbances.

29. The Commission does not share the concern expressed by commenters that Requirement R1 imposes an affirmative obligation on a nuclear plant generator operator to obtain appropriate services. Requirement R1 obligates a nuclear plant generator operator to provide proposed NPIRs in writing to transmission entities. The nuclear plant generator operator is already obligated to obtain service to meet NPIRs that are based on nuclear plant licensing requirements enforced by the NRC. We note that Requirement R2 does contain an affirmative obligation that the nuclear plant generator operator and transmission entities develop and execute an interface agreement to implement NPIRs. With this understanding, we find that the nuclear plant generator operators' role in providing notice of proposed NPIRs to all applicable transmission entities is appropriate. A nuclear plant generator operator may be found in noncompliance for failing to provide notice to an entity responsible for providing services relating to its off-site power-related licensing requirements.

30. NERC and industry representatives clarify that the entities that the nuclear plant generator operator is to provide with proposed NPIRs are known to the nuclear plant generator operator based on the nuclear plant generator operator's historic need to obtain service to meet their license requirements. The Commission does not share NEI's concern that the nuclear plant generator operator may not know upstream utilities that provide service to the primary service providers. We note that Requirement R1 obligates a nuclear plant generator operator to contact entities that provide services to meet NPIRs, which are based on nuclear licensing requirements for off-site power supply and avoiding foreseeable grid disruptions. Any upstream service providers that provide services related to NPIRs must be identified by the nuclear plant generator operator in the NPIRs. Otherwise there is no obligation to identify non-primary service providers.

31. As for ATC's concern with the use of the phrase "proposed NPIRs" as opposed to a reference to nuclear plant licensing requirements that will form the basis for NPIRs, the Commission finds the current Requirements are sufficiently clear and flexible to accommodate counterproposals by transmission entities to address system

limits during interface agreement development.<sup>20</sup>

## 2. Transmission Entities and Agreements on NPIRs

32. NUC-001-1 applies to nuclear plant generator operators and transmission entities. The Applicability section of the Reliability Standard (i) defines transmission entities as "all entities that are responsible for providing services related to Nuclear Plant Interface Requirements (NPIRs)," and (ii) lists 11 types of entities, identified in the NERC registry criteria based on the NERC Functional Model,<sup>21</sup> that may serve as transmission entities.

33. NERC explained in its November 19, 2007 Petition:

Because the relationship of each nuclear plant generator operator with its provider of transmission-related services is unique, it will be important and necessary for the registration process to identify on a plant-by-plant basis the specific transmission entities required to identify NPIRs and develop the requisite agreement. Once the agreement becomes final, all applicable nuclear plant generator operator and transmission entities for each agreement will be identified by name and specific function. The respective Regional Entity will then be responsible for ensuring that each nuclear plant generator operator and transmission entities identified in the agreement(s) is registered on the NERC Compliance Registry for the applicable function(s). NERC will work with the Regional Entities to ensure that all nuclear plant generator operator and transmission entities included in the agreements that result from the NPIRs are listed in the Compliance Registry for this specific reliability standard.<sup>22</sup>

### a. NOPR Proposals

34. In the NOPR, the Commission proposed to accept the identification and registration process described by NERC in the November 19, 2007 Petition with the understanding that NERC will use its authority under the compliance registry process to register all users, owners, and operators of the Bulk-Power System that provide transmission or generating services relating to off-site power supply or delivery.<sup>23</sup> Further, the Commission requested clarification from the ERO, as

<sup>20</sup> The Commission notes that ATC originally suggested the language "proposed NPIRs" as an alternative to the original draft language "current NPIRs. NERC November 19, 2007 Petition, Exhibit B, "Consideration of Comments on 1st Draft of Nuclear Plant Off-site Power Coordination Standard," at 15 of 69 (Aug. 15, 2006).

<sup>21</sup> NERC Statement of Compliance Registry Criteria (Revision 3), filed with its Supplemental Information Filing, Docket No. RM06-16-000 (Feb. 6, 2007), approved in Order No. 693 at P 92-96; NERC Functional Model, Version 3 (approved by NERC Board of Trustees, Feb. 13, 2007).

<sup>22</sup> NERC November 19, 2007 Petition at 12-13.

<sup>23</sup> See *id.* at 12.

well as public comment, on three issues: (i) How NERC's plan to identify transmission entities on a "plant-by-plant basis" in the compliance registration process relates to the definition of bulk electric system; (ii) whether NUC-001-1 is enforceable against a transmission entity upon execution of an interface agreement or some earlier time; and (iii) how the Reliability Standard will be implemented for an entity that both operates a nuclear power plant and is responsible to provide services related to NPIRs.

### i. Identification of Entities Subject to NUC-001-1 Through the Compliance Registry

#### (1) NOPR

35. As mentioned above, the Commission proposed in the NOPR to accept NERC's Applicability approach for NUC-001-1 with the understanding that NERC would use its authority under the compliance registry process to register all users, owners and operators of the Bulk-Power System that provide transmission or generating services relating to off-site power supply or delivery.<sup>24</sup> Further, the NOPR noted that certain auxiliary power suppliers and transmission service providers may serve nuclear power plants through facilities that fall outside the definition of bulk electric system. The NOPR stated that:

The Commission understands that NERC and the Regional Entities will register these and other service providers that provide interconnection and/or auxiliary power facilities vital to nuclear plant operation through NERC's authority to register an owner or operator of an otherwise exempt facility that is needed for Bulk-Power System reliability, on a facility-by-facility basis. Once registered, the transmission entity providing such services to a nuclear generating plant may be subject to other Reliability Standards applicable to the functional class within the NERC functional model for which the transmission entity has been registered, as deemed appropriate through the registration process. With this understanding, the Commission proposes to accept the scope of the definition of transmission entities as appropriate.<sup>25</sup>

#### (2) Comments

36. NERC states that it concurs with the Commission's understanding that NERC will use its authority under the compliance registry process to register all users, owners and operators of the Bulk-Power System that provide transmission or generating services relating to off-site power supply or

<sup>24</sup> NOPR at P 25-26.

<sup>25</sup> *Id.* P 26 (footnotes omitted).

delivery. NERC will register the owner of an otherwise exempt facility on a facility-by-facility basis. Further, NERC agrees that, once registered, the transmission entity may be subject to other Reliability Standards applicable to the functional class within the NERC Functional Model, as deemed appropriate through the registration process, with an exception for low-voltage facilities, as discussed in section II(B)(2)(b) below.

37. EEI generally agrees with the Commission's conclusion that, once registered, a transmission entity providing services to a nuclear generating plant may be subject to other Reliability Standards applicable to the function for which the transmission entity has been registered. EEI also supports NERC's interpretation that identification as a transmission entity under NUC-001-1 Requirements should not change a party's obligations under other Reliability Standards.

38. NEI suggests that entities that are not currently subject to NERC registration, jurisdiction, and enforcement authority should be able to sign an interface agreement without submitting to NERC jurisdiction. NEI states that such an entity may be bound to comply with the interface agreement, but should not automatically be subject to all other NERC Reliability Standards and enforcement authority. NEI predicts that subjecting entities to NERC jurisdiction and enforcement authority will dissuade parties from signing interface agreements, contrary to the intent of this Reliability Standard. The applicability of the other Reliability Standards should be determined by the governing statute and regulations, and the terms of the other Reliability Standards, and should not be incorporated through this Reliability Standard. According to NEI, the Regional Entity registration process, not the execution of an interface agreement, determines whether an entity is subject to NUC-001-1. NEI asks the Commission to clarify that entities that sign an interface agreement are not automatically subject to NERC jurisdiction for Reliability Standards beyond NUC-001-1.

39. Southern suggests that it may not be appropriate to apply certain Reliability Standards requirements to nuclear plant generator operators, in particular those relating to "functions of supplying energy and Interconnected Operations Services." On the other hand, entities registered as a generator owner or generator operator may fulfill the requirements set forth in NERC's definitions of these terms, but may not be licensed by the NRC and may not be

"responsible for operation of a nuclear facility." Southern asks the Commission to direct NERC to review the application of its registration requirements to nuclear plant generator operators.

40. Several commenters object to the use of the term transmission entities. Wisconsin Electric suggests that NUC-001-1 does not follow the NERC Functional Model, due to use of the term transmission entities. TVA makes a similar objection to the term nuclear plant generator operator, which does not appear in the NERC functional model, and suggests use of the term generator operators of nuclear plants with the Applicability section only listing generator operator. Southern suggests that, under the definition of nuclear plant generator operator, there may be licensees that do not meet the definition of a generator operator or generator owner, as nuclear plant generator operator is defined. According to Southern, some NRC licensees may be responsible for operating nuclear facilities but may not meet NERC's definitions of a generator owner or generator operator.

41. Constellation agrees that the nuclear plant generator operator must take the lead in identifying transmission entities, but urges the Commission to implement a dispute resolution process to assist the nuclear plant generator operators. Constellation is concerned that, under NUC-001-1, the nuclear plant generator operator will have the primary burden of ensuring that the parties enter into NPIR agreements; however, Constellation also argues that a transmission entity must be appropriately identified and have entered into an NPIR agreement before it is formally included in the NERC Compliance Registry.

### (3) Commission Determination

42. The Commission accepts NERC's approach to determining applicable entities. The Commission agrees with the ERO that the identification of transmission entities, which may fit any one of 11 functional categories described in the NERC Functional Model, provides the ERO with needed breadth and flexibility in identifying and registering all users, owners and operators of the Bulk-Power System that provide services related to NPIRs.

43. Further, the ERO makes clear that, in implementation, it plans to register an owner or operator of an otherwise exempt facility that is needed for Bulk-Power System reliability, on a facility-by-facility basis. Once registered, a transmission entity may be subject to other applicable Reliability Standards, as deemed appropriate through the

registration process. The Commission agrees that it is appropriate that a registered transmission entity comply with other applicable Reliability Standards for the functional category for which it is registered. This approach will support Bulk-Power System reliability and better assure that a transmission entity is capable of satisfying responsibilities set forth in an interface agreement.

44. NEI requests clarification that entities that sign an interface agreement are not automatically subject to ERO jurisdiction for Reliability Standards beyond NUC-001-1. As discussed above, the Commission agrees with the ERO that Reliability Standards beyond NUC-001-1 should apply to a newly-registered transmission entity, for the functional category for which it is registered. Further, we observe that the ERO indicates that it will make this determination "as deemed appropriate through the registration process." We understand this to mean that the ERO has reserved some flexibility in determining which Reliability Standards are to be applied to a newly-registered transmission entity, and the ERO may consider individual circumstances in the process. The Commission agrees with NEI that the applicability of particular Reliability Standards beyond NUC-001-1 should not be decided in this proceeding. Rather, we leave it to the ERO to make such determinations in the first instance in the registration process.

45. Southern comments that it may not be appropriate to require nuclear plant generator operators to comply with certain Reliability Standards that apply to generator owners and generator operators. The Commission, however, is not convinced that a blanket waiver is warranted. Rather, similar to our explanation immediately above, the ERO may consider the individual circumstances of a generator owner or generator operator and determine whether, for example, a registered entity is needed for Bulk-Power System reliability and operates facilities that are addressed in a particular Reliability Standard.

46. Southern has not provided any specific examples of nuclear plant licensees that would not meet NERC's definition of nuclear plant generator operator. The Commission addresses NERC's registry determinations in appropriate proceedings on appeal. A registry proceeding may address whether a generator owner or operator meets the NERC registry criteria or should otherwise be registered based on a finding that the facility is material to Bulk-Power System reliability. We also

reject the concerns raised by Wisconsin Electric and TVA that the terms transmission entity and nuclear plant generator operator do not appear in the NERC Functional Model. While the NERC Functional Model is a useful guidance document, “the Applicability section of a particular Reliability Standard should be the ultimate determinant of applicability of each Reliability Standard.”<sup>26</sup> Moreover, the ERO’s definition of transmission entity is linked to the functional categories set forth in the NERC Functional Model.<sup>27</sup> Likewise, the nuclear plant generator operator can simply be viewed as a sub-category of the generator operator function.

b. Applicability to Small Entities and Low Voltage Facilities

i. NOPR

47. In the NOPR, the Commission noted that some nuclear power plants may obtain auxiliary power through lower voltage facilities that are not included in a Regional Entity’s definition of bulk electric system and that other nuclear power plants may retain alternate sources of auxiliary power provided through lower voltage facilities operated by a small utility or cooperative that is not included in a Regional Entity’s definition of bulk electric system.<sup>28</sup> The Commission sought clarification from NERC on how it would register such entities and how this relates to the definition of bulk electric system.

ii. Comments

48. NERC clarifies that “for lower voltage facilities that provide such services to a Nuclear Power Plant, the registration of those entities and the applicability of the NERC Reliability Standards therein to that functional class of entities will be limited to those facilities identified by the Nuclear Plant Generator Operator in its NPIRs.”<sup>29</sup>

49. Constellation anticipates that some transmission entities, in particular those that are not previously registered, may be reluctant to enter into nuclear interface agreements. Constellation is concerned that small generators that are currently exempt from registration may be unwilling to continue to provide services or enter into new agreements for services if provision of such services causes them to be registered by NERC. Constellation cites the cost burdens and risk of penalties as having a chilling

effect on these entities’ willingness to continue to provide their discrete services to nuclear power plants. Constellation suggests that the curtailment of such services could impair the ability of nuclear plant generator operators to meet their license requirements. To address these concerns, Constellation requests that the Commission direct NERC to evaluate these risks and to propose mechanisms to ensure that small entities will not be deterred from providing services.

50. Entergy explains that under the NRC license requirements, a nuclear power plant is required to have two sources of off-site power. For one of Entergy’s plants, one of those sources relies, at certain times, on reactive power support from a small hydropower facility that generates power at a distribution level voltage, and Entergy and the facility have entered into an agreement for that reactive power support. According to Entergy, this facility is not currently registered or part of the bulk electric system. Entergy expresses concern that if this entity becomes subject to NUC-001-1, it may cancel its current service agreement with Entergy because the risk of potential penalties and future compliance costs could be too high, thus jeopardizing Entergy’s NRC license. Therefore, Entergy asks the Commission to clarify that if an entity does not currently qualify for inclusion on the NERC Compliance Registry, provision of NPIR-related services will not subject that entity to registration.

iii. Commission Determination

51. The Commission accepts NERC’s clarification that registration of lower voltage facilities and the applicability of NUC-001-1 will be limited to those facilities identified by the nuclear plant generator operator in its NPIRs.<sup>30</sup> We would expect that any NPIRs agreed to between a nuclear plant generator operator and transmission entity would include all facilities needed to transmit offsite power and auxiliary power to the nuclear facility. The Commission remains sensitive to the need for NERC to register operators of lower-voltage facilities used to deliver off-site power.<sup>31</sup> The NOPR stated the Commission’s understanding that NERC would register entities operating facilities not currently identified in the Regional Entities’ definition of bulk

electric system that are needed for Bulk-Power System reliability, through NERC’s authority to register an owner or operator of an otherwise exempt facility that is needed for Bulk-Power System reliability, on a facility-by-facility basis.<sup>32</sup> We note that it is in the best interest of the nuclear plant generator operator to have any such facility identified in the NPIRs.

52. We find that NERC’s approach should mitigate the concerns of commenters who speculate that small entities may wish to cease providing services rather than become subject to other Reliability Standards applicable to the functional class in which they would be registered. In this manner, application of the Reliability Standard to smaller entities operating lower voltage facilities that were not previously registered is limited to the facilities used to provide services to the nuclear plant generator operator. Commenters’ other concerns largely address smaller entities’ potential reluctance to continue providing service—that is, so long as these entities are users, owners or operators of the Bulk-Power System they may be registered by NERC and subject to the Reliability Standard. An entity that has failed to execute an interface agreement will be found in violation of the Reliability Standard.

53. We believe that limited registration of smaller entities, in combination with NERC’s use of the registry process and tying enforceability to the receipt of a proposed NPIR (rather than execution of a formal agreement), should limit the majority of concerns raised by commenters on behalf of small entities. Entergy’s concern with obtaining reactive power is mitigated by the fact that the Commission’s policies recognize alternate sources for ancillary services—reactive power is a required ancillary service to be provided by transmission providers—and the Commission’s policies also provide for merchant ancillary service sales where appropriate. However, these issues are best resolved in appropriate registration proceedings.

54. The Commission notes that in addition to smaller, previously unregistered entities, larger currently-registered entities may also provide service over lower voltage facilities that may be material to the reliability of the Bulk-Power System. These entities’ lower-voltage facilities highlight a potential gap in applicability, because it could be argued that those facilities are

<sup>26</sup> Order No. 693 at P 127.

<sup>27</sup> See Reliability Standard NUC-001-1, Section A.4.2.

<sup>28</sup> NOPR at P 26.

<sup>29</sup> NERC comments at 8.

<sup>30</sup> This approach for lower voltage facilities is consistent with our determination in prior proceedings that the ERO may register an entity that falls below the minimum registry criteria on a facility-by-facility basis. See Order No. 693-A at P 38.

<sup>31</sup> See NOPR at P 22 and 26.

<sup>32</sup> *Id.* P 26 (citing Order No. 693-A at P 38; NERC Statement of Compliance Registry, Revision 3.1 at 8).

not currently subject to the Reliability Standards since they may fall outside a Regional Entity's definition of the bulk electric system. This potential gap is illustrated where a larger entity essentially provides a transmission service, but the applicability of NUC-001-1 and other Reliability Standards is uncertain, because service is provided over lower voltage facilities. We direct the ERO to review the impact on the Bulk-Power System for registration purposes of any entity providing service related to NPIRs over a lower-voltage facility similar to other facilities used to provide service, regardless of whether such service is provided by a currently-registered entity or a previously-registered entity.<sup>33</sup>

#### c. Critical Facilities

##### i. NOPR

55. In the NOPR, the Commission asked whether NERC would, in registering entities not otherwise registered, consider lower voltage facilities needed to serve NPIRs to be critical facilities.

##### ii. Comments

56. NERC responded that it does not currently have an approved NERC Glossary definition for "critical facility" per Order No. 693's directive.<sup>34</sup> Consequently NERC states it will refrain from using the term in its response and until such time as the definition is developed and approved. However, NERC notes that a nuclear power plant would be unable to operate without transmission services from lower voltage facilities supplying off-site power, and the absence of such services would result in the real and reactive output of the plant being unavailable to the system. NERC states that the determination of whether a plant is material to the reliability of the Bulk-Power System is determined at the Regional Entity level, but notes that nuclear power plants typically provide both real and reactive power to the transmission grid.

57. SCE&G states that it finds the Commission's reference in the NOPR to

<sup>33</sup> The Commission notes, however, that the NUC-001-1 drafting team has described such cases of distribution level supply as "the exception, not the rule." See NERC Nuclear Reliability Standard drafting team, Consideration of Comments on 2nd Draft of Nuclear Off-site Power Supply Standard, at 54 (Feb. 7, 2007), filed in November 19, 2007 Petition, Exhibit B, Record of Development of Proposed Reliability Standard.

<sup>34</sup> Section III.d.2 of the NERC compliance registry states that the functions transmission owner and transmission operator shall include an entity "that owns/operates a transmission element below 100 kV associated with a facility that is included on a critical facilities list that is defined by the Regional Entity."

"critical facilities" to be troubling, since NUC-001-1 should not affect the characterization of a facility as critical and such determination should be made by NERC. According to SCE&G, the existing NERC definition of "critical asset," combined with the methodology in Reliability Standard CIP-002-1 is the correct method to determine if a facility is "critical" to the bulk electric system. SCE&G also maintains that NUC-001-1 does not affect the characterization of a critical facility, which is determined instead by the NERC definition of critical asset and the methodology provided in CIP-002-1.

##### iii. Commission Determination

58. The Commission notes that the term "critical facility" under Order No. 693 is a facility not otherwise included in a Regional Entity's definition of the bulk electric system but that has been identified by the Regional Entity as being critical to the system reliability.<sup>35</sup> This is different from the definition of "critical asset" under CIP-002-1. The Commission accepts NERC's explanation of whether it would consider lower voltage facilities needed to serve NPIRs to be critical facilities when it registers new entities and notes that the definition of the term "critical facility" will be resolved in a future proceeding.

#### d. Timing of NUC-001-1 Enforceability to Transmission Entities

##### i. NOPR

59. In the NOPR, the Commission sought comment on its understanding that NUC-001-1 would become applicable to, and enforceable against, a transmission entity only when the transmission entity executed an interface agreement. In other words, the provider of NPIR-related service would become a transmission entity, as that term is defined by NUC-001-1, subject to NUC-001-1 and other Reliability Standards, upon execution of the interface agreement.

##### ii. Comments

60. In response to the Commission's question on timing, NERC clarified that the interface agreement with a nuclear plant generator operator is not the mechanism that determines whether an entity is a transmission entity subject to NUC-001-1. Instead, a nuclear plant generator operator initiates the identification by proposing an NPIR to an applicable transmission entity, and, at this point, the identified transmission entity is placed on the Compliance Registry and becomes subject to the

requirements of NUC-001-1, not when the agreement required in Requirement R2 is established.<sup>36</sup>

61. Several commenters support approaches similar to the NERC position.<sup>37</sup> These commenters generally agree that NUC-001-1 applies to a transmission entity once it has been notified of an NPIR by the nuclear plant generator operator. EEI, for instance, states its understanding that the NUC-001-1 drafting team and NERC staff intended that a nuclear plant generator operator would identify the transmission entities for each nuclear power plant under NUC-001-1, whether or not they had already entered into an agreement. NEI recommends that a potential transmission entity should be deemed a transmission entity subject to the requirements of NUC-001-1 once it becomes registered as a transmission entity under NUC-001-1 and receives proposed NPIRs from the nuclear plant generator operator pursuant to Requirement R1. NEI states that transmission entity status should continue unless and until NERC determines otherwise, based on a full and fair analysis of the facts and evidence presented by the affected parties.<sup>38</sup>

62. EEI states that, for a newly identified entity that is not on the Compliance Registry, the Regional Entities should examine whether an entity is properly classified as a transmission entity before registering the entity and thus requiring it to comply with the Reliability Standard. Entergy concurs that the NERC registration process, rather than the execution of an interface agreement, determines whether an entity is subject to NUC-001-1.

63. The commenters supporting the NERC clarification generally state that holding that NUC-001-1 is only applicable to a transmission entity after it executes an interface agreement would be inequitable because, in the event of disagreement, the nuclear plant generator operator could be held in violation, while the transmission owner would not.<sup>39</sup> NEI states that the need to prompt all potential transmission entities to conform to NUC-001-1 is particularly important where potential transmission entities have no corporate affiliation with the nuclear plant generator operator, because such an entity may wish to avoid executing an

<sup>36</sup> NERC comments at 11.

<sup>37</sup> See EEI, Exelon, Detroit Edison, and NEI comments.

<sup>38</sup> See also Detroit Edison comments.

<sup>39</sup> See EEI, Exelon, and NEI comments; See also Constellation comments at 8.

interface agreement to avoid exposure to NUC-001-1.

64. EEI notes that, in some cases, the failure to agree may be the result of good-faith differences between the parties such that sanctions should not be imposed, except as a last resort. NEI also suggests that no enforcement action, other than arbitration through a Regional Entity, should be taken in the absence of agreement, but asks the Commission to clarify that while the Reliability Standard may not be enforceable by NERC or the Commission without an agreement, the contractual service commitments may be enforceable by other means.

Constellation requests clarification that only Requirement R1 is enforceable against the nuclear plant generator operator until the NPIR agreement is executed, because the other requirements involve implementation of an agreement, which the nuclear plant generator operator cannot do unilaterally.

65. NEI emphasizes that licensing requirements should already be known to affected transmission entities and argues that existing procedures must remain in effect both prior to and after the effective date of the agreement under NUC-001-1. According to NEI, registration based on notification by the nuclear plant generator operator is appropriate because nuclear plant generator operators are in the best position to interpret nuclear plant licensing requirements and system needs affecting operations. According to NEI, NUC-001-1 should be enforceable against the transmission service providers whose commitments to provide services formed part of the basis for the original plant license regardless of whether an interface agreement has been executed. NEI suggests that Requirement R3 should be applicable regardless of the parties' compliance efforts to date.

66. According to NEI, the NRC requires each nuclear license applicant to perform stability studies for the transmission grid that delivers offsite power to the nuclear power plant and demonstrate that the loss of the largest operating unit on the grid would not result in loss of grid stability or affect the delivery of offsite power to the nuclear power plant.<sup>40</sup> NEI also notes that the types of studies performed and the conclusions are documented in the safety analysis report for each nuclear power plant. NEI suggests that nuclear plant licensees and transmission service providers are already obliged to provide

assurances with respect to the capability and stability of offsite power sources for the nuclear plant.

67. In contrast, ConEdison, SCE&G, and ISO/RTO Council argue that NUC-001-1 should not be enforceable against transmission entities until an interface agreement is executed. According to ISO/RTO Council, representatives of NERC's functional classes become transmission entities by agreeing to meet an NPIR through an interface agreement. SCE&G questions whether it is appropriate to define as a transmission entity any entity that enters into an interface agreement with a nuclear plant generator operator. It asks the Commission to clarify the standards which will apply to every entity entering into an interface agreement.

### iii. Commission Determination

68. Based on the ERO's and others' comments, the Commission does not adopt the understanding put forth in the NOPR. NERC and others have made clear that NUC-001-1 was intended to apply to transmission entities following receipt of notification from the nuclear plant generator operator, rather than after execution of the interface agreement. The applicability of NUC-001-1 is determined by the function performed by the entity—that is, an entity that provides services relating to a nuclear plant generator operator's nuclear plant licensing requirements is subject to NUC-001-1 on the latter of the effective date of the Reliability Standard or when a proposed NPIR is provided by the nuclear plant generator operator. This is consistent with other Reliability Standards where an entity is subject to a Reliability Standard based on the factual determination of whether it operates certain facilities or provides a certain service, not based on the consent of the entity.

69. We believe that this interpretation resolves the concerns of commenters who predict that entities supplying services to enable nuclear plant generator operators to meet nuclear plant licensing requirements would balk at executing an interface agreement if they become subject to NUC-001-1. This should not occur since transmission entities will be identified as providing services relating to NPIRs by a nuclear plant generator operator and will become subject to NUC-001-1 when they receive notice, not when they finalize an agreement.

### e. Applicability in Integrated Systems

#### i. NOPR

70. In the NOPR, the Commission voiced its concerns regarding the implementation of NUC-001-1 in a situation where a single entity is both the nuclear plant generator operator and the transmission entity, such as a vertically-integrated utility. We sought comment on whether an agreement or arrangement would be required in such a case and, if so, what type of arrangement was required to comply with the Reliability Standard.

#### ii. Comments

71. In response, NERC states that NUC-001-1 may accommodate various industry structures and situations, including an integrated utility structure. According to NERC, NUC-001-1 requires appropriate agreements or arrangements to ensure that mutually agreed upon NPIRs are established. Because the necessary agreement or arrangement can include "mutually agreed upon procedures or protocols" per Footnote 1 of Requirement R2, they need not necessarily be in the form of a formally executed agreement between officers of separate companies. NERC notes that compliance measures M3 through M8 ensure that auditable documentation of such arrangements exist. NERC concludes that these requirements may be met by a single entity.

72. Most commenters addressing the issue concur that a formal signed contract between the departments of an integrated utility is not necessary.<sup>41</sup> However, Detroit Edison and Midwest ISO state that department or business unit representatives should execute an interface agreement or other evidence of participation to comply with NUC-001-1. Thus, these commenters propose that compliance could be demonstrated through agreements featuring varying degrees of formality. NEI argues instead that an integrated entity could set forth in writing the procedures to be followed by each unit as consistent with Requirement R2 and such internal documentation would be provided in an audit. SCE&G states that compliance may be achieved through internal coordination between the generation and transmission components of an integrated utility and, where appropriate, a formal agreement between an integrated utility and outside entities.

<sup>40</sup> NEI comments at 4 (citing Chapter 8 of the NRC Standard Review Plan (NUREG 0800)).

<sup>41</sup> See EEI, Entergy, Southern, NEI, and SCE&G comments.

### iii. Commission Determination

73. The Commission accepts NERC's clarification that NUC-001-1 applies to nuclear plant generator operators and transmission entities where both parties are in a single integrated system. NERC clarified that a formal agreement is not necessary to have an agreement, procedures, or protocols in place that will comply with Requirement R2. Based on this clarification and industry comments, we accept NERC's conclusion that the Requirements of NUC-001-1 can be met by a single entity that is both the nuclear plant generator operator and the transmission entity. The Commission directs the ERO, in enforcing NUC-001-1, to require that an integrated entity provides documentation of its arrangements, including appropriate procedures and protocols, ensuring that its business units perform the functions under NUC-001-1 that would otherwise be met by separate entities. This will ensure that an integrated entity's compliance with NUC-001-1 is auditable in a manner comparable to other entities that are subject to the Reliability Standard.

### 3. Dispute Resolution

#### a. NOPR Proposal

74. In the NOPR, the Commission sought input on circumstances involving an off-site power supplier or other transmission entity that disagrees with a nuclear plant generator operator that it needs to execute an interface agreement. The Commission asked how NERC should resolve the impasse and whether NERC should propose to register the entity (if it was not already registered) without an executed interface agreement.

#### b. Comments

75. NERC states that, if a transmission entity and nuclear plant generator operator fail to agree to an NPIR, it may require mediation or arbitration of the dispute as part of a mitigation or remedial action strategy. If a nuclear plant generator operator and a transmission entity fail to reach agreement, NERC clarifies that it proposes to find each entity in non-compliance with Requirement R2. According to NERC, the nuclear plant generator operator and transmission entity would be subject to penalties, sanctions, mitigation, and remedial actions until agreement is reached. NERC notes that its March 4, 2008 submission of violation severity levels identified the failure to reach an agreement under Requirement R2 as a Severe violation severity level.

76. Several commenters support use of a dispute resolution process before NERC or a Regional Entity in the case of disagreement over NPIRs.<sup>42</sup> Dominion, ISO/RTO Council and Midwest ISO call for a formal dispute resolution process to resolve issues if parties cannot reach agreement.

Constellation expresses concern that the nuclear plant generator operator would have the primary burden of ensuring the parties enter into NPIR agreements, based on the understanding reflected in the NOPR, and states that an early intervention process is essential for NERC and the Commission to provide assistance to parties facing difficulty reaching agreement. Constellation also asks that the Commission require NERC to establish and file within 60 days a proposed dispute resolution process to assist parties in reaching agreement. ISO/RTO Council requests the Commission to define a clear process with definitive criteria for resolving disputes between nuclear plant generator operators and transmission entities over the scope of the NPIRs.

77. Midwest ISO and National Grid express additional concerns over disagreement on individual NPIRs. Midwest ISO states that it is unclear what will occur if a named transmission entity disagrees that it has the role identified by the nuclear plant generator operator or if there is disagreement regarding the necessity for, or impacts of, the proposed NPIRs. Midwest ISO anticipates disputes among the various transmission entities and nuclear plant generator operators about which tariff, service agreement, or operating agreement provisions may be relied on to meet NUC-001-1 requirements.

78. Midwest ISO cites differing views as to the exact definition of NPIRs among nuclear plant generator operators and other stakeholders and therefore requests that the definition of NPIRs be clarified. National Grid states that disagreement should not forestall implementation of non-controversial NPIRs, but that it is nevertheless unclear whether NPIRs proposed by one side or the other shall have any force or effect while subject to a dispute resolution procedure.

79. NEI proposes that, if the parties were to fail to reach agreement on an interface agreement within 30 days, the Regional Entity could provide a dispute resolution mechanism. According to NEI, NERC could provide for subsequent appeals. However, NEI states that failure to enter into an interface agreement should not be

considered a violation or failure to comply, as long as the parties are negotiating in good faith and following NERC's proposed dispute resolution and appeal processes.

#### c. Commission Determination

80. The Commission accepts the ERO's explanation of its registration and compliance options when parties fail to come to an agreement. Should parties fail to come to an agreement and thus find themselves in violation of the requirement that they have such an agreement in place, NERC states that it may require mediation or arbitration as a remedial action. We agree that ordering such dispute resolution processes may be an appropriate response in some instances in which there is no immediate risk to grid reliability and support NERC requiring the use of arbitration or mediation on a voluntary basis where appropriate.<sup>43</sup>

81. National Grid's concerns are speculative. However, if the parties cannot agree on proposed NPIRs, then NERC may require mediation or arbitration as a remedial action. We do not see the need at this time for NERC to develop formal arbitration procedures to govern all dispute resolution proceedings. The ERO has the discretion to adopt such procedures as are appropriate to the circumstances, in the event that the parties do not themselves propose acceptable procedures.<sup>44</sup>

82. We anticipate that Midwest ISO's concerns regarding NPIR negotiations should be resolved by the parties themselves. Given that the parties have already been able to agree to the services needed to meet NRC licensing requirements, the same parties should be able to successfully identify the services provided, confirm that they address NRC criteria for off-site power and system limits, and document such services in an auditable format consistent with the NUC-001-1 Requirements.

### C. Form of Agreements

#### 1. Comments

83. Several commenters request clarification that existing arrangements may be relied on to meet NUC-001-1 requirements to have an interface

<sup>42</sup> See ISO/RTO Council, Ontario Power, Midwest ISO, and NEI comments.

<sup>43</sup> Where there is an immediate reliability risk, we direct the ERO to take appropriate action to address the risk.

<sup>44</sup> Should NERC require the parties to engage in dispute resolution procedures as a remedial action or in lieu of, or along with, other sanctions upon a finding that the parties are in violation of the Reliability Standard, NERC must notify the Commission as it would for any imposition of a remedy to a violation. See NERC Rules of Procedure, section 408.1.

agreement in place to address NPIRs.<sup>45</sup> These commenters suggest that nuclear plant generator operators and transmission entities may rely on existing interface agreements and thus that NUC-001-1 does not require execution of a new agreement, and may incorporate by reference matters covered in other agreements or tariff provisions.

84. The ISO/RTO Council, in particular, asks the Commission to clarify that any entity designated as a transmission entity will be allowed to rely on existing tariffs and contracts to satisfy the mandates of Requirements R2 and R9 and will not be required to execute entirely new agreements that merely duplicate tariff and contractual arrangements that already are in place, allowing nuclear power plants to maintain compliance with existing NRC license criteria. ISO/RTO Council states:

To the extent that an RTO or ISO—or indeed any other transmission operator—provides these services to generators, the services generally are reflected in existing tariffs and agreements between specific transmission operators and generators. For example, in New York, generators and [NYISO] execute a service agreement under the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff"), which governs, among other things, the NYISO's "provision of Control Area Services" \* \* \* including services related to ensuring the reliable operation of the NYS Power System." The service agreement requires the NYISO and its counterparties, including generators, to follow NYISO tariffs and procedures. The Services Tariff requires the NYISO to "develop, and modify as appropriate, procedures for the \* \* \* reliable operation of the NYCA in accordance with the terms and conditions of the Tariff." These procedures are set forth in detail in the NYISO manuals, and already cover the core elements of the agreements mandated pursuant to R9 of NUC-001-1. The technical requirements outlined in R9.2, including identification of system parameters and configurations and applicable limits, largely are reflected in the NYISO's Transmission and Dispatch Manual. The requirements outlined in R9.3 with respect to operations and maintenance coordination largely are reflected in the NYISO's Outage Scheduling manual. These manuals define the NYISO's obligations to specific generators, including nuclear generators, pursuant to the terms of the Services Tariff.<sup>46</sup>

85. According to ISO/RTO Council, new service agreements between transmission operators and nuclear plant generator operators under NUC-001-1 should also be incorporated into the applicable transmission operator tariffs or manuals. International

Transmission requests clarification on whether parties will be expected already to have a signed agreement which meets the requirements of NUC-001-1 in place on the date on which the Reliability Standard becomes effective. Constellation requests confirmation that multi-party agreements will be accommodated.

86. EEI also requests that the Commission clarify that nuclear plant generator operators and transmission entities, affiliated and unaffiliated, do not need to enter into new agreements if an existing agreement between the parties is sufficient for compliance with NUC-001-1. National Grid states that NERC should provide additional guidance on what responsible entities must do to comply with the Reliability Standard within fifteen months of regulatory approval. National Grid characterizes NERC's position as proposing that parties establish an "overall coordination platform" to meet the NPIRs.

## 2. Commission Determination

87. Based on NERC's statement that parties may rely on less formal procedures and protocols, the Commission finds that NUC-001-1 does not dictate any particular format for the interface agreement. Nuclear plant generator operators and transmission entities may rely on pre-existing arrangements so long as the parties can document the fact that they have agreed that the pre-existing arrangements address all of the NPIRs, cover all required facilities and otherwise fulfill the requirements of NUC-001-1.<sup>47</sup> This includes multi-party agreements.

88. In response to ISO/RTO Council's request, we clarify that, as with any transmission entity, a regional service provider may rely on existing tariff provisions. However, the Commission understands that, in a region served by a regional service provider such as a regional transmission organization (RTO) or independent system operator (ISO), the regional authority will be required to meet NPIRs that require service over its system. Within the geographical boundaries of their service territory, potential transmission entities may also provide service over lower voltage facilities that are not covered by the RTO or ISO tariff. In such a case, we direct the ERO to assess whether the entity providing service over the lower

voltage facilities is also subject to NUC-001-1, as discussed in section II(B)(2)(b), above, concerning Transmission Entities and Agreements on NPIRs. If such an entity is providing service that is not covered by the tariff, the nuclear plant generator operator would need to take steps to identify these entities as providing services related to an NPIR and thereby ensure compliance with NUC-001-1 on these lower-voltage facilities pursuant to our discussion in section II(B)(2)(b) above.

## D. Enforcement and Conflicts With Other Regulations

### 1. Comments

89. Comments regarding the enforcement of NUC-001-1 addressed both potential conflicts with the Commission's standards of conduct rules, and potential conflicts with NRC requirements.

90. EEI requests clarification that the communications required to comply with NUC-001-1 are permitted under the Commission's standards of conduct rules. The Commission previously clarified that transmission providers may communicate with affiliated nuclear power plants regarding certain matters related to the safety and reliability of the transmission system and of the nuclear power plants in order to comply with requirements of the NRC. EEI asks the Commission to clarify that their provisions apply equally to unaffiliated entities that must comply with NUC-001-1 and that a transmission entity is not subject to enforcement under the standards of conduct, applicable tariff or other authority for providing information in compliance with NUC-001-1.<sup>48</sup>

91. NEI states that while the NUC-001-1 requirements are structured to help identify potential conflicts and coordinate their resolution through changes to the NPIRs, unforeseen situations could arise that are not adequately covered in the NPIRs and interface agreements under NUC-001-1. NEI argues that penalties should not be imposed if a nuclear plant generator operator fails to comply with a NUC-001-1 interface agreement or other Reliability Standard because the nuclear plant generator operator complied instead with NRC requirements. NEI recommends that NUC-001-1 be revised to recognize the primary obligation of nuclear plant generator operators to protect public health and safety through compliance with NRC regulations and the nuclear plant

<sup>45</sup> See Constellation, Dominion, and ISO/RTO Council comments.

<sup>46</sup> ISO/RTO Council comments at 4-5.

<sup>48</sup> EEI comments at 9.

license, and proposes revised language.<sup>49</sup>

92. Similarly, Duke states that while it does not object to NUC-001-1, the Commission should clearly define the boundary between NRC nuclear safety requirements and Commission grid reliability requirements. According to Duke, because NRC licensing criteria address health and safety issues, those criteria should take precedence and a nuclear plant generator operator should not be penalized for non-compliance with a conflicting interface agreement or other Reliability Standard provision. Duke cites unforeseen circumstances as well as specific examples where NRC safety criteria may take precedence.<sup>50</sup> Also, Constellation requests assurance that, when there are overlapping requirements, registered entities will be subject to a single penalty only.

## 2. Commission Determination

93. In response to EEI's request for clarification that communications required to comply with this Reliability Standard are permitted under the Commission's standards of conduct regulations, the Commission notes that it is addressing this subject through its rulemaking on standards of conduct in Docket No. RM07-1-000.<sup>51</sup> A number of commenters in that docket sought clarification as to whether communications involving the Reliability Standards are exempt from standards of conduct prohibitions. The Final Rule to adopt revised standards of conduct, issued by the Commission, addresses the subject of exemptions.

94. Comments suggesting that mitigating circumstances may warrant

<sup>49</sup> NEI proposes that an additional paragraph be added to NUC-001-1 to address this potential conflict between the Commission and the NRC: "FERC recognizes the necessity of nuclear plant generator operators to protect the public health and safety through compliance with NRC regulations and license obligations. A nuclear power generator operator's compliance with NPIRs is excused if necessary to comply with NRC regulations or license obligations. Notwithstanding any other provisions of FERC rules or regulations, any penalty that might be imposed arising from compliance by a nuclear plant generator operator arising from compliance with NRC regulations or license obligations shall not be imposed." NEI comments at 11.

<sup>50</sup> Duke proposed the following examples: (a) The inability of a nuclear generator to exceed its license power limits to respond to underfrequency events, (b) specific license requirements for support from the grid, such as priority off site power after a blackout, and (c) license-required separation in response to degraded grid voltage or frequency conditions.

<sup>51</sup> *Standards of Conduct for Transmission Providers, Notice of Proposed Rulemaking, Docket No. RM07-1-000, 73 FR 16228 (Mar. 27, 2008), FERC Stats. and Regs. ¶ 32,630 (2008). Revisions to the Standards of Conduct for Transmission Providers, Final Rule, Docket No. RM07-1-000, 125 FERC ¶ 61,062 (2008).*

waiver of penalties are beyond the scope of this proceeding and should be addressed in an appropriate enforcement proceeding. The Commission understands that the NPIRs are specifically identified to enable a nuclear plant generator operator to meet its NRC licensing requirements at all times. As such, there should be no question of priority of the NRC criteria and NUC-001-1 Requirements. As to Duke's examples, all of the existing Reliability Standards have a sound engineering basis and do not require exceeding defined power limits, identify priorities, and account for known interactions such as separation of any generating facility due to degraded grid voltage or frequency.

## E. Scope of Agreements

### 1. NOPR

95. The NOPR noted that the Requirements of NUC-001-1 specify various contractual terms, including certain studies and procedures, to be addressed through interface agreements but do not describe specific substantive terms to be included in the agreements. In response, the NOPR expressed concern whether NUC-001-1 established an appropriate scope for the interface agreements. In its November 19, 2007 Petition, NERC stated that the NUC-001-1 drafting team adopted a consensus approach to coordinating nuclear power plant and transmission grid operations.<sup>52</sup> According to NERC, the consensus approach provides a platform for coordination at the interface that allows both nuclear plant generator operators and transmission entities to respect their main system drivers. Therefore, according to NERC, the NUC-001-1 drafting team adopted the interface agreement as a model for coordination and placed the obligation on nuclear plant generator operators and transmission entities to coordinate operational requirements by consensus.

96. In recognition of the successful working model of existing interface agreements, the NOPR proposed to accept NUC-001-1 and find appropriate the proposed level of detail defining substantive provisions to be included in interface agreements.

## 2. Commission Determination

97. The Commission generally finds the scope of the Nuclear Reliability Standard requirements adequate to address the development and implementation of interface agreements between nuclear plant generator operators and transmission entities,

subject to the discussion of particular issues below.

### a. Commission Questions

#### i. Interim Revisions

##### (1) NOPR

98. The NOPR proposed to approve the provisions for updating interface agreements, but requested comment on whether NUC-001-1 adequately provides for revisions to reflect interim changes.

##### (2) Comments

99. In response to the NOPR's inquiry whether NUC-001-1 includes sufficient provision for updates outside of the three-year review process, NERC states that it believes that the combination of Requirements R7, R8, R9.3.4, R9.4, and R9.4.1 adequately provides for the updating of NPIRs outside the three-year review window as circumstances warrant. Entergy concurs, asserting that NUC-001 adequately provides for interim updates to interface agreements. Southern states that it is feasible for interface agreements "to provide for negotiation and amendments to address emerging transmission and generating system limits and revised nuclear plant licensing requirements prior to, or contemporaneously with, implementing operations solutions"<sup>53</sup> to address permanent, but not temporary, changes. Southern indicates that amendment of the agreement would not be practical in temporary situations because an "emerging" system limit will be resolved within a relatively short period of time.

##### (3) Commission Determination

100. Based on the comments received, the Commission finds that NUC-001-1 makes adequate provision for interim updates. While not all system changes can be anticipated, the Commission expects that significant changes to the parties' operating relationship would be formalized and documented in an auditable format as interim changes in an addendum or revisions to the agreement, as appropriate.

### b. Amendments to Operational Procedures

#### i. NOPR

101. The NOPR noted the Commission's preference that new operational procedures be reflected in the interface agreements prior to being implemented upon nuclear power plant start-up or reauthorization, or shortly thereafter. The Commission requested comment whether interface agreements

<sup>52</sup> November 19, 2007 Petition at 26.

<sup>53</sup> Southern comments at 8-9.

could provide for negotiation and amendments to address emerging transmission and generating system limits and revised nuclear plant licensing requirements prior to, or contemporaneously with, implementing operations solutions.

#### ii. Comments

102. NEI states that NRC regulations include extensive requirements and processes for changes to nuclear power plants and their operations. Thus, NEI opposes a requirement to revise the interface agreement prior to making changes to a nuclear power plant or its operations. NEI suggests that implementation details to address changes in the grid configuration would be addressed in procedures, and should not require revisions to an interface agreement, while Requirements R7 and R8 require parties to review design changes to determine their impact on NPIRs.

103. Entergy responded that NPIRs are amended on a flexible time horizon under each individual interface agreement, and that this approach provides both entities with the flexibility to respond to emerging issues.

#### iii. Commission Determination

104. Based on the comments received, the Commission finds that NUC-001-1 makes adequate provision for updates to address changing transmission and generator limits or revised nuclear plant licensing requirements before operating solutions are implemented.

#### 3. Other Scope Related Issues

##### a. Requirement R9.3.5

105. Commenters raise concerns regarding Requirement R9.3.5, which were not anticipated in the NOPR. According to NEI, Requirement R9.3.5 mixes two separate events incorporated in nuclear power plant design and license conditions: (i) Coping times for station blackouts and (ii) restoration of off-site power.<sup>54</sup> NEI explains that station blackouts include a loss of off-site power and select emergency alternating current (AC) power sources (generally on-site). In the case of such an event, NEI explains that the nuclear plant generator operator has responsibility to restore the emergency

<sup>54</sup> Requirement R9 establishes a minimum set of elements to be addressed in interface agreements. Requirement R9.3.5 states that the operations and maintenance coordination elements should include "Provision to consider nuclear plant coping times required by the nuclear plant licensing requirements and their relation to the coordination of grid and nuclear plant restoration following a nuclear plant loss of off-site power." See also TVA comments, Enclosure at 1.

AC power sources within the demonstrated coping time. NEI states, however, that a transmission entity should assign off-site power restoration priority independent of coping time and that NERC should clarify Requirement R9.3.5 references to station blackout and off-site power restoration priority. Specifically, NEI recommends appending the requirement with the phrase "to ensure restoration of Off-site Power is afforded priority reflecting that reliance on emergency AC power sources is not preferred."<sup>55</sup>

106. Southern states that the phrase "coping times" in Requirement R9.3.5 is ambiguous because the term has various meanings in the nuclear context and does not necessarily equate to a specific time period. Southern proposes the following alternative language for NERC consideration: "Provision to consider the [nuclear plant licensing requirements] related to the coordination of grid and nuclear plant restoration following a nuclear plant loss of Off-site Power."<sup>56</sup>

##### i. Commission Determination

107. Based on the industry comments received, it appears that the references in Requirement R9.3.5 to coping times for station blackouts and restoration of off-site power are ambiguous—insofar as commenters suggest that the relationship between the two issues is not clear, and thus, is not adequately addressed as presented in Requirement R9.3.5. Therefore, we direct the ERO to modify Requirement 9.3.5 to clarify references to coping times and off-site power restoration to address the concerns raised in the comments through its Reliability Standards development process. This approach permits a full vetting of new suggestions raised by commenters in NOPR comments and encourages interested entities to participate in the ERO Reliability Standards development process rather than wait to express their views until a proposed new or modified Reliability Standard is filed with the Commission.<sup>57</sup> We agree with commenters that the provision is inartfully drafted and needs to be clarified; however, there does not appear to be any reason that parties to an interface agreement should not coordinate concerning both issues as an interim measure. The Commission directs NERC to develop a modification to Requirement R9.3.5, as discussed above. In addition, to ensure the matter is addressed expeditiously, we direct

<sup>55</sup> NEI comments at 11-12.

<sup>56</sup> Southern comments at 8.

<sup>57</sup> Order No. 693 at P 188.

NERC to submit a timeline for developing and filing the modification as a compliance filing to be made within 30 days of the date of this Final Rule.

##### b. Personnel Training

108. International Transmission requests clarification whether Requirement R9.4.5 regarding personnel training applies to the transmission entity, the nuclear plant generator operator or both, and whether this requirement can be satisfied by existing training programs related to SOLs or IROLs. Midwest ISO requests that the Commission require the ERO to modify Requirement R9.3.6 to clearly provide that it only requires each entity to train its own operating personnel on the content of the applicable agreements, procedures and other documents related to NUC-001-1.

##### i. Commission Determination

109. The Commission clarifies that employees of nuclear plant generator operators and transmission entities should receive the training necessary to execute the terms of the interface agreement, and such training should be specified in the interface agreement between the parties. In addition, employees operating facilities used to provide services to meet NPIRs should be properly trained to Reliability Standard training requirements that apply to those facilities or the function served by the employees.

##### c. Planning

110. Midwest ISO proposes that the type of planning mandated by Requirement R9.2.3 should be more specifically defined. According to Midwest ISO, adherence to NUC-001-1 requires near real-time planning to support the NPIRs. Midwest ISO notes that other NERC Reliability Standards require mid-term and long-term planning.

##### i. Commission Determination

111. The Commission declines to address Midwest ISO's request to clarify the planning required under Requirement R9.2.3. Because NPIRs are based on NRC licensing requirements, the scope of planning mandated by Requirement R9.2.3 will largely be determined by the nuclear plant licensing requirements. As such, the determination is beyond the scope of this proceeding and is best resolved in the interface agreement development process between parties who are familiar with the facilities involved. In general, the Commission believes that the NPIRs needed to ensure the operation of nuclear power plants must

be included in the planning process for all time frames as appropriate.

d. Requests for Limits on Scope of Interface Agreements

112. Several commenters request limits to the scope of nuclear plant licensing requirements and SOLs that may become the subject of NPIRs addressed in an interface agreement. CenterPoint Energy objects to Requirements R3 through R9 insofar as they do not limit the types of information or actions that are to be requested and provided. Dominion states that NUC-001-1 should not duplicate requirements that are already stipulated in other Commission-approved Reliability Standards.

113. Southern is concerned that the stated purpose of NUC-001-1, together with certain of its provisions, may impose operational requirements on a nuclear plant generator operator beyond those established in NRC licensing requirements.<sup>58</sup> According to Southern, the development and implementation of interface arrangements and any supplemental procedures should be left to the discretion and judgment of transmission entities and nuclear plant generator operators, operating within their respective regulatory frameworks. Southern recommends that the Commission direct NERC to amend the proposed Nuclear Reliability Standard, as appropriate, to avoid conflicts with NRC licensing requirements, and clarify that nothing in NUC-001-1 or the NOPR is intended to create any such conflict.

114. ConEdison also notes that transmission entities that provide services under the agreement should receive fair compensation. According to ConEdison, the requirements contained in the NOPR would require the various transmission entities provide additional services or a heightened level of services already provided to the nuclear plant generator operator.

i. Commission Determination

115. The Commission declines to direct the clarification proposed in the comments. We believe that these concerns expressed by the commenters are unfounded. Because NPIRs are based on NRC licensing requirements, the scope of procedures to be developed will largely be limited to procedures needed to address the nuclear plant licensing requirements. In addition, by agreement of the nuclear plant generator operator and transmission entities, parties will develop protocols and may make system improvements to address

system limits that present preventable challenges to off-site power supply caused by grid disturbances. Thus, the basis for the NPIRs, and the terms of the interface agreements, is limited to what is needed to ensure reliable operation or safe shutdown of the nuclear power plant. Because the procedures embodied in NPIRs are developed by agreement of the parties, we do not share Southern's concern that additional operating requirements could be imposed on a nuclear plant generator operator.

116. As previously discussed, ConEdison's and others' arguments that transmission entities should receive compensation if they provide services relating to NPIRs are beyond the scope of this proceeding. These matters are appropriately left to the parties to the interface agreements to resolve.

F. Coordination

117. Requirements R7 and R8 require communication between nuclear plant generator operators and transmission entities regarding significant changes in design, configuration, operation, or limits of their facilities:

*Requirement R7:* Per the Agreements developed in accordance with this standard, the Nuclear Plant Generator Operator shall inform the applicable Transmission Entities of actual or proposed changes to nuclear plant design, configuration, operations, limits, protection systems, or capabilities that may impact the ability of the electric system to meet the NPIRs.

*Requirement R8:* Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall inform the Nuclear Plant Generator Operator of actual or proposed changes to electric system design, configuration, operations, limits, protection systems, or capabilities that may impact the ability of the electric system to meet the NPIRs.

118. In addition, Requirement R6 obligates interface agreement parties to coordinate outages and maintenance activities; Requirement R9.3.6 requires coordination of physical and cyber-security protections; and Requirement R9.3.7 requires coordination of special protection systems and load shedding. Thus, these Requirements provide for communication between a nuclear plant generator operator and its individual transmission entities, as well as the reverse for communication from the transmission entities to the nuclear plant generator operator.

1. Coordination Among Transmission Entities

a. NOPR Proposal

119. The NOPR expressed concern that NUC-001-1 Requirements do not explicitly provide for communication

and coordination *among* the various transmission entities that is necessary to facilitate the provision of generation and transmission services to support the nuclear power plant operations. The NOPR stated the Commission's understanding that, historically, control area operators provided the necessary coordination and communication with neighboring entities, including RTO-type grid operators and other interconnected utilities and load serving entities, when necessary. The NOPR stated the Commission's expectation that the parties to nuclear plant interface agreements would continue to provide for coordination among transmission entities, pursuant to the Requirements of NUC-001-1, in particular the Requirement R9.3.1 obligation to provide for coordination of interface facilities in the interface agreement. Interface agreement parties may continue to designate former integrated control area operators when appropriate or may revise their approach, reflecting changes under restructuring to grid operations when necessary, consistent with coordination responsibilities provided for in existing Reliability Standards. Based on such an understanding, the NOPR proposed to accept the coordination provisions as requiring all appropriate coordination among transmission entities and requested comment.

b. Comments

120. NEI states that NUC-001-1 includes adequate coordination provisions, in particular through Requirement R9.4, together with the other Reliability Standards. NEI notes that transmission service providers have historically provided coordination and NUC-001-1 will not impose new burdens. Detroit Edison agrees that transmission entities should coordinate as necessary to ensure full compliance with NUC-001-1. According to Entergy, the proposed Nuclear Reliability Standard, in conjunction with other Reliability Standards, ensures that all necessary parties are involved in the interface agreements.

121. International Transmission notes that current practice under existing coordination agreements is to communicate when the transmission system is one event away from violating a SOL or IROL so that each party is advised of the possible effects on the other of responsive actions and the risks of a contingency. International Transmission states that clarification is needed on whether implementation of communication protocols established in the interface agreement will constitute compliance with NUC-001-1.

<sup>58</sup> See also National Grid comments.

International Transmission is concerned that the occurrence of a contingency would be treated as a violation of the NPIRs or NUC-001-1.

122. Southern is concerned that the NOPR's general description of certain coordination provisions<sup>59</sup> may be interpreted as requiring a nuclear plant generator operator to actually coordinate responses on the transmission system. According to Southern, the nuclear plant generator operator does not typically operate the system and, therefore, it would not be appropriate to require the nuclear plant generator operator to be responsible for coordination of responses on the transmission system. Southern states that such an interpretation would be inappropriate because it would go beyond the purpose of NUC-001-1 and the responsibilities of the respective parties. According to Southern, a transmission provider will respond to the issues listed because it actually operates the system. Therefore, the Commission should clarify that the standard does not require nuclear plant generator operators to coordinate responses on the transmission system.

123. NEI similarly objects to the Requirements that require interface agreements to provide for coordination of operational and maintenance issues. According to NEI, coordinating responses goes beyond the purpose of NUC-001-1 and the responsibilities of the respective parties. NEI suggests that rather than coordinating responses to unusual circumstances, it is more accurate to state that an interface agreement must include elements to address the operations and maintenance coordination of unusual conditions.

#### c. Commission Determination

124. The Commission confirms its understanding that coordination under the Reliability Standard includes coordination among transmission entities. No party objected to the Commission's interpretation that the coordination required under Requirement R9.3.1 includes designating an entity to coordinate among various transmission entities providing unbundled services, and that such a role had been previously filled by former control area operators. Therefore, we adopt that proposal.

125. International Transmission's request for clarification whether a contingency may be considered a violation of an NPIR raises issues concerning what level of service is adequate to meet the NPIRs addressed in an interface agreement. Furthermore,

International Transmission has not stated how communication protocols, as presented in NUC-001-1, would imply that the occurrence of a contingency would violate NUC-001-1. Such issues are best resolved by those parties during the development of the agreement.

126. As for Southern's objection to the parties to an interface agreement coordinating responses to system events, we see nothing objectionable to the requirement that the parties to an interface agreement have procedures and protocols in place to respond to changing system conditions, consistent with nuclear license requirements and SOL procedures, as well as the remaining Reliability Standards. Nothing in the Reliability Standard or the NOPR description suggests that the nuclear plant generator operator is to be the party to coordinate transmission system responses.

127. Similarly, with respect to NEI's concern that the parties to an interface agreement be required to coordinate operational and maintenance issues where necessary, we conclude that a generator and a transmission system operator may agree to coordinate maintenance schedules in order to address system conditions, so long as the agreement is consistent, in this case, with the generator's license requirements, the Reliability Standards, and the standards of conduct.<sup>60</sup>

#### 2. Addressing System Changes

128. Requirements R7 and R8 require parties to inform each other of design, configuration, operations, limits, protection systems, or capabilities that may impact their ability to meet NPIRs.

#### a. Comments

129. Entergy asks the Commission to clarify the level of proposed change that would trigger a Requirement R7 and R8 information exchange. According to Entergy, proposals to change a plant's "design, configuration, operations, limits, protection systems, or capabilities" are evaluated routinely, due to the multitude of complex systems within a nuclear power plant, and the long lifetimes of such facilities. Entergy points out that the NRC has extensive general design criteria and requirements for changes.<sup>61</sup> Entergy notes that proposals may never be

<sup>60</sup> *Standards of Conduct for Transmission Providers*, Notice of Proposed Rulemaking, Docket No. RM07-1-000, 73 FR 16228 (Mar. 27, 2008), FERC Stats. and Regs. ¶ 32,630 (2008). *Revisions to the Standards of Conduct for Transmission Providers*, Final Rule, Docket No. RM07-1-000, 125 FERC ¶ 61,062 (2008).

<sup>61</sup> See 10 CFR Part 50, Appendix B and 10 CFR 50.59.

approved, scheduled, or implemented and suggests that transmission system and facility proposals may be subject to similar concerns.

130. Entergy notes the limitations in the Requirements that the proposed changes to be reported are those that "may impact the ability of the electric system to meet the NPIRs," but claims that the description lacks clarity. Entergy suggests that nuclear plant generator operators and transmission entities will not be able to implement the Requirements without a determination of what changes to communicate and questions whether every discussion about a possible design change, technological improvement, or sale of facilities must be communicated. Entergy proposes that the Commission bypass agreement of the parties to an interface agreement and establish a limitation to include proposed changes that are formally approved, scheduled for implementation, and could significantly impact the ability of the Bulk-Power System to meet the NPIRs.

#### b. Commission Determination

131. The Commission declines to direct the clarification requested by Entergy. The Commission disagrees that the requirement to communicate changes that "may impact the ability of the electric system to meet the NPIRs" is not a clear requirement. It is an example of "what" is required, not "how" it should be performed which should be included in the agreements. The Commission believes that there are many plant-specific issues and does not expect they will be individually addressed in the Reliability Standard. However, it is clear what is required and the compliance audits will check that the entities have sufficiently covered them in their agreements.

#### G. Violation Risk Factors

132. As part of its compliance and enforcement program, NERC must assign a lower, medium or high violation risk factor to each Requirement of each mandatory Reliability Standard to associate a violation of the Requirement with its potential impact on the reliability of the Bulk-Power System. Violation risk factors are defined as follows:

*High Risk Requirement:* (a) Is a requirement that, if violated, could directly cause or contribute to Bulk-Power System instability, separation, or a cascading sequence of failures, or could place the Bulk-Power System at an unacceptable risk of instability, separation, or cascading failures; or (b) is a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative

conditions anticipated by the preparations, directly cause or contribute to Bulk-Power System instability, separation, or a cascading sequence of failures, or could place the Bulk-Power System at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

**Medium Risk Requirement:** (a) Is a requirement that, if violated, could directly affect the electrical state or the capability of the Bulk-Power System, or the ability to effectively monitor and control the Bulk-Power System, but is unlikely to lead to Bulk-Power System instability, separation, or cascading failures; or (b) is a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly affect the electrical state or capability of the Bulk-Power System, or the ability to effectively monitor, control, or restore the Bulk-Power System, but is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to Bulk-Power System instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

**Lower Risk Requirement:** Is administrative in nature and (a) is a requirement that, if violated, would not be expected to affect the electrical state or capability of the Bulk-Power System, or the ability to effectively monitor and control the Bulk-Power System; or (b) is a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to affect the electrical state or capability of the Bulk-Power System, or the ability to effectively monitor, control, or restore the Bulk-Power System.<sup>62</sup>

133. In its November 19, 2007 Petition, NERC identified and proposed violation risk factors for each Requirement of Reliability Standard NUC-001.<sup>63</sup> The NOPR reviewed NERC's proposal consistent with the terms proposed in the Violation Risk Factor Order, in which the Commission addressed violation risk factors filed by NERC for Version 0 and Version 1 Reliability Standards.<sup>64</sup>

#### NOPR Proposal

134. In the NOPR, the Commission disagreed with NERC's suggestion that NUC-001-1 Requirements were primarily administrative in nature and proposed to direct the ERO to raise violation risk factors for several Requirements. The NOPR stated the

<sup>62</sup> North American Electric Reliability Corp., 119 FERC ¶ 61,145, at P 9 (Violation Risk Factor Order), *order on reh'g*, 120 FERC ¶ 61,145 (2007) (Violation Risk Factor Rehearing Order).

<sup>63</sup> NERC proposes a lower violation risk factor for Requirements R1, R2 and R9 and a medium violation risk factor for Requirements R3 through R8.

<sup>64</sup> See Violation Risk Factor Order at P 19–36 (discussing five guidelines to evaluate the validity of each violation risk factor assignment).

Commission's general view that a Reliability Standard to ensure safe and reliable nuclear power plant operation and shutdown merits medium or high violation risk factors, rather than lower, due to the reliability benefits of nuclear power and the impact of separating a plant from the grid.

135. The NOPR noted that NUC-001-1 Requirements co-mingle administrative tasks with more critical requirements to ensure safe nuclear power plant operation and shutdown. These Requirements also provide for the safe and reliable operation of the grid, response to potential emergency conditions and implementation of procedures to address changing and emergency conditions. The NOPR sought comment on the Commission's proposals to raise violation risk factors for NUC-001-1, Requirements R2 (from lower to medium), R4, R5, R7, and R8 (medium to high), and R9 (lower to medium).

136. The NOPR also stated the Commission's understanding that NERC would apply the violation risk factor for the main Requirement to any violation of a sub-Requirement, unless separate violation risk factors are assigned to the Requirement and the sub-Requirement.

#### 1. General Violation Risk Factor Issues

##### a. Comments

137. NERC and other commenters object to what they characterize as the general basis described in the NOPR for justifying changes to violation risk factors.<sup>65</sup> They object to the Commission's reliance on cited reliability benefits of nuclear power and the impact of separating a plant from the grid to justify raising the risk factors. NERC and EEI state that, despite the unique characteristics of nuclear power generation the reliability benefits of nuclear power and the impact of separation from the grid are not different from the reliability impacts of a large output fossil generating facility. EEI further states that these reliability concerns are addressed in other Reliability Standards that apply to all generators, regardless of fuel type.

138. Duke echoes these concerns, stating that violation risk factors (and violation severity levels) should establish penalty ranges that are proportionate to the potential impact of violations on the Bulk-Power System (medium or lower), but should not expose nuclear plant generator operators and transmission entities to extreme

<sup>65</sup> See generally Ameren, ATC, Detroit Edison, EEI, Entergy, Exelon, ISO/RTO Council, Ontario Power, Southern, and SCE&G comments.

penalties simply because nuclear power plants are large units.

139. Ameren maintains that NUC-001-1 is administrative in nature, not operational and the Commission should not revise the violation risk factors.

140. Detroit Edison argues that the Commission's proposal to increase the violation risk factors undermines the integrity and value of the NERC Reliability Standards development process and states that the Commission has not justified its departure from the determinations reached through that process.<sup>66</sup> EEI similarly believes that any proposal to change violation risk factors or other aspects of Reliability Standards must be considered through NERC's ANSI-approved Reliability Standards development process.<sup>67</sup>

141. Constellation requests assurance that when there are overlapping requirements, registered entities will be subject to a single penalty only.

142. Finally, EEI comments that any proposal to change violation risk factors or other aspects of Reliability Standards must be considered through NERC's Reliability Standard development process. It points out that the Commission adopted this approach in Order No. 706, stating that "where a directive for modification appears to be determinative of the outcome, the Commission provided guidance to the ERO standards development process but permitted consideration of an equivalent alternative approach that adequately addresses the Commission's underlying goal or concern 'as efficiently or effectively as the Commission proposal.'<sup>68</sup>

##### b. Commission Determination

143. The Commission declines to adopt the procedures proposed by the commenters. The Commission has previously determined that violation risk factors are not a part of the Reliability Standards.<sup>69</sup> NERC has had an opportunity to fully vet the NUC-001-1 violation risk factors through the Reliability Standards development process. The Commission believes that, for those violation risk factors that do not comport with the Commission's previously-articulated guidelines for analyzing violation risk factor

<sup>66</sup> See also Ontario IESO and Hydro One, and SCE&G comments.

<sup>67</sup> Southern supports the EEI comments on violation risk factors. Ameren, Exelon, and Ontario Power support directing revisions through the Reliability Standards development process.

<sup>68</sup> EEI comments at 8.

<sup>69</sup> Violation Risk Factor Rehearing Order, 120 FERC ¶ 61,145 at P 11–16, *citing North American Reliability Corp.*, 118 FERC ¶ 61,030, at P 91, *order on clarification and reh'g*, 119 FERC ¶ 61,046 (2007).

designations, there is little benefit in once again allowing the Reliability Standards development process to reconsider a designation based on the Commission's concerns. Therefore, we will not allow NERC to reconsider the violation risk factor designations in this instance but, rather, direct below that NERC make specific modifications to its designations. NERC must submit a compliance filing with the revised violation risk factors no later than 90 days before the date the relevant Reliability Standard becomes enforceable.

144. That being said, NERC may choose the procedural vehicle to change the violation risk factors consistent with the Commission's directives. NERC may use the Reliability Standards development process, so long as it meets Commission-imposed deadlines.<sup>70</sup> In this instance, the Commission sees no vital reason to direct the ERO to use section 1403 of its Rules of Procedure to revise the violation risk factors discussed below, so long as the revised violation risk factors address the Commission's concerns and are filed no less than 90 days before the effective date of the relevant Reliability Standard.

145. Coordinating operations and planning between the nuclear power plant and its transmission entities serves two purposes; safety of the nuclear power plant and reliability of the Bulk-Power System. With regard to safety, the Blackout Report highlighted the importance of coordinated operations and planning between the Bulk-Power System and nuclear power plants, stating “[a]s the design and operation of the electricity grid is taken into account when evaluating the safety analysis of nuclear power plants, changes to the electricity grid must be evaluated for the impact on plant safety.”<sup>71</sup> With regard to reliability, since the NPIR supports many of the requirements necessary for the nuclear power plant to operate connected to the bulk electric system, not having an NPIR could result in the long-term outage of one or all nuclear power plants at a particular site to which the NPIR is applicable. This is relevant because the bulk electric system is not required to be planned to have multiple nuclear power plants out of service during peak load periods. As a result, the Commission disagrees with commenters that object

to its reliance on the impact of a nuclear power plant separating from the grid to justify elevating violation risk factors for requirements of the Reliability Standard. While the Commission recognizes that the power produced from nuclear and non-nuclear power plants is the same, the conditions under which nuclear power plants can safely operate are inherently different than non-nuclear power plants because a nuclear power plant must meet all licensing requirements established by the NRC to remain connected to the grid.

146. The Commission is concerned that a lack of coordination of operations and planning between a nuclear power plant and its transmission entities with respect to the interface capabilities and requirements has the potential to result in both the unanticipated separation and the long term outage of one or all nuclear power plants at a site from the Bulk-Power System. The former has the potential to place the Bulk-Power System at risk for cascading outages while the latter may result in inadequate system capabilities to meet the projected firm load in either the planning or operating horizon. For example, once disconnected, before a nuclear power plant can reconnect to the Bulk-Power System, not only must Bulk-Power System conditions be suitable, but the nuclear power plant must also complete certain activities relevant to ensuring the safety of the plant to resume power production. Since nuclear power plants are typically designed as base load plants, the Commission is concerned that while the Bulk-Power System may typically be able to withstand the disconnection of a nuclear power plant for a reasonable period until such time Bulk-Power System conditions allow for reconnection and the nuclear power plant is permitted to reconnect, a prolonged disconnection of a nuclear power plant because its NPIRs are not satisfied may not be sustainable without affecting system capabilities, thus putting the Bulk-Power System at risk for instability, separation, or cascading outages.

147. The Commission also disagrees with arguments that elevated violation risk factors for Requirements of the Reliability Standard are not justified because the reliability concern of instability, separation, or cascading outages are already addressed in other Reliability Standards. The Commission agrees with commenters that, as required by other Reliability Standards, the Bulk-Power System is planned and operated such that there will not be any interruptions of firm transmission service after one event, such as the loss

of a generator, nuclear fueled or otherwise.<sup>72</sup> However, the Commission has previously determined that it is not appropriate to mitigate perceived content issues among Reliability Standards, as suggested by commenters in this instance as the duplication of reliability objectives, through the violation risk factor assignment.<sup>73</sup> A violation risk factor represents the potential reliability risk a violation of a requirement presents to the Bulk-Power System. This assessed reliability risk is independent of, and not contingent upon, compliance with other Reliability Standard requirements. The Commission recognizes the complementary nature of some Reliability Standard Requirements and the fact that some requirements may share the same reliability objective. In fact, the Commission expects the assignment of a violation risk factor corresponding to requirements that address similar reliability goals in different Reliability Standards to be treated comparably.<sup>74</sup>

148. Commenters also argue that elevated violation risk factors are not justified because the proposed Reliability Standard is administrative in nature, not operational. The Commission disagrees. While the Commission recognized in the NOPR that many of the requirements of the Nuclear Reliability Standard are administrative in nature, these same requirements provide for the development of procedures to ensure the safe and reliable operation of the grid, and responses to potential emergency conditions.<sup>75</sup> As such, we disagree with arguments that the proposed standard focuses on nuclear safety through the administrative requirement of establishing agreements and not grid reliability.

149. Constellation's request for assurance that, when there are overlapping requirements, registered entities will be subject to a single penalty is a compliance issue and is thus best addressed on a case-by-case basis in the context of a compliance

<sup>72</sup> See Order No. 693 at P 1794 (“[b]ased on the record before us, we believe that the transmission planning Reliability Standard should not allow an entity to plan for the loss of non-consequential load in the event of a single contingency”). The Commission recognized that load directly connected to fault would be removed from service. See also TPL-001-000, Table 1, “Transmission Planning Standards—Normal and Emergency Conditions.”

<sup>73</sup> North American Electric Reliability Corp., 121 FERC ¶ 61,179, at P 16 (2007) (Order on Violation Risk Factor Compliance Filing).

<sup>74</sup> Violation Risk Factor Order, 119 FERC ¶ 61,145 at P 25.

<sup>75</sup> NOPR at P 51.

<sup>70</sup> See North American Electric Reliability Corp., 118 FERC ¶ 61,030, at P 91, order on compliance, 119 FERC ¶ 61,046, at P 33 (2007).

<sup>71</sup> See 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 129 (April 2004) (Blackout Report).

proceeding. We note that each instance of non-compliance with a Requirement is a separate violation. This is consistent with the FPA which establishes the statutory maximum penalty amount of \$1 million on a per day, per violation basis as reflected in the order certifying NERC as the ERO.<sup>76</sup> However, the Commission approved NERC's Sanction Guidelines that allow NERC, in the context of a compliance proceeding, to use its discretion in the determination of monetary penalties for a violation of a Requirement of a Reliability Standard.<sup>77</sup>

150. EEI's argument that Order No. 706 requires changes to the violation risk factors to be considered through the Reliability Standards development process is flawed. The passages in Order No. 706 cited by EEI concern modification of the Reliability Standard itself. As the Commission has repeatedly held, the violation risk factors are not a part of the Reliability Standards. In fact, in Order No. 706, we stated that "we will not allow NERC to reconsider the violation risk factor designations in this instance but, rather, direct below that NERC make specific modifications to its designations."<sup>78</sup> However, similar to our action in this order, Order No. 706 allowed NERC to choose the procedural vehicle to change the violation risk factors, so long as it meets Commission-imposed deadlines.<sup>79</sup>

## 2. Requirement-Specific Issues

### a. Requirement R2

#### i. NOPR

151. The NOPR proposed to direct the ERO to raise the violation risk factor for Requirement R2 from lower to medium. The NOPR justified this proposal because the Requirement co-mingles the administrative element of having an executed agreement in place with the operational element of determining how

<sup>76</sup> 16 U.S.C. 825o-1(b) (2006). See also *North American Electric Reliability Corp.*, 116 FERC ¶ 61,062, at P 412 (Certification Order, order on reh'g and compliance, 117 FERC ¶ 61,126 (2006)).

<sup>77</sup> Section 3.10 of the NERC Sanction Guidelines states in part, "NERC or the regional entity can determine and levy a separate penalty or sanction, or direct remedial action, upon a violator for each individual violator for each individual violation. However, in instances of multiple violations related to a single act or common incidence of noncompliance, NERC or the regional entity will generally determine and issue a single aggregate penalty, sanction, or remedial action directive bearing reasonable relationship to the aggregate of the related violations."

<sup>78</sup> *Mandatory Reliability Standards for Critical Infrastructure Protection*, Docket No. RM06-22-000; Order No. 706, 73 FR 7368 (Feb. 7, 2008), 122 FERC ¶ 61,040, at P 757, order on reh'g, Order No. 706-A, 123 FERC ¶ 61,174 (2008).

<sup>79</sup> *Id.*

the parties to the interface agreement will address nuclear plant licensing requirements and SOLs in order to provide for safe nuclear plant operation and shutdown. Thus, the operational requirements established will include requirements for off-site power to enable safe operation and shutdown during an electric system or plant event. Therefore, the NOPR noted that a violation of Requirement R2 "could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly affect the electrical state or capability of the Bulk-Power System" and found that a medium violation risk factor is appropriate.

#### ii. Comments

152. Ontario IESO and Hydro One and SCE&G disagree with the Commission that Requirement R2 has a direct impact on the electrical state or capability of the Bulk-Power System. They argue that, in the absence of an agreement, each party would continue to operate its own system in accordance with all applicable Reliability Standards.<sup>80</sup> Entergy and NEI argue that Requirement R2 is an administrative requirement, and state that violations can be quickly detected and corrected and will not directly affect the Bulk-Power System. Entergy also points out that Requirement R2 takes place in the planning timeframe and concludes that a lower violation risk factor is more appropriate.

#### iii. Commission Determination

153. The Commission adopts the NOPR proposal. As the Commission identified in the NOPR, Requirement R2 co-mingles the administrative element of having an executed agreement in place with the operational element of determining how the parties to the interface will address nuclear plant licensing requirements and SOLs. Consistent with violation risk factor guideline five, the Commission expects the assigned violation risk factor to reflect the highest reliability risk objective of the requirement.<sup>81</sup> A failure to establish operational and implementation elements of the NPIRs, the higher reliability risk objective of the requirement, has the potential under emergency, abnormal, or restorative conditions to directly affect the

<sup>80</sup> Detroit Edison states that it agrees with Ontario IESO and Hydro One on specific violation risk factor issues, and Ontario Power and SCE&G also disagree with the Commission's proposals.

<sup>81</sup> Violation Risk Factor Order, 119 FERC ¶ 61,145 at P 32.

electrical state or capability of the Bulk-Power System.

154. Arguments that elevating a violation risk factor is not justified because Requirement R2 is an administrative requirement that takes place in the planning time frame, thus violations are quickly detected and corrected are fundamentally flawed.<sup>82</sup> NERC contemplates in its definitions of the violation risk factor levels, the reliability risk a requirement violation presents in both the operating and planning time frames. Consistent with NERC's definition, a violation risk factor represents the potential reliability risk a violation of a requirement presents to the Bulk-Power System, regardless of the time frame.

155. With regard to comments from Ontario IESO and Hydro One and SCE&G, as explained previously in this Final Rule, it is not appropriate to assign a requirement's violation risk factor based on compliance with other Reliability Standards.

156. Accordingly, the Commission directs the ERO to revise the violation risk factor assignment for Requirement R2 from lower to medium no later than 90 days before the effective date of the Reliability Standard.

#### b. Requirements R4.2 and R4.3

#### i. NOPR

157. The NOPR proposed to direct the ERO to raise the violation risk factors for sub-Requirements R4.2 and R4.3 to high. Sub-Requirements R4.2 and R4.3 require a transmission entity to incorporate NPIRs into operating analyses, operate to meet the NPIRs and inform the nuclear plant generator operator when the ability to assess performance to meet the NPIRs is lost.

158. The NOPR states that sub-Requirement R4.2 obligates a transmission entity to operate its electric system to meet NPIRs established in an interface agreement. Furthermore, NPIRs are described as forming the basis for nuclear plant generator operators and transmission entities to "coordinate planning, assessment, analysis, and operation of the bulk power system to ensure safe nuclear plant operations and shutdowns." Therefore, the NOPR noted that, under emergency, abnormal, or restorative conditions, a violation of Requirement R4.2 could directly cause or contribute to Bulk-Power System instability, separation, or a cascading sequence of failures, or could place the Bulk-Power System at an unacceptable risk of instability, separation, or

<sup>82</sup> See NEI comments at 8, and Entergy comments at 15.

cascading failures,<sup>83</sup> and proposed a high violation risk factor for Requirement R4.2.

159. The NOPR noted that Requirement R4.3 obligates a transmission entity to inform the nuclear plant generator operator when the ability to monitor the system and verify NPIRs is lost. The NOPR noted that a nuclear plant generator operator that is not aware that a transmission entity can no longer guarantee that NPIRs are met to respond to, would suffer an impaired ability to anticipate, emergencies and changing system conditions. Because such an event could increase the likelihood that the plant is separated from the transmission system and cause significant degradation in Bulk-Power System reliability, characterized by instability, uncontrolled islanding and cascading, the NOPR proposed to direct the ERO to raise the violation risk factor for Requirement R4.3 from medium to high, and requested comment.

#### ii. Comments

160. Several commenters object to the proposal to raise the violation risk factor of Requirement R4.2 and R4.3.<sup>84</sup> NEI characterizes Requirement R4.2 as requiring transmission entities to operate their electrical systems to meet the NPIRs incorporated in the interface agreements and describes Requirement R4.3 as requiring transmission entities which lose the ability to monitor their systems to maintain compliance with NPIRs to communicate this information to the affected nuclear plant generator operators. NEI, ConEdison, and Entergy state that the Commission's concerns regarding the loss of a single generator are addressed in other NERC Reliability Standards that minimize the risk of system instability, separation, or cascading loss if a generator were to go offline.

161. NEI states that transmission planning and operations Reliability Standards require the transmission system to be able to withstand threats from the loss of a single generator. According to NEI, entities having the responsibility to meet the Requirements of these other Reliability Standards

already incorporate the limitations of nuclear generating plants into their studies and analyses and address the loss of a given generator and limit the effect of the loss on the grid. NEI states that NUC-001-1 deals only with the important interaction and communication between the nuclear plant generator operator and transmission entities to ensure that the NPIRs are met, while the operation of the Bulk-Power System and requirements to prevent instability, separation, or cascading failures are adequately addressed by other Reliability Standards.

162. Ontario IESO and Hydro One characterize the consequences of a violation of Requirement R4.2 or R4.3 as affecting a nuclear plant generator operator's license requirements and may result in a shut down, but argue that such a result, while significant to the generator, would not cause significant degradation in Bulk-Power System. Ontario IESO and Hydro One state that the shut down of a power plant is a controlled process, not a contingency, and conclude that reliability impacts such as instability, uncontrolled islanding and cascading would not result.

163. Midwest ISO disagrees with the Commission's assessment that a high violation risk factor is necessary for Requirement R4.2. In most cases, if the reliability coordinator and transmission operator are in a condition in which the bulk electric system cannot support the off-site power requirements of a nuclear plant, the nuclear plant is not at risk of tripping. Normally, in its licensing requirements, the plant is required after a period of time (usually two to eight hours) to begin a *controlled* shutdown of the reactor in this situation.

#### iii. Commission Determination

164. The Commission confirms its findings proposed in the NOPR and directs the ERO to revise the violation risk factor for Requirements R4.2 and R4.3 from medium to high. We disagree with the characterization that Requirements R4.2 and R4.3 deal only with the "important interaction and communication between the nuclear plant [generator] operator and transition entities to ensure that the NPIRs are met."<sup>85</sup> As discussed in the NOPR, these requirements are directly relevant to ensuring the continued operation of a nuclear power plant on the Bulk-Power System. A failure of the transmission entity to operate as needed to provide the NPIR or inform the nuclear plant generator operator when

its ability to assess the operation of the electric system is lost, puts the Bulk-Power System at risk of cascading outages. We note that most nuclear plant sites operate more than one nuclear power plant. If a transmission entity loses its ability to assess the operation of the electric system affecting its NPIRs, it will, in most cases, impact more than one nuclear power plant where the result would be the shutdown, controlled or otherwise, of the applicable nuclear plant site. As a result, there could be significant loss of firm transmission service if not cascading.

165. The Commission is also not persuaded by the argument that elevated violation risk factors are not justified because the shutdown of a nuclear power plant is a controlled process and not a contingency. NERC defines a contingency as, "the unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch or other electrical element." Although the shut down of a nuclear power plant is described as a "controlled" process because of the methodical and orderly operation of safety systems to disconnect the plant from the Bulk-Power System, the shut down is initiated because Bulk-Power System conditions are unsuitable for the continued operation of the nuclear power plant on the Bulk-Power System. If the shutdown, albeit controlled, of a nuclear power plant is unexpected in the course of the operation of the Bulk-Power System, it is, nonetheless, a contingency that must be accommodated in real time operations without the loss of firm service.

166. Further, not continuously providing specific NPIRs may result in the additional loss of one or more nuclear power plants during single or multiple contingencies. The Commission is concerned that an initial system event near, but unrelated to, one or more nuclear power plants that degrades system conditions beyond the nuclear power plant's license requirements could result in the disconnection of one or more nuclear power plants from the Bulk-Power System. In this case, the outages of multiple nuclear power plants would be the result of one contingency and would be considered by the Commission to be a single event. However, the reliability impact to the bulk electric system due to this single event may not be addressed in operations planning and long term planning, thus putting the Bulk-Power System at risk of cascading outages. Thus, not achieving the NPIRs could put the Bulk-Power System in

<sup>83</sup> See also NERC November 19, 2007 Petition at 20 ("The proposed reliability standard also acknowledges that the obligation to public safety relative to nuclear plant operation establishes a unique set of requirements that other generating facilities are not subjected to. In order to protect the common good, the applicable transmission entities must respect these unique requirements that maintain and/or restore offsite power adequate to supply minimum nuclear safety requirements.").

<sup>84</sup> See ConEdison, Detroit Edison, Entergy, Ontario IESO and Hydro One, Midwest ISO, NEI, Ontario Power, and SCE&G comments.

<sup>85</sup> NEI comments at 8.

danger of instability, separation or a cascading sequence of failures.

167. For the reasons discussed previously in this Final Rule, the Commission reiterates that it is not appropriate to assess a requirement's violation risk factor assignment based on compliance with other Reliability Standard requirements.

168. Therefore, consistent with the definition of a high violation risk factor, for the reasons discussed above, the Commission directs the ERO to revise the violation risk factor assignment for Requirements R4.2 and R4.3 from medium to high no later than 90 days before the effective date of the Reliability Standard.

#### c. Requirement R5

##### i. NOPR

169. The NOPR proposed to direct the ERO to raise the violation risk factor for Requirement R5 from medium to high. The NOPR noted that Requirement R5 obligates a nuclear plant generator operator to operate its system consistent with the interface agreement developed under NUC-001-1, and that the separation of a typically large nuclear power plant from the grid may significantly affect grid operations. Because nuclear power plant service interruptions could be initiated by incidents occurring on the nuclear power plant system, including incidents stemming from a failure to meet interface agreement terms, a violation of Requirement R5 could directly affect the reliability of the system. That possibility suggested that the violation risk factor for Requirement R5 should be raised from medium to high.

##### ii. Comments

170. Several commenters object to the proposal to raise the Requirement R5 violation risk factor from medium to high.<sup>86</sup> NEI characterizes Requirement R5 as ensuring that the nuclear plant generator operator understands and implements the interface agreements, and coordinates with the applicable transmission entities to ensure nuclear plant safe operation and shutdown. According to NEI, the nuclear industry consensus is that operation of the Bulk-Power System to prevent instability, separation, or cascading failures is adequately addressed by other Reliability Standards. According to NEI, the NOPR overstates the significance of the separation of a nuclear plant from the Bulk-Power System, because all Bulk-Power Systems are designed and

operated to handle the loss of the largest generator on the grid as an N-1 contingency, including a large nuclear power plant, which may not be the largest generator on the grid. Hence, the separation of a nuclear power plant should not be assumed to result in a loss of Bulk-Power System stability. NEI states that transmission grids must be able to withstand the loss of a single generating unit, including nuclear power plants and other facilities.<sup>87</sup> Thus, according to NEI the tripping of a large nuclear unit should not directly cause Bulk-Power System instability, separation or a cascading sequence of failures or place the Bulk-Power System at an unacceptable risk of instability, separation, or cascading failures. Should a nuclear generating unit separate from the grid and the resultant "post-trip" voltage be insufficient to meet the nuclear offsite power requirements for the site, it would not result in the automatic separation of the remaining nuclear units. Any subsequent shutdown of the nuclear units should not introduce grid or nuclear system transients because the shutdown would be an operator controlled, orderly process to ensure compliance with the requirements of the license.

171. Ontario IESO and Hydro One concede that failure to meet this requirement may significantly affect grid control and operation, but suggest that the reliability of the power grid will not be affected in a way that will cause instability, uncontrolled islanding and cascading because the separation of the plant would be coordinated and implemented in a controlled manner. Entergy states that the purpose of NUC-001-1 is to ensure the safe operation of nuclear power plants by requiring plant operators and transmission entities to coordinate to meet NPIRs and that other Reliability Standards provide for operation of the Bulk-Power System to prevent instability, separation, or cascading failures.

##### iii. Commission Determination

172. The Commission adopts the NOPR proposal. Commenters argue that elevating the violation risk factor assignment for Requirement R5 is not justified because: (1) The Commission overstates the significance of separation of a nuclear plant from the Bulk-Power

System; (2) the reliability concerns associated with instability, separation, or cascading outages are already addressed in other Reliability Standards, and (3) the shutdown of a nuclear power plant is a controlled process and not a contingency.

173. Each of these arguments has been previously addressed in this Final Rule. Accordingly, the Commission directs the ERO to revise the violation risk factor assignment for Requirement R5 from medium to high no later than 90 days before the effective date of the Reliability Standard.

#### d. Requirements R7 and R8

##### i. NOPR

174. The NOPR proposed to direct the ERO to raise the violation risk factors for Requirements R7 and R8 from medium to high, and sought comment. Requirements R7 and R8 obligate a nuclear plant generator operator and its transmission entities to inform each other of actual or proposed changes to their facilities that affect their ability to meet NPIRs. Because the information to be exchanged, such as "limits" and "protection systems," affects the ability of a plant to remain connected to the Bulk-Power System, the NOPR stated that a failure to provide information could result in a nuclear plant disconnecting from the Bulk-Power System, and place the Bulk-Power System at risk for cascading outages. To account for such a risk, the NOPR proposed to direct the ERO to raise the violation risk factors for Requirements R7 and R8 from medium to high.

##### ii. Comments

175. NEI states the violation risk factors for Requirements R7 and R8 should not be changed. NEI states Requirements R7 and R8 require nuclear plant generator operators and their transmission entities to communicate with each other regarding any changes to their facilities that could affect their capacity to meet their NPIR obligations. Since violations of these requirements are not likely to lead to Bulk-Power System instability, separation, or cascading failures, the violation risk factors for Requirements R7 and R8 should not be changed. Entergy also argues that Requirements R7 and R8 should have a medium violation risk factor, since a failure of communication to be avoided under the Requirements is not likely to lead to significant events such as Bulk-Power System instability, separation, or cascading failures, but only over the parties ability to monitor and oversee the Bulk-Power System or cause other unspecified problems.

<sup>86</sup> See Detroit Edison, Ontario IESO and Hydro One, Entergy, Ontario Power, and SCE&G comments.

<sup>87</sup> NEI cites the NERC "Category B" stability criteria which it describes as the most restrictive criteria. See TPL-001-000, Table 1, "Transmission Planning Standards." NEI also cites what it characterizes as more stringent regional criteria that require that the common mode simultaneous outage of two generator units (nuclear or otherwise) connected to the same switchyard shall not result in cascading, though not addressed by the initiating events in NERC "Category C."

176. Ontario IESO and Hydro One also suggest that the violation risk factors of Requirements R7 and R8 be assigned to medium, not high.<sup>88</sup> They agree that failure to meet these requirements may significantly affect grid control and operation, but not the reliability of the power grid characterized by instability, uncontrolled islanding and cascading. Finally, ConEdison believes that the violation risk factor for Requirement R8 should not be changed because transmission planners and operators do not analyze generation from nuclear power plants differently than other generators or the requirements are largely administrative.

### iii. Commission Determination

177. The Commission adopts the NOPR proposal. As discussed in the NOPR and in additional detail above, if transmission entities and nuclear plant generator operators do not provide or otherwise communicate information concerning system changes to each other, their planning and operating analyses may not include the true consequences of a single contingency. As a result, unanticipated events that could result in the disconnection of one or more nuclear power plants from the Bulk-Power System, in addition to the consequences of the initiating event, could place the Bulk-Power System at risk for cascading outages.

178. Arguments that elevating the violation risk factor assignment for Requirements R7 and R8 is not justified because the shutdown of a nuclear power plant is a controlled process and transmission planners and operators do not analyze nuclear power plants differently than other generation have been previously addressed in this Final Rule.

179. Accordingly, consistent with the definition of a high violation risk factor, and for the reasons discussed above, the Commission directs the ERO to revise the violation risk factor assignment for Requirements R7 and R8 from medium to high no later than 90 days before the effective date of the Reliability Standard.

## e. Requirement R9

### i. NOPR

180. The NOPR proposed to direct the ERO to raise the violation risk factor for Requirement R9 from lower to medium, and sought comment. Requirement R9 describes specific administrative, technical, operations, maintenance, coordination, communications, and

training elements that a nuclear plant generator operator and its transmission entities must include in their interface agreement. The NOPR stated that Requirement R9 is similar to Requirement R2, in that it co-mingles an administrative element of incorporating the various elements into the interface agreement with the operational element of determining how the parties to the interface agreement will address the administrative, technical, operations, maintenance, coordination, communications, and training issues in order to provide for safe nuclear power plant operation and shutdown. The NOPR stated that a violation of Requirement R9 could result in an inability to resolve system conditions in an emergency because the necessary operational or emergency planning elements may not be in place. Therefore, the NOPR noted that a violation of Requirement R9 "could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly affect the electrical state or capability of the Bulk-Power System." In response, the NOPR proposed to find that a medium violation risk factor is appropriate for Requirement R9, but stated that if the ERO wishes to assign a lower violation risk factor to the purely administrative sub-Requirements of Requirement R9, it could propose appropriate differentiation in its comments.

### ii. Comments

181. Commenters object to raising this violation risk factor because Requirement R9 is a planning requirement that is administrative in nature. Because generation from nuclear power plants is not analyzed differently than other generation by transmission planners and operators their operations do not justify higher risk factors.

182. NEI states the violation risk factor for Requirement R9 should not be changed. Requirement R9 sets forth the specific administrative, technical, operations, maintenance, coordination, communications, and training elements that a nuclear plant generator operator and its transmission entities must incorporate in the interface agreement. It argues that, while the implementation of these elements is substantive, Requirement R9 is an administrative requirement to include the specified provisions. Violations of this requirement can be readily identified and corrected; therefore, violations should not directly affect the Bulk-Power System.

183. Entergy characterizes Requirement R9 as addressing the various elements that parties must

address in an interface agreement and supporting the terms in Requirements R3 through 8. Entergy states that Requirement R9 is administrative in nature, occurs in the planning time frame and violations could be easily corrected without affecting the reliability of the Bulk-Power System.

### iii. Commission Determination

184. Consistent with the NOPR, the Commission directs the ERO to revise the violation risk factor assignment for Requirement R9 from lower to medium. The Commission disagrees with commenters that a lower violation risk factor is appropriate because Requirement R9 is an administrative requirement to include the specified provisions. While the Commission recognized in the NOPR that many of the requirements of the proposed Reliability Standard are administrative in nature, these same requirements provide for the development of procedures to ensure the safe and reliable operation of the grid, and responses to potential emergency conditions.

185. Further, as identified in the NOPR, Requirement R9 co-mingles the administrative element of incorporating the various elements into the interface agreement with the operational elements of determining how the parties to the interface agreement will address the administrative, technical, operations, maintenance, coordination, communications, and training issues for safe nuclear power plant operation and shutdown. Consistent with violation risk factor Guideline 5, the Commission expects the assigned violation risk factor to reflect the highest reliability risk objective of the requirement. A violation of the highest reliability risk objectives of Requirement R9, under emergency, abnormal, or restorative conditions has the potential to affect the electrical state or capability of the Bulk-Power System.

186. As discussed previously in this Final Rule, arguments that elevating the violation risk factor assigned to Requirement R9 are not justified because the subject requirement takes place in the planning time frame, thus violations are quickly detected and corrected, are fundamentally flawed.

187. Therefore, consistent with the definition of a medium violation risk factor, and for the reasons discussed above, the Commission directs the ERO to revise the violation risk factor assignment for Requirement R9 from lower to medium no later than 90 days before the effective date of the Reliability Standard.

<sup>88</sup> See also Detroit Edison, Ontario Power, and SCE&G comments.

### H. Violation Severity Levels

188. For each Requirement of a Reliability Standard, NERC states that it will also define up to four violation severity levels—lower, moderate, high and severe—as measurements of the degree to which the Requirement was violated. For a specific violation of a particular Requirement, NERC or the Regional Entity will establish the initial value range for the base penalty amount by finding the intersection of the applicable violation risk factor and violation severity level in the Base Penalty Amount Table in Appendix A of the Sanction Guidelines.<sup>89</sup>

#### 1. NOPR

189. The NOPR noted that NERC's November 19, 2007 Petition proposed violation severity levels that apply generally to all violations of the Requirements of NUC-001-1, rather than to specific Requirements and sub-Requirements, but that NERC had submitted proposed new violation severity levels for each Requirement and sub-Requirement of NUC-001-1 in Docket No. RR08-4-000.<sup>90</sup>

190. The NOPR stated the Commission's intention to address issues relating to NUC-001-1 violation severity levels in the Docket No. RR08-4-000 proceeding, but approve the proposed undifferentiated violation severity levels on an interim basis, in case the revised violation severity levels are not approved before the NUC-001-1 effective date. Because the initial violation severity levels for NUC-001-1 resemble previously proposed levels of non-compliance by grouping Requirements in NUC-001-1 rather than distinguishing on a per-Requirement and sub-Requirement basis, the NOPR proposed to treat the proposed, undifferentiated violation severity levels for NUC-001-1 consistent with the treatment adopted for levels of non-compliance, until the Requirement and sub-Requirement-specific violation severity levels are approved.<sup>91</sup>

<sup>89</sup> See *North American Electric Reliability Corp.*, 119 FERC ¶ 61,248, at P 74 (2007) (directing NERC to develop up to four violation severity levels (lower, moderate, high, and severe) as measurements of the degree of a violation for each requirement and sub-requirement of a Reliability Standard).

<sup>90</sup> The updated NUC-001-1 violation severity levels are provided in NERC's March 4, 2008 filing of revised Exhibit A, containing the NERC violation severity level matrix, in Docket No. RR08-4-000.

<sup>91</sup> See *North American Electric Reliability Corp.*, 119 FERC ¶ 61,248 at P 78-80.

### 2. Comments

191. NERC concurs with the Commission's approach to violation severity levels.

### 3. Commission Determination

192. The Commission takes no action on the violation severity levels in this Final Rule. The June 19, 2008 Order on violation severity levels directed the ERO to assess the violation severity levels for proposed NUC-001-1 in accordance with the Commission's guidelines set forth in that order.<sup>92</sup> As such, NERC has been directed to resubmit violation severity levels for NUC-001-1, including appropriate revisions based on the application of the Commission's guidelines, as part of NERC's six-month compliance filing directed in the Violation Severity Level Order.<sup>93</sup>

### III. Information Collection Statement

193. The Office of Management and Budget (OMB) regulations require approval of certain information collection requirements imposed by agency rules.<sup>94</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 this Final 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. The Paperwork Reduction Act (PRA)<sup>95</sup> requires each federal agency to seek and obtain OMB approval before undertaking a collection of information directed to 10 or more persons, or continuing a collection for which OMB approval and validity of the control number are about to expire.<sup>96</sup> The PRA defines the phrase "collection of information" to be the "obtaining, causing to be obtained, soliciting, or requiring the disclosure to third parties or the public, of facts or opinions by or for an agency, regardless of form or format, calling for either—

(i) answers to identical questions posed to, or identical reporting or recordkeeping requirements imposed on ten or more persons, other than agencies, instrumentalities, or employees of the United States; or (ii) answers to questions posed to agencies, instrumentalities, or employees of

<sup>92</sup> *North American Electric Reliability Corp.*, 123 FERC ¶ 61,284, at P 14 (2008) (Violation Severity Level Order).

<sup>93</sup> The Commission notes that NERC has sought rehearing of the Violation Severity Level Order concerning the scope and timing of the compliance filing in Docket No. RR08-4-001.

<sup>94</sup> 5 CFR 1320.11.

<sup>95</sup> 44 U.S.C. 3501-20.

<sup>96</sup> 44 U.S.C. 3502(3)(A)(i), 44 U.S.C. 3507(a)(3).

the United States which are to be used for general statistical purposes."<sup>97</sup>

194. This Final Rule approves the new Reliability Standard developed by NERC as the ERO. In addition, the Final Rule directs the ERO to develop a modification to one Requirement through its Reliability Standards development process. Section 215 of the FPA authorizes the ERO to develop and enforce Reliability Standards that provide for an adequate level of reliability of the Bulk-Power System. Pursuant to the statute, the ERO must submit each Reliability Standard that it proposes to be made effective to the Commission for approval.<sup>98</sup>

195. Reliability Standard NUC-001-1 does not require responsible entities to file information with the Commission. Nor, with the exception of a three year self-certification of compliance, does the Reliability Standard require responsible entities to file information with the ERO or Regional Entities. However, the Reliability Standard does require responsible entities to develop and maintain certain information for a specified period of time, subject to inspection by the ERO or Regional Entities.

196. Reliability Standard NUC-001-1 requires nuclear plant generator operators and entities that provide generation, transmission and distribution services relating to off-site power (these entities are defined as "transmission entities") to enter into interface agreements with nuclear plant generator operators that will govern certain communication, training, operational and planning elements for use in addressing generation and transmission system limits and nuclear licensing requirements. The Commission understands that most entities subject to this Reliability Standard already have such agreements in place. The responsible entities are also required to retain evidence that they executed such an agreement and incorporated its terms into systems planning and operations. Further, each nuclear plant generator operator and transmission entity must self-certify its compliance to the compliance monitor once every three years.

197. The Commission is submitting these reporting and recordkeeping requirements to OMB for its review and approval under section 3507(d) of the PRA. In the NOPR, the Commission sought comments on the Commission's need for this information, whether the information will have practical utility, the accuracy of provided burden

<sup>97</sup> 44 U.S.C. 3502(3)(A).

<sup>98</sup> See 16 U.S.C. 824o(d).

estimates, ways to enhance the quality, utility, and clarity of the information to be collected, and any suggested methods for minimizing the respondent's burden, including the use of automated information techniques.

198. Our estimate below regarding the number of respondents is based on the NERC compliance registry as of April 2007 and NERC's November 19, 2007 Petition that is the subject of this proceeding. In its Petition, NERC states that 104 nuclear power plants are subject to the proposed Reliability Standard. These plants are run by approximately 30 different utilities and are located on 65 different sites. Each plant must contract with transmission entities to obtain off-site power, and coordinate distribution and transmission services for such power.

199. The Nuclear Reliability Standard identifies 11 categories of functional entities that could be a transmission entity when providing covered services, including transmission operators, transmission owners, transmission planners, transmission service providers, balancing authorities, reliability coordinators, planning authorities, distribution providers, load-

serving entities, generator owners and generator operators. NERC's compliance registry indicates that there is a significant amount of overlap among the entities that perform these functions. Therefore, in some instances, a single entity may be registered under several of these functions. The November 19, 2007 Petition includes NERC drafting team comments which report, "In many cases, agreements are not two-party [agreements]—they are often multi-party agreements involving RTO/ISO Protocols, transmission and generation owners and others."<sup>99</sup> Therefore, this analysis attempts to account for the overlap of services to be provided by entities responsible for the various roles identified in the Reliability Standard, as well as the fact that certain plants may need to coordinate with multiple entities.

200. Under NUC-001-1, the 104 nuclear power plants must coordinate with off-site power suppliers and related transmission and/or distribution service providers. NUC-001-1 drafting team reports in its responses to SAR comments, "Nuclear plant generators and most nuclear offsite power supplies

interconnect with the bulk electric system at transmission system voltage levels. While backup station service for some plants may be provided via distribution lines, these cases are the exception, not the rule."<sup>100</sup> Assuming conservatively, that not more than half of the nuclear power plants call for multi-party coordination and those that do involve all the types of parties listed by the drafting team, the Commission estimates that 52 nuclear power plants will execute bi-lateral interface agreements and 52 nuclear power plants will execute multi-lateral interface agreements with approximately four other parties. Thus, the Commission estimates that the 104 nuclear power plants will enter into agreements with an additional 260 parties to bilateral and multi-party agreements, providing 364 as the total number of entities required to comply with the information "reporting" or development requirements of the Nuclear Reliability Standard.<sup>101</sup>

201. *Burden Estimate:* The Public Reporting burden for the requirements contained in the Final Rule is as follows:

Data collection	Number of respondents	Number of responses	Hours per respondent	Total annual hours
FERC-725F: Nuclear Plant Owners or Operators .....	104	1	Reporting: 80 .....	Reporting: 8,320.
Investor-Owned Utilities .....	130	1	Recordkeeping: 40 .....	Recordkeeping: 4,160.
Large Municipal, Cooperatives and other agencies .....	130	1	Reporting: 80 .....	Reporting: 10,400.
			Recordkeeping: 40 .....	Recordkeeping: 5,200.
<b>Total .....</b>	<b>364</b>	<b>.....</b>	<b>.....</b>	<b>43,680.</b>

*Total Hours:* (Reporting 29,120 hours + Recordkeeping 14,560 hours) = 43,680 hours. (FTE = Full Time Equivalent or 2,080 hours)

*Total Annual hours for Collection:* Reporting + Recordkeeping = 43,680 hours.

*Information Collection Costs:* The Commission finds the average annualized cost to be the total annual hours (Reporting) 29,120 times \$120 = \$3,494,400.

Recordkeeping = @ \$40/hour = \$ 582,400, with labor calculated as file/record clerk @ \$17 an hour + supervisory @ \$23 an hour.

Total costs = \$4,076,800.

<sup>99</sup> NERC Nuclear Reliability Standard drafting team, "Consideration of Comments, Draft 2—SAR on Nuclear Plant Offsite Power Reliability" at 2 (May 23, 2005), filed in November 19, 2007 Petition, Exh. B, Record of Development of Proposed Reliability Standard.

The Commission believes that this estimate may be conservative because most if not all of the applicable entities currently have agreements in place to provide for coordination between a nuclear plant generator operator and its local transmission, distribution and off-site power suppliers. Furthermore, multiple plants are located on certain sites, and one entity may operate multiple plants, providing for potential economies in updating, drafting and executing the interface agreements.

*Title:* FERC-725F, Mandatory Reliability Standard for Nuclear Plant Interface Coordination.

*Action:* Final Rule.

*OMB Control No.:* [To be determined.]

*Respondents:* Business or other for profit, and/or not for profit institutions.

*Frequency of Responses:* One time to initially comply with the rule, and then on occasion as needed to revise or modify. In addition, annual and three-year self-certification requirements will apply.

*Necessity of the Information:* NUC-001-1, implements 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 Nuclear Reliability Standard will ensure that system operating limits or SOLs used in the

<sup>100</sup> NERC Nuclear Reliability Standard drafting team, "Consideration of Comments on 2nd Draft of Nuclear Off-site Power Supply Standard" at 54 (Feb. 7, 2007), filed in November 19, 2007 Petition, Exh. B, Record of Development of Proposed Reliability Standard.

<sup>101</sup> Because it is assumed that each plant operator must ensure that appropriate agreements are in place for each plant, this analysis assesses the workload by measuring the work for 104 plants, rather than for the 30 nuclear plant operators.

reliability planning and operation of the Bulk-Power System are coordinated with nuclear licensing requirements in order to ensure the safe operation and shut down of nuclear power plants.

*Internal review:* The Commission has reviewed the requirements pertaining to the Nuclear Reliability Standard for the Bulk-Power System and determined that the requirements adopted are necessary to meet the statutory provisions of the Energy Policy Act of 2005. 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 internal review, that there is specific, objective support for the burden estimates associated with the information requirements.

202. Interested persons may obtain information on the reporting requirements by contacting: Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426 [Attention: Michael Miller, Office of the Executive Director, *Phone:* (202) 502-8415, *fax:* (202) 273-0873, *e-mail:* [michael.miller@ferc.gov](mailto:michael.miller@ferc.gov)]. Comments on the requirements of the Final Rule may also be sent to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 [Attention: Desk Officer for the Federal Energy Regulatory Commission, *e-mail:* [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov)].

#### IV. Environmental Analysis

203. 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>102</sup> The Commission has categorically excluded certain actions from this requirement as not having a significant effect on the human environment. The actions proposed here fall within the categorical exclusion in the Commission's regulations for rules that are clarifying, corrective or

procedural, for information gathering, analysis, and dissemination.<sup>103</sup> Accordingly, neither an environmental impact statement nor environmental assessment is required.

#### V. Regulatory Flexibility Act Analysis

204. The Regulatory Flexibility Act of 1980 (RFA)<sup>104</sup> generally requires a description and analysis of Final Rules that will have significant economic impact on a substantial number of small entities. Most of the entities, *i.e.*, planning authorities, reliability coordinators, transmission planners and transmission operators, to which the requirements of this rule would apply do not fall within the definition of small entities.<sup>105</sup>

205. As indicated above, based on available information regarding NERC's compliance registry, approximately 364 entities, including owners and operators of 104 nuclear power plants, will be responsible for compliance with the new Reliability Standard. It is estimated that one-third of the responsible entities, about 130 entities, would be municipal and cooperative organizations. In addition to generator owners and operators and distribution service providers, the Nuclear Reliability Standard applies to planning authorities, transmission planners, transmission operators and reliability coordinators, which tend to be larger entities. Thus, the Commission believes that only a portion, approximately 30 to 40 of the municipal and cooperative organizations to which the Reliability Standard applies, qualify as small entities.<sup>106</sup> The Commission does not consider this a substantial number of all municipal and cooperative organizations. Moreover, as discussed above, the Nuclear Reliability Standard will not be a burden on the industry since most if not all of the applicable entities currently coordinate operations and planning with nuclear plant generator operators and the Nuclear Reliability Standard will simply provide a common framework for agreements

governing such coordination and many of the entities already have agreements in place to meet prior NRC requirements.

206. Based on this understanding, the Commission certifies that this Final Rule will not have a significant economic impact on a substantial number of small entities. Accordingly, no regulatory flexibility analysis is required.

#### VI. Document Availability

207. 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 FERC's Home Page (<http://www.ferc.gov>) and in FERC's Public Reference Room during normal business hours (8:30 a.m. to 5 p.m. Eastern time) at 888 First Street, NE., Room 2A, Washington, DC 20426.

208. From FERC'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 excluding the last three digits of this document in the docket number field.

209. User assistance is available for eLibrary and the FERC's Web site during normal business hours from FERC Online Support at (202) 502-6652 (toll free at (866) 208-3676) or *e-mail* at [ferclinesupport@ferc.gov](mailto:ferclinesupport@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.

**Kimberly D. Bose,**  
*Secretary.*

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

#### COMMENTS ON NOTICE OF PROPOSED RULEMAKING

Abbreviation	Entity
Ameren .....	Ameren Service Co.

<sup>102</sup> Order No. 486, Regulations Implementing the National Environmental Policy Act, 52 FR 47897 (Dec. 17, 1987), FERC Stats. and Regs. ¶ 30,783 (1987).

<sup>103</sup> 18 CFR 380.4(a)(5).

<sup>104</sup> 5 U.S.C. 601-12.

<sup>105</sup> The RFA definition of "small entity" refers to the definition provided in the Small Business Act, which defines a "small business concern" as a business that is independently owned and operated

and that is not dominant in its field of operation. See 15 U.S.C. 632 (2006). According to the SBA, a small electric utility is defined as one that has a total electric output of less than four million MWh in the preceding year.

<sup>106</sup> According to the DOE's Energy Information Administration (EIA), there were 3,284 electric utility companies in the United States in 2005, and 3,029 of these electric utilities qualify as small entities under the SBA definition. Among these 3,284 electric utility companies are: (1) 883

cooperatives of which 852 are small entity cooperatives; (2) 1,862 municipal utilities, of which 1842 are small entity municipal utilities; (3) 127 political subdivisions, of which 114 are small entity political subdivisions; and (4) 219 privately owned utilities, of which 104 could be considered small entity private utilities. See Energy Information Administration Database, Form EIA-861, Dept. of Energy (2005), available at <http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>.

## COMMENTS ON NOTICE OF PROPOSED RULEMAKING—Continued

Abbreviation	Entity
ATC <sup>+</sup> .....	American Transmission Company LLC.
CenterPoint Energy .....	CenterPoint Energy Houston Electric, LLC.
ConEdison .....	Consolidated Edison of New York, Inc.
Constellation .....	Constellation Energy Group, Inc.
Detroit Edison .....	Detroit Edison Company.
Dominion .....	Dominion Resources, Inc.
Duke .....	Duke Energy Corporation.
EEI .....	Edison Electric Institute.
Entergy .....	Entergy Services, Inc.
Exelon .....	Exelon Corporation.
ISO/RTO Council .....	ISO/RTO Council.
International Transmission .....	International Transmission Co., Michigan Electric Transmission Co., LLC and ITC Midwest.
Midwest ISO .....	Midwest Independent Transmission System Operator, Inc.
National Grid <sup>+</sup> .....	National Grid USA.
NERC .....	North American Electric Reliability Corp.
NEI <sup>+</sup> .....	Nuclear Energy Institute.
Ontario IESO and Hydro One .....	Independent Electricity System Operator of Ontario and Hydro One Networks Inc.
Ontario Power .....	Ontario Power Generation Inc.
SCE&G .....	South Carolina Electric and Gas Company.
Southern .....	Southern Company Services, Inc.
TVA .....	Tennessee Valley Authority.
Wisconsin Electric .....	Wisconsin Electric Power Company.

<sup>+</sup> Comments filed out-of-time.

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