AGENCY: Federal Energy Regulatory Commission.

ACTION: Notice of Proposed Rulemaking.

SUMMARY: Pursuant to section 215 of the Federal Power Act (FPA), the Commission is proposing to approve three Reliability Standards developed by the North American Electric Reliability Corporation (NERC), which the Commission has certified as the Electric Reliability Organization responsible for developing and enforcing mandatory Reliability Standards. The three new Reliability Standards, designated by NERC as FAC-010-1, FAC-011-1 and FAC-014-1, set requirements for the development of system operating limits of the Bulk-Power System for use in the planning and operation horizons.

DATES: Comments are due [30 days after publication in the FEDERAL REGISTER]

ADDRESSES: Comments and reply comments may be filed electronically via the eFiling link on the Commission's web site at www.ferc.gov. Documents created electronically using word processing software should be filed in the native application or print-to-PDF format and not in a scanned format. This will enhance document retrieval for both the Commission and the public. The Commission accepts most standard word
processing formats and commenters may attach additional files with supporting
information in certain other file formats. Attachments that exist only in paper form may
be scanned. Commenters filing electronically should not make a paper filing. Service of
rulemaking comments is not required. Commenters that are not able to file electronically
must send an original and 14 copies of their comments to: Federal Energy Regulatory
Commission, Office of the Secretary, 888 First Street, N.E., Washington, D.C., 20426.

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SUPPLEMENTARY INFORMATION:
NOTICE OF PROPOSED RULEMAKING

(August 13, 2007)

1. Pursuant to section 215 of the Federal Power Act (FPA), the Commission is proposing to approve three Reliability Standards developed by the North American Electric Reliability Corporation (NERC), which the Commission has certified as the Electric Reliability Organization responsible for developing and enforcing mandatory Reliability Standards. The three new Reliability Standards, designated by NERC as FAC-010-1, FAC-011-1 and FAC-014-1, set requirements for the development of system operating limits of the Bulk-Power System for use in the planning and operation horizons.¹

¹ 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 website each effective Reliability Standard.
I. **Background**

A. **EPAct 2005 and Mandatory Reliability Standards**

2. On August 8, 2005, the Electricity Modernization Act of 2005, which is Title XII, Subtitle A, of the Energy Policy Act of 2005 (EPAct 2005), was enacted into law.\(^2\) EPAct 2005 adds a new section 215 to the FPA, which requires a Commission-certified ERO to develop mandatory and enforceable Reliability Standards, which are subject to Commission review and approval. Once approved, the Reliability Standards may be enforced by the ERO, subject to Commission oversight or the Commission can independently enforce Reliability Standards.\(^3\)

3. On February 3, 2006, the Commission issued Order No. 672, implementing section 215 of the FPA.\(^4\) Pursuant to Order No. 672, the Commission certified one organization, NERC, as the ERO.\(^5\) The ERO is required to develop Reliability Standards.

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\(^3\) 16 U.S.C. 824o(e)(3).


Standards, which are subject to Commission review and approval. The Reliability Standards will apply to users, owners and operators of the Bulk-Power System, as set forth in each Reliability Standard.

B. **NERC’s Proposed New Reliability Standards**

4. On November 15, 2006, NERC filed 20 revised Reliability Standards and three new Reliability Standards for Commission approval. The Commission addressed the 20 revised Reliability Standards in Order No. 693. The three new Reliability Standards were designated by NERC as follows:

   FAC-010-1 (System Operating Limits Methodology for the Planning Horizon);

   FAC-011-1 (System Operating Limits Methodology for the Operations Horizon); and

   FAC-014-1 (Establish and Communicate System Operating Limits).

These three Reliability Standards were assigned to a new rulemaking proceeding, Docket No. RM07-3-000, and are the subject of the current Notice of Proposed Rulemaking (NOPR).

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7 The three Reliability Standards are not attached to this NOPR but are available on the Commission’s eLibrary document retrieval system in Docket No. RM07-3-000 and on NERC’s website, http://www.nerc.com/~filez/nerc_filings_ferc.html.
5. In addition, NERC proposes the addition or revision of the following terms in the NERC Glossary of Terms Used in Reliability Standards (NERC glossary): “cascading outages,” “delayed fault clearing,” “Interconnection Reliability Operating Limit (IROL),” and “Interconnection Reliability Operating Limit T\textsubscript{v} (IROL T\textsubscript{v}).”\textsuperscript{8}

6. NERC states that the three new Reliability Standards ensure that system operating limits and interconnection reliability operating limits are developed using consistent methods and that those methods contain certain essential elements.\textsuperscript{9} NERC requests an effective date of July 1, 2007 for Reliability Standards FAC-010-1, October 1, 2007 for FAC-011-1, and January 1, 2008 for FAC-014-1. NERC explains that it has proposed a phased schedule for implementing these Reliability Standards so that each responsible entity has sufficient time to develop the methodology for determining stability limits associated with a list of multiple contingencies, to update the system operating limits as needed to comply with the new requirements, to communicate the limits to others, and to prepare the documentation necessary to demonstrate compliance.

\textsuperscript{8} In Order No. 693, at P 1893-98, the Commission approved the NERC glossary and directed specific modifications to the document.

\textsuperscript{9} NERC filing at 20. Section 39.5(a) of the Commission’s regulations, 18 CFR 39.5 (2007), provides that the ERO’s submission of a new or modified Reliability Standard must include, inter alia, a concise statement of the basis and purpose of the proposed Reliability Standard and a demonstration that the proposal is just, reasonable not unduly discriminatory or preferential, and in the public interest. We note that NERC’s filing, at 20, includes a single paragraph describing the purpose of the proposed Reliability Standards. Future Reliability Standard filings may be subject to a deficiency letter if they fail to satisfy the filing requirements set forth in our regulations.
7. NERC states that the original balloting for FAC-010-1 and FAC-011-1 took place in March 2006, but failed to reach a quorum. These Reliability Standards were revised and posted for comment during June and July 2006.

8. NERC states that the revised Reliability Standards were balloted in September 2006 and were approved by a weighted average of 74.5 percent with 81.6 percent of the ballot pool voting. However, because negative comments were received, a need for recirculation of the ballot was triggered. The recirculation ballot was conducted in October 2006 and was approved by a weighted average of 71.66 percent with 84.93 percent of the ballot pool voting.

II. Discussion

A. FAC-010-1 (System Operating Limits Methodology for the Planning Horizon)

1. Description of the Reliability Standard

9. The stated Purpose of the Reliability Standard is to “ensure that System Operating Limits (SOLs) used in the reliable planning of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.” FAC-010-1 applies to “planning authorities” and requires each planning authority to document its

10 Id. at 21.

11 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. . . .”
methods for determining system operating limits and to share the calculated limits with reliability entities.\textsuperscript{12}

10. Requirement R1 of the Reliability Standard provides that the Planning Authority shall have a documented SOL methodology within its planning area that is applicable to the planning time horizon, does not exceed facility ratings, and includes a description of how to identify the subset of SOLs that qualify as interconnection reliability operating limits (IROLs).\textsuperscript{13}

11. Requirement R2 of the Reliability Standard identifies specific considerations that must be included in the methodology. For example, Requirement R2.1 provides that the methodology must include a requirement that SOLs provide bulk electric system performance so that, in the pre-contingency state and with all facilities in service, the bulk electric system shall demonstrate transient, dynamic and voltage stability and all facilities shall be within their facility ratings. Requirement R2.2 provides that, following

\textsuperscript{12} The NERC glossary defines “planning authority” as “the responsible entity that coordinates and integrates transmission facility and service plans, resource plans, and protection systems.” We note that Version 2 of NERC’s Reliability Functional Model, adopted by the NERC Board of Trustees on February 10, 2004, at 14-16, discusses the role of the planning authority. However, Version 3 of NERC’s Reliability Functional Model, adopted by the NERC Board of Trustees on February 13, 2007, at 13-15, appears to have replaced “planning authority” with the new term “planning coordinator.”

\textsuperscript{13} As discussed later, NERC has proposed the following definition of IROL, “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.”
specified single contingencies, the system shall demonstrate transient, dynamic and voltage stability, all facilities shall be within their facility ratings, and cascading outages or uncontrolled separation shall not occur. Requirement R2.3 states that, starting with all facilities in service, the system’s response to a single contingency may include any of the following:

R2.3.1 - Planned or uncontrolled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area.

R2.3.2 - System reconfiguration through manual or automatic control or protection actions.

R2.3.3 - To prepare for the next Contingency, system adjustments may be made, including changes to generation, uses of the transmission system and the transmission system topology.

12. Requirement R2.4 provides that, starting with all facilities in service and following any of the multiple contingencies identified in Reliability Standard TPL-003,\textsuperscript{14} the system shall demonstrate transient, dynamic and voltage stability, all facilities shall be within their facility ratings, and cascading outages or uncontrolled separation shall not occur. Requirement R2.5 states that, in determining the response to any of the multiple contingencies identified in TPL-003, in addition to the actions identified in R2.3.1 and R2.3.2, “the following shall be acceptable: planned or controlled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area.”

\textsuperscript{14} In Order No. 693, the Commission approved TPL-003-0. In addition, the Commission directed the ERO to develop specific modifications to TPL-003-0. See Order No. 693 at P 1816-25.
supply to customers (load shedding), the planned removal from service of certain generators, and/or the curtailment of contracted Firm (non-recallable reserved) electric power Transfers.”

13. Further, FAC-010-1 includes an Interconnection-wide regional difference applicable to the Western Interconnection. The regional difference provides a different, more detailed methodology for the evaluation of multiple contingencies when establishing SOLs. It also provides that “the Western Interconnection may make changes (performance category adjustments) to the Contingencies required to be studied and/or the required responses to Contingencies for specific facilities based on actual system performance and robust design.”

14. Reliability Standard FAC-010-1 identifies data retention requirements and two sets of Levels of Non-Compliance, one of general applicability and one for the Western Interconnection. FAC-010-1 includes Measures corresponding to each Requirement. It identifies the regional reliability organization as the entity responsible for compliance monitoring.
2. **Commission Proposal**

15. The Commission proposes to approve Reliability Standard FAC-010-1 as a mandatory and enforceable Reliability Standard.\(^{15}\) In addition, the Commission seeks ERO clarification and public comment on several matters discussed below.

a. **Consistency with Order No. 890**

16. In Order No. 890, the Commission amended the pro forma open access transmission tariff (OATT) to ensure that it achieves its original purpose of remedying undue discrimination, provide greater specificity to reduce opportunities for undue discrimination, and increase transparency in the rules applicable to planning and use of the transmission system.\(^{16}\) Order No. 890 requires the consistent use of assumptions underlying operational planning for short-term available transmission capability (ATC) calculations and expansion planning for long-term ATC calculations.\(^{17}\)

17. As explained above, FAC-010-1 requires each planning authority to document its methods for determining system operating limits or SOLs for the planning horizon. SOLs often control or define ATC by determining the outer limit of the operational

\(^{15}\) The Commission expects that the reference to the regional reliability organization as the compliance monitor should be replaced with the term Regional Entity. Order No. 693 at P 157.


\(^{17}\) Id. P 290-95.
capability between any two areas or across a transmission path or interface. The Commission seeks comment on whether the development of a methodology for calculation of SOLs for the planning horizon pursuant to proposed Reliability Standard FAC-010-1 and the calculation of ATC for the long-term pursuant to NERC’s Modeling, Data, and Analysis (MOD) Reliability Standards results in the consistent use of assumptions as required by Order No. 890. In particular, the Commission has the following concerns:

(1) For a given set of conditions, the IROL and SOL values will change with the additional contingencies that are studied. Application of additional first contingencies and multiple contingencies will, in general, result in lower SOL limits as compared to those calculated with either the existing operational or planning contingencies. Is there a potential for the exercise of undue discrimination against transmission customers where, for example, a planning authority’s SOL methodology calls for the application of a single contingency in determining SOLs pursuant to FAC-010-1 and the reliability coordinator and planning authority calculate ATC for the long-term using the assumption of multiple contingencies? Do the Order No. 890 transparency requirements mitigate any potential for the exercise of undue discrimination in this respect?

(2) In Order No. 693, the Commission required that total transfer capability (TTC) be addressed under the Reliability Standard that deals with transfer capability such as FAC-012-1, rather than MOD-001-0. The Commission disagreed with commenters suggesting that transfer capabilities addressed by FAC-012-1 are necessarily different from TTC used for ATC calculation. In a similar vein, the Commission seeks comment on whether the SOLs developed pursuant to FAC-010-1 are essentially the same as TTC used for ATC calculation. If so, should NERC address SOLs, transfer capability and TTC in a coordinated and consistent manner?

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18 See Order No. 693 at P 1050-52.
b. **Western Interconnection Regional Difference**

18. Order No. 672 explains that “uniformity of Reliability Standards should be the goal and the practice, the rule rather than the exception.”\(^{19}\) Moreover, the Commission has stated that, as a general matter, regional differences are permissible if they are either more stringent than the continent-wide Reliability Standard, or if they are necessitated by a physical difference in the Bulk-Power System.\(^{20}\) Regional differences must still be just, reasonable, not unduly discriminatory or preferential and in the public interest.\(^{21}\)

19. The WECC regional difference in FAC-010-1 identifies a different list of multiple contingencies from those in Category C of Table 1 in the TPL Reliability Standard series. The detailed list of considerations in the regional difference that would apply to the Western Interconnection adds additional contingencies and appears to be more stringent. Thus, we also propose to approve the regional difference that would apply to the Western Interconnection regarding the methodology for establishing SOLs.

20. However, the Commission also has the following concern regarding the proposed regional difference. As noted above, the regional difference provides that the Western Interconnection may make changes to the contingencies required to be studied or required responses to contingencies based on actual system performance. Presumably, such

\(^{19}\) Order No. 672 at P 290.

\(^{20}\) Id. P 291.

\(^{21}\) Id.
changes would be developed by WECC. However, the Reliability Standard does not identify any process for making such changes or indicate whether the requirements for reasonable notice and opportunity for public comment, due process, openness and balance of interests will be met in making such changes. \(^{22}\) Accordingly, we propose that WECC should identify the process that it will use to make changes to the currently listed contingencies required to be studied or required responses to contingencies. Further, the Commission seeks comment on whether the regional difference should be modified to explicitly include the process that WECC will use to make changes to the currently listed contingencies.

c. **Other Matters**

21. The Commission seeks the following clarification from the ERO regarding the language of FAC-010-1. As mentioned above, Requirement R2.3 provides that the system’s response to a single contingency may include, *inter alia*, “planned or controlled interruption of electric supply to radial customers or some local network customers connected to or supplied by the Faulted Facility or by the affected area.” The Commission seeks clarification whether this provision is limited to the loss of load that is a direct result of the contingency, i.e., consequential load, or whether this provision allows firm load shedding and firm transmission curtailment following a single contingency. In Order No. 693, the Commission determined that the single contingency

\(^{22}\) See 16 U.S.C. 824o(c)(2)(D).
provision should allow only the interruption of consequential load and seeks confirmation from the ERO that this proposed Reliability Standard conforms to this determination.

22. Further, as noted above, while the Reliability Standard identifies the “planning authority” as the applicable entities, the most recent iteration of the Functional Model has eliminated the term and now refers to “planning coordinator.” The ERO should explain its plans to make FAC-010-1 consistent with the most recent iteration of the Functional Model, and how this may affect the applicability of the Reliability Standard to individual entities. Finally, NERC must remove references to the regional reliability organization as the entity responsible for compliance monitoring and replace it with either the Regional Entity or ERO.

23. Finally, Requirement R2.2 of FAC-010-1 requires a planning authority to consider various single contingencies including the loss of a shunt device. While the transmission

\[\text{\textsuperscript{23}} \text{Order No. 693 at P 1791-94 (discussing TPL-002-0).}\]

\[\text{\textsuperscript{24}} \text{NERC’s Statement of Compliance Registry Criteria (Version 3), approved by the Commission in Order No. 693, sets out criteria that will be used by NERC and the Regional Entities for identifying users, owners and operators of the Bulk-Power System that are candidates for registration for compliance with mandatory Reliability Standards. Order No. 693 at P 92-96. NERC’s registry criteria provide that NERC will register entities that perform a “planning authority” function. Thus, it appears that the criteria used by NERC and the Regional Entities to register entities are consistent with the terms of FAC-010-1.}\]

\[\text{\textsuperscript{25}} \text{See Order No. 693 at P 157.}\]
planning (TPL) Reliability Standards implicitly require the consideration of the loss of a shunt device, they do not require this explicitly. Should the Commission clarify the TPL Reliability Standards by requiring the ERO to modify them to explicitly require the consideration of a shunt device, consistent with FAC-010-1?

**B. FAC-011-1 (System Operating Limits Methodology for the Operations Horizon)**

1. **Description of the Reliability Standard**

24. Proposed Reliability Standard FAC-011-1 requires each reliability coordinator to develop a SOL methodology for determining which of the stability limits associated with the list of multiple contingencies are applicable for use in the operating horizon based on actual or expected system conditions.

25. Requirement R2 of FAC-011-1 identifies specific considerations that must be included in the methodology in a pre-contingency state and following one or multiple contingencies. The provisions of Requirement R2 of FAC-011-1 are the same as those in Requirement R2 of FAC-010-1, except for Requirement R2.3.2 of FAC-011-1, which provides as follows:

   In determining the system’s response to a single Contingency, the following shall be acceptable. . . . [i]nterruption of other network customers, only if the system has already been adjusted, or is being adjusted, following at least one prior outage, or, if the real-time operating conditions are more adverse than anticipated in the corresponding studies, e.g., load greater than studied.

26. FAC-011-1 includes an Interconnection-wide regional difference applicable to the Western Interconnection, which repeats the language of the regional difference in FAC-
010-1. Again, the regional difference provides a different, more detailed methodology for the evaluation of multiple contingencies when establishing SOLs. It also provides that the “Western Interconnection may make changes” to the contingencies required to be studied and/or the required responses to contingencies for specific facilities.

27. Reliability Standard FAC-011-1 identifies data retention requirements and two sets of Levels of Non-Compliance, one of general applicability and one for the Western Interconnection. It includes Measures corresponding to each Requirement and identifies the regional reliability organization as the entity responsible for compliance monitoring.

2. **Commission Proposal**

28. The Commission proposes to approve Reliability Standard FAC-011-1 as a mandatory and enforceable Reliability Standard. In addition, the Commission seeks ERO clarification and public comment on several matters discussed below.

a. **Consistency with Order No. 890**

29. Similar to our concerns discussed above regarding FAC-010-1, the Commission has the following concerns:

(1) Is there a potential for the exercise of undue discrimination against transmission customers where, for example, a reliability coordinator’s SOL methodology calls for the application of a single contingency in determining SOLs pursuant to FAC-011-1 and the reliability coordinator and planning authority calculate ATC for the short-term using the assumption of multiple contingencies? Do the Order No. 890 transparency requirements mitigate any potential for the exercise of undue discrimination in this respect?

(2) In Order No. 693, the Commission required that TTC be addressed under the Reliability Standard that deals with transfer capability such as
FAC-012-1, rather than MOD-001-0. The Commission disagreed with commenters suggesting that transfer capabilities addressed by FAC-012-1 are necessarily different from TTC used for ATC calculation. In a similar vein, the Commission seeks comment on whether the SOLs developed pursuant to FAC-011-1 are essentially the same as TTC used for ATC calculation. If so, should NERC address SOLs, transfer capability and TTC in a coordinated and consistent manner?

b. Western Interconnection Regional Difference

30. The detailed list of considerations in the regional difference that would apply to the Western Interconnection appears to be more stringent and detailed than the set of contingencies provided in Requirement R2 of FAC-011-1. Thus, we also propose to approve the regional difference that would apply to the Western Interconnection regarding the methodology for the evaluation of multiple facility contingencies when establishing SOLs.

31. Similar to our discussion regarding FAC-010-1, the Commission is concerned that the regional difference provides that the Western Interconnection may make changes to the contingencies required to be studied or required responses to contingencies based on actual system performance. Presumably, such change would be developed by WECC. However, the Reliability Standard does not identify any process for making such changes or indicate whether the requirements for reasonable notice and opportunity for public comment, due process, openness and balance of interests will be met in making such changes.

26 See Order No. 693 at P 1050-52.
changes. Accordingly, we propose that WECC should identify the process that it will use to make changes to the currently listed contingencies required to be studied or required responses to contingencies. Further, the Commission seeks comment on whether the regional difference should be modified to explicitly include the process that WECC will use to make changes to the currently listed contingencies.

c. Other Matters

32. As mentioned above, Requirement R2.3.2 provides that the system’s response to a single contingency may include, inter alia, “[i]nterruption of other network customers, only if the system has already been adjusted, or is being adjusted, following at least one prior outage, or, if the real-time operating conditions are more adverse than anticipated in the corresponding studies, e.g., load greater than studied.” The Commission seeks clarification from the ERO regarding the meaning of the phrase “if the real-time operating conditions are more adverse than anticipated in the corresponding studies, e.g., load greater than studied.” In particular, the Commission is concerned whether this provision treats load forecast error as a contingency and as such would allow an interruption due to an inaccurate weather forecast. Finally, NERC must remove references to the regional reliability organization as the entity responsible for compliance monitoring and replace it with either the Regional Entity or ERO.28

27 See 16 U.S.C. 824o(c)(2)(D).

28 See Order No. 693 at P 157.
33. Requirement R2.2 of FAC-011-1 requires a reliability coordinator to consider various single contingencies including the loss of a shunt device. While the TPL Reliability Standards implicitly require the consideration of the loss of a shunt device, they do not require this explicitly. Should the TPL Reliability Standards be modified to explicitly require the consideration of a shunt device, consistent with FAC-011-1?

C. FAC-014-1 (Establish and Communicate System Operating Limits)

1. Description of the Reliability Standard

34. Proposed Reliability Standard FAC-014-1 requires each reliability coordinator, planning authority, transmission planner and transmission operator to develop and communicate SOL limits in accordance with the methodologies developed pursuant to FAC-010-1 and FAC-011-1.

35. Requirement R1 requires the reliability coordinator to ensure that SOLs are established for its “reliability coordinator area” and that the SOLs are consistent with its SOL methodology. Requirement R2 requires the transmission operator to establish SOLs as directed by its reliability coordinator that are consistent with the reliability coordinator’s methodology. Likewise, Requirements R3 and R4 require the planning authority and transmission planner, respectively, to establish SOLs consistent with the planning authority’s SOL methodology. Requirement R5 requires the reliability coordinator, planning authority and transmission planner to provide its SOLs to those entities that have a reliability-related need. Finally, Requirement R6 requires the planning authority to identify the subset of multiple contingencies, if any, from
Reliability Standard TPL-003 which result in stability limits and to provide this list and associated stability limits to the relevant reliability coordinator.

36. Reliability Standard FAC-014-1 includes data retention requirements, Levels of Non-Compliance, and Measures corresponding to each Requirement. It identifies the regional reliability organization as the entity responsible for compliance monitoring.

2. **Commission Proposal**

37. The Commission proposes to approve Reliability Standard FAC-014-1 as a mandatory and enforceable Reliability Standard. The Reliability Standard fulfills an important reliability goal in the development and communication of SOL limits in accordance with consistent methodologies. However, NERC must remove references to the regional reliability organization as the entity responsible for compliance monitoring and replace it with either the Regional Entity or ERO.²⁹

D. **Proposed Definitions**

38. NERC proposes the addition or revision of the following four terms in the NERC glossary:

*Cascading Outages:* The uncontrolled successive loss of Bulk Electric System facilities triggered by an incident (or condition) at any location resulting in the interruption of electric service that cannot be restrained from spreading beyond a pre-determined area.

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²⁹ See Order No. 693 at P 157.
Delayed Fault Clearing: Fault clearing consistent with correct operation of a breaker failure protection system and its associated breakers, or of a backup protection system with an intentional time delay.

Interconnection Reliability Operating Limit (IROL): 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.

Interconnection Reliability Operating Limit $T_v$ (IROL $T_v$): The maximum time that an Interconnection Reliability Operating Limit can be violated before the risk to the interconnection or other Reliability Coordinator Area(s) becomes greater than acceptable. Each Interconnection Reliability Operating Limit’s $T_v$ shall be less than or equal to 30 minutes.

39. The Commission believes that there could be multiple interpretations of some of these terms. As such, the Commission proposes to provide its clarification of Cascading Outages, Interconnection Reliability Operating Limit, and Interconnection Reliability Operating Limit $T_v$ to be consistent with directives in Order No. 693.

40. The current definition of Cascading Outages in the approved NERC glossary is “The uncontrolled successive loss of system elements triggered by an incident at any location. Cascading results in widespread electric service interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies.” The ambiguity in the term relates to the last phrase in the definition which identifies the extent of an outage that would be considered a cascade. The revised definition uses the similar phrase “a pre-determined area” which may lead to different interpretations. The

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30 NERC April 4, 2006 Request for Approval of Reliability Standards, Glossary of Terms Used in Reliability Standards at 2.
Commission understands that this phrase has been interpreted as being as small as the elements that would be removed from service by local protective relays to as large as the entire balancing authority. Simply put, some applications of Cascading Outage could allow the loss of an entire balancing authority and not consider that loss to be a Cascading Outage. The Commission disagrees with such a liberal application. For purposes of compliance, the Commission proposes to direct NERC to consider the loss of facilities in the bulk electric systems that are beyond those that would be removed from service by primary or backup protective relaying associated with the initiating event to be a Cascading Outage. With this understanding of the phrase, the Commission proposes to accept the definition in FAC-014.

41. With respect to NERC’s proposed definition of IROL, the Commission identified in Order No. 693 that the statutory definition of Reliable Operation is to assure that the system is operated within thermal, voltage and stability limits such that instability, uncontrolled separation, or cascading failures will not occur. IROLs are a specific subset of the operating limits at which instability, uncontrolled separation, or cascading failures may occur. All IROL violations will have an adverse impact on the reliability of the bulk electric system.

42. The definition of IROL in the approved NERC glossary is “The value (such as MW, MVar, Amperes, Frequency or Volts) derived from, or a subset of the System Operating Limits, which if exceeded, could expose a widespread area of the Bulk Electric
System to instability, uncontrolled separation(s) or cascading outages.”31 The revised definition is consistent with the intent of the statute with the exception of the phrase “that adversely impacts the reliability of the bulk electric system.” This may give the impression that violation of some IROLs that do not adversely impact the reliability of the bulk electric system are acceptable. The Commission proposes to accept the definition in FAC-014 with the understanding that all IROLs impact bulk electric system reliability.

43. In Order No. 693, the Commission identified two interpretations of when an entity exceeds an IROL.32 The definition of IROL T, does not distinguish between those two interpretations. The Commission proposes to accept the definition in FAC-014 with the understanding that the only time it is acceptable to violate an IROL is in the limited time after a contingency has occurred and the operators are taking action to eliminate the violation.

E. Violation Risk Factors

44. As part of its compliance and enforcement program, NERC plans to 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

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31 Id. at 7.

32 See Order No. 693 at P 946 & n.303.
on the reliability of the Bulk-Power System. The categories are based on the following definitions:

**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.\[^{33}\]

45. In a separate filing, NERC identified Violation Risk Factors for each Requirement of proposed Reliability Standards FAC-010-1, FAC-011-1 and FAC-014-1.\[^{34}\] NERC requested that the Commission approve the Violation Risk Factors when it takes action on the associated Reliability Standards.

46. In the Violation Risk Factor Order, the Commission addressed Violation Risk Factors filed by NERC for Version 0 and Version 1 Reliability Standards. In that order, the Commission used five guidelines for evaluating the validity of each Violation Risk Factor assignment: (1) consistency with the conclusions of the Final Report on the August 14, 2003 blackout in the United States and Canada,\[^{35}\] (2) consistency within a Reliability Standard, (3) consistency among Reliability Standards with similar Requirements, (4) consistency with NERC’s proposed definition of the Violation Risk


Factor level, and (5) assignment of Violation Risk Factor levels to those Requirements in certain Reliability Standards that co-mingle a higher risk reliability objective and a lower risk reliability objective.  

47. The Commission proposes to approve most of the Violation Risk Factors for Reliability Standards FAC-010-1, FAC-011-1 and FAC-014-1 that NERC identified in its March 23, 2007 filing. However, several of the Violation Risk Factors submitted for Reliability Standards FAC-010-1, FAC-011-1 and FAC-014-1 raise concerns. First, the Commission notes that there are no Violation Risk Factors applicable to the WECC regional differences and that certain portions of the WECC regional differences lack levels of non-compliance. The Commission requests comment on whether it should require WECC to develop Violation Risk Factors and the levels of non-compliance for the regional differences. If so, we request comment on how WECC should assess penalties in the interim.

48. In FAC-010-1, the Commission proposes to direct NERC to modify the lower Violation Risk Factor assigned to Requirement R2 and the medium Violation Risk Factor assigned to sub-Requirements R2.1 – R2.2.3 based on guideline (4), which was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC’s definition of that risk level.

36 For a complete discussion of each factor, see the Violation Risk Factor Order at P 19-36.
49. FAC-010-1 Requirement R2 requires the Planning Authority’s SOL methodology to include a requirement that SOLs provide bulk electric system performance consistent with a stable pre-contingency (sub-Requirement R2.1) and post-contingency (sub-Requirements 2.2 – R2.2.3) bulk electric system using an accurate system topology with all facilities operating within their ratings and without post-contingency cascading outages or uncontrolled separation.

50. NERC has assigned a lower Violation Risk Factor to Requirement R2.1, which requires the bulk electric system in a pre-contingency state and with all facilities in service to demonstrate transient, dynamic and voltage stability. The Commission believes that the lower assignment is inappropriate. A violation of a lower Violation Risk Factor, by definition, is generally considered administrative in nature and would not 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.\textsuperscript{37} The Commission believes that the lower Violation Risk Factor NERC proposes for this Requirement is not consistent with the “lower” definition, but consistent with the definition of “high.” The Commission believes that a violation of Requirement R2.1 could directly cause or contribute to Bulk-Power System instability, separation or cascading failures since a violation of R2.1 means that the system is in an unreliable state.

\textsuperscript{37} See id.
even before the system is subject to respond to a contingency. Therefore, we propose to require NERC to change the Violation Risk Factor of R.2.1 to high.

51. Similarly, NERC assigns a medium violation Risk Factor to FAC-010-1 R2.2, which would be appropriate if a violation is unlikely to lead to Bulk-Power System instability, separation or cascading failures. However, Requirement R2.2 specifically states that with regard to post-contingency bulk electric system performance, “[c]ascading outages or uncontrolled separation shall not occur.” Therefore, if Requirement R2.2 is violated for any one of the specific contingencies as described in Requirements R2.2.1 – R2.2.3, cascading outages or uncontrolled separation of the Bulk-Power System may occur. The potential risk a violation of R2.2 poses to the Bulk-Power System is not consistent with the definition of a medium Violation Risk Factor. Instead, the risk a violation of R2.2 presents to the Bulk-Power System is consistent with the definition of a high Violation Risk Factor. Therefore, we propose to require NERC to change the Violation Risk Factor of R.2.2 to high.

52. As stated in the Violation Risk Factor Order, the Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment. Because the Commission

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38 See Violation Risk Factor Order, 119 FERC ¶ 61,145 at P 9.

39 See id.

40 Id. P 22.
proposes to require NERC to modify the Violation Risk Factors for the sub-requirements of R2, to have a rational connection between the Violation Risk Factors assigned to sub-Requirements and Violation Risk Factors assigned to the main Requirement, we are also proposing to require NERC to change the Violation Risk Factor for R2 to high.

53. Similarly, the Commission has the same concern and proposal to reassign NERC’s Violation Risk Factors for FAC-011-1 Requirement R2 and sub-Requirements R2.1 – 2.2.3, which contain similar language as the corresponding Requirements in FAC-010-1.

54. With regard to FAC-014-1, our concerns are with NERC’s proposed Violation Risk Factor assignment of medium to Requirement R5 and sub-Requirements R5.1 – 5.1.4. Requirement R5 requires that the reliability coordinator, planning authority and transmission planner each provide its SOLs and IROLs to those entities that have a reliability-related need for those limits and provide a written request that includes a schedule for delivery of those limits. Sub-Requirements R5.1 – R5.1.4 comprise the list of supporting information to be provided. The Commission has concerns with NERC’s proposed assignment based on its lack of consistency with the Final Blackout Report.

55. The Commission believes that it is important to ensure that critical areas identified as causes of the August 2003 and other previous major blackouts are appropriately assigned as potential risks to the reliability of the Bulk-Power System.\textsuperscript{41} For example, the Final Blackout Report identified ineffective communications as one common factor.

\textsuperscript{41} \textit{Id.} P 19-21.
of the August 2003 blackout and other previous major blackouts. The Final Blackout Report explained that, “[u]nder normal conditions, parties with reliability responsibility need to communicate important and prioritized information to each other in a timely way, to help preserve the integrity of the grid.”

56. The Commission believes that NERC’s proposed Violation Risk Factor assignment of medium for the subject Requirements is not consistent with the findings of the Final Blackout Report. By definition, a “medium” Violation Risk Factor designation means that a violation of the requirement is unlikely to lead to Bulk-Power System instability, separation or cascading failures. Findings of the Final Blackout Report, as well as reports on other previous major blackouts, have determined otherwise in that the timely communication of important and prioritized information, in this case, SOLs and IROLs, to entities that have a reliability-related need for those limits are crucial in maintaining the reliability of the Bulk-Power System.

57. As a result, we propose to require NERC to assign FAC-014-1 Requirement R5, as well as sub-Requirements R5.1 – R5.1.4, a high Violation Risk Factor to accurately reflect the potential risk a violation of the subject requirements presents to the Bulk-Power System.

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42 Final Blackout Report at 107.

43 Id. at 109.

44 Violation Risk Factor Order P 9.
III. Information Collection Statement

58. The Office of Management and Budget (OMB) regulations require approval of certain information collection requirements imposed by agency rules. 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 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) requires each federal agency to seek and obtain OMB approval before undertaking a collection of information directed to ten or more persons, or continuing a collection for which OMB approval and validity of the control number are about to expire. 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 the United States which are to be used for general statistical purposes.”

59. This NOPR proposes to approve three new Reliability Standards developed by NERC as the ERO. Section 215 of the FPA authorizes the ERO to develop Reliability Standards to provide for the operation 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.\textsuperscript{49}

60. The three proposed Reliability Standards do not require responsible entities to file information with the Commission. Nor, with the exception of a three year self-certification of compliance, do the Reliability Standards require responsible entities to file information with the ERO or Regional Entities. However, the Reliability Standards do require responsible entities to develop and maintain certain information for a specified period of time, subject to inspection by the ERO or Regional Entities. Reliability Standard FAC-010-1 requires the planning authority to have a documented methodology for use in developing system operating limits or SOLs and must retain evidence that it issued its SOL methodology to relevant reliability coordinators, transmission operators and adjacent planning authorities. Likewise, the planning authority must respond to technical comments on the methodology within 45 days of receipt. Further, each planning authority must self-certify its compliance to the compliance monitor once every three years. Reliability Standard FAC-011-1 requires similar documentation by the reliability coordinator.

\textsuperscript{49} See 16 U.S.C. 824o(d).
61. Reliability Standard FAC-014-1 requires the reliability coordinator, planning authority, transmission operator, and transmission planner to verify compliance through self-certification submitted to the compliance monitor annually. These entities must also document that they have developed SOLs consistent with the applicable SOL methodology and that they have provided SOLs to entities identified in Requirement 5 of the Reliability Standard. Further, the planning authority must maintain a list of multiple contingencies and their associated stability limits.

62. The Commission is submitting these reporting and recordkeeping requirements to OMB for its review and approval under section 3507(d) of the Paperwork Reduction Act. Comments are solicited on the Commission’s need for this information, whether the information will have practical utility, the accuracy of provided burden 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.

63. Our Estimates below regarding the number of respondents is based on the NERC compliance registry as of April 2007. NERC and the Regional Entities have identified approximately 170 Investor Owned Utilities, and 80 Large Municipals and Cooperatives. NERC’s compliance registry indicates that there is a significant amount of overlap among the entities that perform these functions. In some instances, a single entity may be registered under all four of these functions. Thus, the Commission estimates that the total
number of entities required to comply with the information “reporting” or development requirements of the proposed Reliability Standards is approximately 250 entities. About two-thirds of these entities are investor-owned utilities and one-third is a combination of municipal and cooperative organizations.

64. **Burden Estimate:** The Public Reporting burden for the requirements contained in the NOPR is as follows:

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>No. of Respondents</th>
<th>No. of Responses</th>
<th>Hours Per Respondent</th>
<th>Total Annual Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERC-725D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investor-Owned Utilities</td>
<td>170</td>
<td>1</td>
<td>Reporting: 90</td>
<td>Reporting: 15,300</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Recordkeeping: 210</td>
<td>Recordkeeping: 35,700</td>
</tr>
<tr>
<td>Large Municipals and Cooperatives</td>
<td>80</td>
<td>1</td>
<td>Reporting: 90</td>
<td>Reporting: 7,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recordkeeping: 210</td>
<td>Recordkeeping: 16,800</td>
</tr>
<tr>
<td>Total</td>
<td>250</td>
<td></td>
<td></td>
<td>75,000</td>
</tr>
</tbody>
</table>

Total Hours: (Reporting 22,500 hours + Recordkeeping 52,500 hours) = 75,000 hours.

*(FTE=Full Time Equivalent or 2,080 hours)*
Total Annual hours for Collection: (Reporting + recordkeeping = 75,000 hours.

Information Collection Costs: The Commission seeks comments on the costs to comply with these requirements. It has projected the average annualized cost to be the total annual hours (reporting) 22,500 times $120 = $2,700,000.

Recordkeeping = 52,500 @ $40/hour = $2,100,000

Labor (file/record clerk @ $17 an hour + supervisory @23 an hour)

Storage 1,800 sq. ft. x $925 (off site storage) = $1,665,000

Total costs = $6,465,000.

The Commission believes that this estimate may be conservative because most if not all of the applicable entities currently perform SOL calculations and the proposed Reliability Standards will provide a common methodology for those calculations.

Title: FERC-725D Facilities Design, Connections and Maintenance Reliability Standards

Action: Proposed Collection of Information

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: The three Reliability Standards, if adopted, would implement the Congressional mandate of the Energy Policy Act of 2005 to develop mandatory and enforceable Reliability Standards to better ensure the reliability of the nation’s Bulk-Power System. Specifically, the three proposed Reliability Standards would ensure that system operating limits or SOLs used in the reliability planning and operation of the Bulk-Power System are determined based on an established methodology.
Internal review: The Commission has reviewed the requirements pertaining to mandatory Reliability Standards for the Bulk-Power System and determined the proposed requirements 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.

65. Interested persons may obtain information on the reporting requirements by contacting: Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426 [Attention: Michael Miller, Office of the Executive Director, Phone: (202) 502-8415, fax: (202) 273-0873, e-mail: michael.miller@ferc.gov]. Comments on the requirements of the proposed rule may also be sent to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503 [Attention: Desk Officer for the Federal Energy Regulatory Commission], e-mail: oira_submission@omb.eop.gov.

IV. Environmental Analysis

66. 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. 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

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Commission's regulations for rules that are clarifying, corrective or procedural, for information gathering, analysis, and dissemination. Accordingly, neither an environmental impact statement nor environmental assessment is required.

V. **Regulatory Flexibility Act Certification**

67. The Regulatory Flexibility Act of 1980 (RFA) 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.  

68. As indicated above, based on available information regarding NERC’s compliance registry, approximately 250 entities will be responsible for compliance with the three new Reliability Standards. It is estimated that one-third of the responsible entities, about 80 entities, would be municipal and cooperative organizations. The proposed Reliability Standards would apply to planning authorities, transmission planners, transmission operators and reliability coordinators, which tend to be larger entities. Thus, the

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53 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 (2000). 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.
Commission believes that only a portion, approximately 30 to 40 of the municipal and cooperative organizations to which the proposed Reliability Standards would apply, qualify as small entities.\textsuperscript{54} The Commission does not consider this a substantial number. Moreover, as discussed above, the proposed Reliability Standards will not be a burden on the industry since most if not all of the applicable entities currently perform SOL calculations and the proposed Reliability Standards will simply provide a common methodology for those calculations. Accordingly, the Commission certifies that the proposed Reliability Standards will not have a significant adverse impact on a substantial number of small entities.

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

\textsuperscript{54} 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.
VI. Comment Procedures

70. The Commission invites interested persons to submit comments on the matters and issues proposed in this notice to be adopted, including any related matters or alternative proposals that commenters may wish to discuss. Comments are due [insert date 30 days from publication in the FEDERAL REGISTER]. Comments must refer to Docket No. RM07-3-000, and must include the commenter's name, the organization they represent, if applicable, and their address in their comments. Comments may be filed either in electronic or paper format.

71. Comments may be filed electronically via the eFiling link on the Commission's web site at http://www.ferc.gov. The Commission accepts most standard word processing formats and commenters may attach additional files with supporting information in certain other file formats. Commenters filing electronically do not need to make a paper filing. Commenters that are not able to file comments electronically must send an original and 14 copies of their comments to: Federal Energy Regulatory Commission, Office of the Secretary, 888 First Street N.E., Washington, DC, 20426.

72. All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely as described in the Document Availability section below. Commenters on this proposal are not required to serve copies of their comments on other commenters.
VII. **DOCUMENT AVAILABILITY**

73. 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 5:00 p.m. Eastern time) at 888 First Street, N.E., Room 2A, Washington D.C. 20426.

74. 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.

75. User assistance is available for eLibrary and the FERC's website during normal business hours from our Help line at (202)502-8222 or the Public Reference Room at (202) 502-8371 Press 0, TTY (202)502-8659. E-Mail the Public Reference Room at public.referenceroom@ferc.gov.

By direction of the Commission.

Kimberly D. Bose,
Secretary.