

**Report of the Reliability Work Group to the Committee
on Regional Electric Power Cooperation (CREPC)
1-15-2004**

Reliability

Overview

The major power outage that occurred in the Northeastern United States and Canada on August 14, 2003 underscored the increasing vulnerability of our modern society resulting from an increasing dependence on electrical energy. Electricity has become so essential to the proper functioning of residential and commercial environments and to commercial and industrial processes, that widespread power outages now have major economic impacts and can even be life threatening in some cases. Such outages can also cause major damage to elements of the power system, and the cost of repairs and replacement of expensive equipment is eventually borne by electricity consumers. Therefore, the reliability of the interconnected grid is receiving increased attention.

Bulk power system reliability has been a concern within the power industry for many years because much of the operational integrity of the system is based on voluntary compliance with industry self-imposed standards, and as the industry has become more complex with the development of more competition, the basis for voluntary compliance has been eroded. Congress has had before it, for over five years, legislation that would make compliance with reliability criteria mandatory and enforceable. Although Congress has not yet enacted the legislation, there is widespread consensus that it should be enacted either as part of a comprehensive energy bill or as a stand-alone bill. Appendix I to this report provides the most recent reliability language from HR 6 of the First Session of the 108th Congress, which would have been enacted but for the failure late in the session to obtain the 60 votes needed in the United States Senate to invoke cloture and prevent a filibuster of the comprehensive energy bill. Appendix II to this report shows that the Chairman of the Federal Energy Regulatory Commission (FERC) has indicated that in the absence of Congressional approval of the reliability language, FERC intends to take action to do what it can to promote reliable operation of the power system in the United States.

It is important to understand that while most people would define “reliability” as the absence of power failures, the reliability language being considered by Congress has a much more narrow and specific meaning. Power failures most often occur at the distribution level due to problems in the distribution system. Such failures are important, but they tend to be very localized and the adverse impacts are therefore limited. Distribution utilities generally do a good job of responding to this kind of outage and restoring service within a reasonable time, and it would not be cost-effective to attempt to build a distribution system that could avoid every possible problem. Of much greater concern are:

- (1) power failures from not having adequate generating capacity or the inability to fuel generators under extreme conditions, or
- (2) widespread power outages caused by operational problems or system element failures in the interconnected transmission system.

Both of these kinds of outages could be severe in their impact. However, the proposed reliability legislation only provides for reliability standards that are designed to avoid the second type of outage—the kind of outage that occurred in the East on August 14, 2003, that began with localized transmission problems and spread within minutes to a vast area, resulting in shut down of many generators, loss of service to millions of customers, and inability to restore service for many hours.

The first kind of power failure—lack of adequacy of the capacity of the system—is currently the responsibility of individual load serving entities and their regulators. While this kind of power failure is important, it can be managed more readily—through rolling blackouts—than the uncontrolled cascading outage of the type experienced in the East last year. Moreover, so long as a “lack of adequacy” outage can be localized within the system that failed to build sufficient capacity, the decision how much capacity to build in an effort to avoid this kind of failure is similar to the decision how much insurance to buy to avoid a given level of risk.

In this report, the term “reliability” will be defined as it is in the proposed legislation, that is, to be limited to how the power system is planned and operated and not to include requirements designed to ensure system adequacy under all (or a given set of) conditions. Such adequacy

standards continue to be largely the responsibility of utilities and their state regulatory agencies.

Situation Analysis

In preparation for the likely eventual passage of the reliability legislation contained in Appendix I, the Western electricity industry has created a broad-based regional reliability entity—the Western Electricity Coordinating Council (WECC)—with the capability of developing and enforcing reliability criteria. Once that legislation is enacted, WECC anticipates that it will be recognized as a regional entity organized on an interconnection-wide basis, and as such, its judgments as to reliability criteria for the Western Interconnection will be entitled to deference from the Electricity Reliability Organization (ERO) that is envisioned in the legislation and from FERC. (See subsections (d)(3) and (e)(4) in Appendix I.) Once the legislation is enacted, States and Provinces within the West will also have the opportunity to form a Regional Advisory Body (RAB) pursuant to the following language:

“(j) REGIONAL ADVISORY BODIES.—The Commission shall establish a regional advisory body on the petition of at least two-thirds of the States within a region that have more than one-half of their electric load served within the region. A regional advisory body shall be composed of one member from each participating State in the region, appointed by the Governor of each State, and may include representatives of agencies, States, and provinces outside the United States. A regional advisory body may provide advice to the Electric Reliability Organization, a regional entity, or the Commission regarding the governance of an existing or proposed regional entity within the same region, whether a standard proposed to apply within the region is just, reasonable, not unduly discriminatory or preferential, and in the public interest, whether fees proposed to be assessed within the region are just, reasonable, not unduly discriminatory or preferential, and in the public interest and any other responsibilities requested by the Commission. The Commission may give deference to the advice of any such regional advisory body if that body is organized on an Interconnection-wide basis.”

Such a RAB could serve two important purposes. First, while the States and Provinces are currently represented on the WECC Board of Directors by four members elected from Membership Class Five, a RAB could allow every Western state and province to participate directly in providing formal input to WECC, the ERO, and FERC on reliability issues. Second, the RAB could assist the WECC when disputes arose concerning whether a different approach to reliability is warranted in the West than the approach the ERO wishes to take in the East. Just as the Western Governors have been both supportive of the reliability legislation and insistent that it include delegation and deference provisions to protect the West, it is anticipated that the RAB could help continue to support WECC in developing reliability criteria that serve the public interest here in the Western Interconnection.

Prior to enactment of the reliability legislation, WECC, like one of its predecessor organizations, the Western Systems Coordinating Council (WSCC), is a voluntary membership organization with limited authority to enforce reliability criteria designed to avoid cascading outages. To deal with the problem of possible lack of sufficient motivation of individual member systems to adhere to reliability criteria, WSCC, with the support of the States and Provinces through CREPC, developed a pioneering Reliability Management System (RMS) in which the vast majority of WECC's control area and generator member organizations have agreed to be assessed monetary sanctions when and if they violate the criteria. Although a few of WECC's member organizations and systems that could be members but are not have refused to sign the RMS agreement, the RMS continues to be at the cutting edge in the United States in the effort to define enforceable standards and measurable levels of noncompliance. WECC's experience with RMS suggests that the system is having a beneficial impact in maintaining substantial compliance with these important operational rules.

Prior to enactment of the reliability legislation, the States and Provinces within the Western Interconnection may find that their current direct representation on the Board of Directors of WECC is a sufficient mechanism for influencing the continued development of reliability criteria for the West. A more formal structure, similar to the RAB that is to be authorized by the legislation, could still serve a useful purpose, but it is entirely possible that States and Provinces can achieve their common objectives with respect to reliability through action coordinated by the existing CREPC. For example, depending on what FERC decides it can and will do in an effort to ensure reliability prior to the enactment of the

legislation, the states in the West might find it useful to try to speak with one voice on these issues and to support the implementation of WECC's RMS by all FERC-jurisdictional entities as well as by those non-jurisdictional entities that have voluntarily signed the RMS agreement. A further step could be an effort by the States and Provinces to partner with FERC by using their own sovereign authority to require all entities that are not under the jurisdiction of FERC, and who operate and are interconnected to the bulk power system in the Western Interconnection, to participate in the RMS so that there is a level playing field for reliability regardless of the reach of FERC's jurisdiction prior to the enactment of the reliability legislation. If this requires State or Provincial legislation, a model bill might be drafted for consideration by States and Provinces.

Conclusion

The reliability legislation under consideration may one day provide for the creation of a formal State and Provincial advisory body to support a mandatory reliability standards system within the West. Until that time, the WECC Class Five (State and Provincial representatives) Directors, together with the existing CREPC organization is probably sufficient to provide States and Provinces adequate information on reliability issues and to coordinate possible action with respect to FERC actions on reliability.

APPENDIX I

HR 6

“SEC. 218. ELECTRIC RELIABILITY.

“(a) DEFINITIONS.—For purposes of this section—

“(1) The term ‘bulk-power system’ means—

“(A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and

“(B) electric energy from generation facilities needed to maintain transmission system reliability.

The term does not include facilities used in the local distribution of electric energy.

“(2) The terms ‘Electric Reliability Organization’ and ‘ERO’ mean the organization certified by the Commission under subsection (c) the purpose of which is to establish and enforce reliability standards for the bulk-power system, subject to Commission review.

“(3) The term ‘reliability standard’ means a requirement, approved by the Commission under this section, to provide for reliable operation of the bulk-power system. The term includes requirements for the operation of existing bulk-power system facilities and the design of planned additions or modifications to such facilities to the extent necessary to provide for reliable operation of the bulk-power system, but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.

“(4) The term ‘reliable operation’ means operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance or unanticipated failure of system elements.

“(5) The term ‘Interconnection’ means a geographic area in which the operation of bulk-power system components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain reliable operation of the facilities within their control.

“(6) The term ‘transmission organization’ means a regional transmission organization, independent system operator, independent transmission

provider, or other transmission organization finally approved by the Commission for the operation of transmission facilities.

“(7) The term ‘regional entity’ means an entity having enforcement authority pursuant to subsection (e)(4).

“(b) JURISDICTION AND APPLICABILITY.—(1) The Commission shall have jurisdiction, within the United States, over the ERO certified by the Commission under subsection (c), any regional entities, and all users, owners and operators of the bulk-power system, including but not limited to the entities described in section 201(f), for purposes of approving reliability standards established under this section and enforcing compliance with this section. All users, owners and operators of the bulk-power system shall comply with reliability standards that take effect under this section.

“(2) The Commission shall issue a final rule to implement the requirements of this section not later than 180 days after the date of enactment of this section.

“(c) CERTIFICATION.—Following the issuance of a Commission rule under subsection (b)(2), any person may submit an application to the Commission for certification as the Electric Reliability Organization (ERO). The Commission may certify one such ERO if the Commission determines that such ERO—

“(1) has the ability to develop and enforce, subject to subsection (e)(2), reliability standards that provide for an adequate level of reliability of the bulk-power system;

“(2) has established rules that—

“(A) assure its independence of the users and owners and operators of the bulk-power system, while assuring fair stakeholder representation in the selection of its directors and balanced decisionmaking in any ERO committee or subordinate organizational structure;

“(B) allocate equitably reasonable dues, fees, and other charges among end users for all activities under this section;

“(C) provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties in accordance with subsection (e) (including limitations on activities, functions, or operations, or other appropriate sanctions);

“(D) provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties; and

“(E) provide for taking, after certification, appropriate steps to gain recognition in Canada and Mexico.

“(d) RELIABILITY STANDARDS.—(1) The Electric Reliability Organization shall file each reliability standard or modification to a reliability standard that it proposes to be made effective under this section with the Commission.

“(2) The Commission may approve, by rule or order, a proposed reliability standard or modification to a reliability standard if it determines that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The Commission shall give due weight to the technical expertise of the Electric Reliability Organization with respect to the content of a proposed standard or modification to a reliability standard and to the technical expertise of a regional entity organized on an Interconnection-wide basis with respect to a reliability standard to be applicable within that Interconnection, but shall not defer with respect to the effect of a standard on competition. A proposed standard or modification shall take effect upon approval by the Commission.

“(3) The Electric Reliability Organization shall rebuttably presume that a proposal from a regional entity organized on an Interconnection-wide basis for a reliability standard or modification to a reliability standard to be applicable on an Interconnection-wide basis is just, reasonable, and not unduly discriminatory or preferential, and in the public interest.

“(4) The Commission shall remand to the Electric Reliability Organization for further consideration a proposed reliability standard or a modification to a reliability standard that the Commission disapproves in whole or in part.

“(5) The Commission, upon its own motion or upon complaint, may order the Electric Reliability Organization to submit to the Commission a proposed reliability standard or a modification to a reliability standard that addresses a specific matter if the Commission considers such a new or modified reliability standard appropriate to carry out this section.

“(6) The final rule adopted under subsection (b)(2) shall include fair processes for the identification and timely resolution of any conflict between a reliability standard and any function, rule, order, tariff, rate schedule, or agreement accepted, approved, or ordered by the Commission applicable to a transmission organization. Such transmission organization shall continue to comply with such function, rule, order, tariff, rate schedule or agreement accepted approved, or ordered by the Commission until—

“(A) the Commission finds a conflict exists between a reliability standard and any such provision;

“(B) the Commission orders a change to such provision pursuant to section 206 of this part; and

“(C) the ordered change becomes effective under this part.

If the Commission determines that a reliability standard needs to be changed as a result of such a conflict, it shall order the ERO to develop and file with the Commission a modified reliability standard under paragraph (4) or (5) of this subsection.

“(e) ENFORCEMENT.—(1) The ERO may impose, subject to paragraph (2), a penalty on a user or owner or operator of the bulk-power system for a violation of a reliability standard approved by the Commission under subsection (d) if the ERO, after notice and an opportunity for a hearing—

“(A) finds that the user or owner or operator has violated a reliability standard approved by the Commission under subsection (d); and

“(B) files notice and the record of the proceeding with the Commission.

“(2) A penalty imposed under paragraph (1) may take effect not earlier than the 31st day after the electric reliability organization files with the Commission notice of the penalty and the record of proceedings. Such penalty shall be subject to review by the Commission, on its own motion or upon application by the user, owner or operator that is the subject of the penalty filed within 30 days after the date such notice is filed with the Commission. Application to the Commission for review, or the initiation of review by the Commission on its own motion, shall not operate as a stay of such penalty unless the Commission otherwise orders upon its own motion or upon application by the user, owner or operator that is the subject of such penalty. In any proceeding to review a penalty imposed under paragraph (1), the Commission, after notice and opportunity for hearing (which hearing may consist solely of the record before the electric reliability organization and opportunity for the presentation of supporting reasons to affirm, modify, or set aside the penalty), shall by order affirm, set aside, reinstate, or modify the penalty, and, if appropriate, remand to the electric reliability organization for further proceedings. The Commission shall implement expedited procedures for such hearings.

“(3) On its own motion or upon complaint, the Commission may order compliance with a reliability standard and may impose a penalty against a user or owner or operator of the bulk-power system, if the Commission finds, after notice and opportunity for a hearing, that the user or owner or operator of the bulk-power system has engaged or is about to engage in any acts or practices that constitute or will constitute a violation of a reliability standard.

“(4) The Commission shall establish regulations authorizing the ERO to enter into an agreement to delegate authority to a regional entity for the purpose of proposing reliability standards to the ERO and enforcing reliability standards under paragraph (1) if—

“(A) the regional entity is governed by—

“(i) an independent board;

“(ii) a balanced stakeholder board; or

“(iii) a combination independent and balanced stakeholder board.

“(B) the regional entity otherwise satisfies the provisions of subsection (c)(1) and (2); and

“(C) the agreement promotes effective and efficient administration of bulk-power system reliability.

The Commission may modify such delegation. The ERO and the Commission shall rebuttably presume that a proposal for delegation to a regional entity organized on an Interconnection-wide basis promotes effective and efficient administration of bulk-power system reliability and should be approved. Such regulation may provide that the Commission may assign the ERO’s authority to enforce reliability standards under paragraph (1) directly to a regional entity consistent with the requirements of this paragraph.

“(5) The Commission may take such action as is necessary or appropriate against the ERO or a regional entity to ensure compliance with a reliability standard or any Commission order affecting the ERO or a regional entity.

“(6) Any penalty imposed under this section shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of such user, owner, or operator to remedy the violation in a timely manner.

“(f) CHANGES IN ELECTRICITY RELIABILITY ORGANIZATION RULES.—The Electric Reliability Organization shall file with the Commission for approval any proposed rule or proposed rule change, accompanied by an explanation of its basis and purpose. The Commission, upon its own motion or complaint, may propose a change to the rules of the Electric Reliability Organization. A proposed rule or proposed rule change shall take effect upon a finding by the Commission, after notice and opportunity for comment, that the change is just, reasonable, not unduly discriminatory or preferential, is in the public interest, and satisfies the requirements of subsection (c).

“(g) RELIABILITY REPORTS.—The Electric Reliability Organization shall conduct periodic assessments of the reliability and adequacy of the bulk-power system in North America.

“(h) COORDINATION WITH CANADA AND MEXICO.—The President is urged to negotiate international agreements with the governments of Canada and Mexico to provide for effective compliance with reliability standards and the effectiveness of the Electric Reliability Organization in the United States and Canada or Mexico.

“(i) SAVINGS PROVISIONS.—(1) The Electric Reliability Organization shall have authority to develop and enforce compliance with reliability standards for only the bulk-power system.

“(2) This section does not authorize the Electric Reliability Organization or the Commission to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for adequacy or safety of electric facilities or services.

“(3) Nothing in this section shall be construed to preempt any authority of any State to take action to ensure the safety, adequacy, and reliability of electric service within that State, as long as such action is not inconsistent with any reliability standard, except that the State of New York may establish rules that result in greater reliability within that State, as long as such action does not result in lesser reliability outside the State than that provided by the reliability standards.

“(4) Within 90 days of the application of the Electric Reliability Organization or other affected party, and after notice and opportunity for comment, the Commission shall issue a final order determining whether a State action is inconsistent with a reliability standard, taking into consideration any recommendation of the Electric Reliability Organization.

“(5) The Commission, after consultation with the Electric Reliability Organization and the State taking action, may stay the effectiveness of any State action, pending the Commission’s issuance of a final order.

“(j) REGIONAL ADVISORY BODIES.—The Commission shall establish a regional advisory body on the petition of at least two-thirds of the States within a region that have more than one-half of their electric load served within the region. A regional advisory body shall be composed of one member from each participating State in the region, appointed by the Governor of each State, and may include representatives of agencies, States, and provinces outside the United States. A regional advisory body may provide advice to the Electric Reliability Organization, a regional entity, or the Commission regarding the governance of an existing or proposed regional entity within the same region, whether a standard proposed to apply within the region is just, reasonable, not unduly discriminatory or preferential, and in the public interest, whether fees proposed to be assessed within the region are just, reasonable, not unduly discriminatory or

preferential, and in the public interest and any other responsibilities requested by the Commission. The Commission may give deference to the advice of any such regional advisory body if that body is organized on an Interconnection-wide basis.

“(k) APPLICATION TO ALASKA AND HAWAII.—The provisions of this section do not apply to Alaska or Hawaii.”.

APPENDIX II

MEMORANDUM

January 7, 2004

FERC Chairman Pat Wood spoke to reporters at a meeting this morning hosted by the Energy Daily. He began with a lengthy prepared statement on FERC's upcoming actions in the reliability area.

Wood called reliability a "key item" on FERC's agenda, and the "top item" for the Commission after the August blackout. He continued that FERC is 'reexamining the role and legal construct under which we can assure reliable operation of the transmission grid.' He said that his 'preference remains that Congress pass reliability legislation in the pending energy bill,' and that the language in the bill gives the Commission 'affirmative, overt authority and crisp processes' to oversee reliability rules in connection with what he called a 'multinational reliability organization.' Wood stated that it doesn't look like the bill will happen in time to have an effect for the coming summer, which is FERC's current concern. Therefore, FERC needs to take steps before the "peak stress" of the summer, even if Congress does pass the energy bill, to 'put users on notice that standards are no longer just voluntary but compulsory.' Wood's objective is to 'get this in place by this summer.' As a first step, Wood expects a formal order "in the coming week" that will require utilities to report violations of reliability rules to the FERC. He expects that the Commission will act on several reliability measures in the coming months, and said that FERC will 'act in ways consistent with intent of the language in the pending energy bill.'

Wood also said that he would like to see a regulatory program of reliability audits, and noted that \$5 million has been provided [in the Energy and Water Development Appropriations bill] for FERC reliability activities. He confirmed that FERC is in the process of setting up a new reliability division (within the Office of Markets, Tariffs, and Rates) which will be staffed initially by up to 30 engineers and technicians.

Reliability audits would be a responsibility of the new division. Wood acknowledged NERC's interest in strengthening audits, and said that FERC would 'work with NERC to develop tougher audit programs to determine whether reliability coordinators and control area operators are complying with NERC adopted standards.'

Wood identified long and short term components of the reliability issue. He classified operational readiness for next summer as a short term issue. He also indicated that FERC is looking at long term strategic issues, and will issue requests for proposals for reliability-related research in at least two areas: grid architecture (considering how to design the grid using extra high voltage transmission and direct current to provide a more robust system less susceptible to cascading failure) and operator training.

Wood wrapped up his prepared statement pledging to move forward in cooperation with utilities, other grid users, and state regulators. He also indicated that he looks forward to close cooperation with NERC.

Wood was asked how FERC could make reliability standards mandatory without passage of the energy bill, and whether utilities would push back against mandatory standards. Wood discounted the likelihood that any utility would oppose a mandatory standard. As to FERC's authority, Wood reported that the Commission has been studying its existing authority, and that it has received 'briefs that say that just because we have not asserted authority over reliability over 50 years directly doesn't mean we don't have it.' He indicated that the 4 Commissioners are in the process of discussing the Commission's authority with respect to mandatory standards, and that hopefully this issue will be addressed at the Commission's next open meeting [January 22]. Wood also said that there are 'a number of vehicles' to mandatory rules, but that 'nothing [is] as good as what is being proposed in Congress. That would clearly be the easiest way.' Wood was asked specifically whether the Commission has determined if it has authority to address enforcement of reliability standards through tariff conditions. He responded that this is one of several options under discussion.

In response to a further question about FERC's authority to make reliability standards compulsory if Congress does not pass legislation, Wood indicated that he personally thinks FERC can enforce reliability standards today. He conceded, however, that FERC's authority would not apply to all grid users, but said that when FERC's authority under the Federal Power Act is coupled with DOE oversight authority with respect to the Federal power marketing administrations, "there is a significant reach that exists today." He concluded that the 'ideal outcome would be a reliability statute that applies to all users of grid without any ambiguity.' But he stated that FERC has to plan for a fallback [in case there is no legislation].

Wood asked how FERC would address its goal to conduct reliability audits of utilities. He responded that NERC has the process to do auditing, and that NERC wants to beef up that process. He continued that ‘without question’ FERC would be in ‘a team effort with NERC,’ and suggested that the Commission would use some of the \$5 million provided toward improved reliability audits. Wood also indicated that NERC is ‘very resolved to a stiff, tough audit program and we intend to be part of that effort, providing both financial and personnel resources to that effort.’

A reporter noted Representative Dingell’s proposal to enact reliability legislation as a stand alone measure, and asked Wood whether that is something he expected or would like to see. Wood responded that DOE Deputy Secretary Kyle McSlarrow had been asked that question in November, and that he shares the response McSlarrow made at this time that ‘while we think energy bill and its comprehensive view is what we need, if it comes to the point where that couldn’t happen, the reliability issue is still very important.’ Wood continued in response to a further question that while he hopes it won’t be necessary, he would support breaking out the reliability provisions ‘if necessary.’