

2003 NERC Compliance Enforcement Program



North American Electric Reliability Council

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Executive Summary

The Compliance Enforcement Program (CEP) monitors entities whose operations affect the bulk electric system to determine whether they comply with NERC's operating policies and planning standards. All parties involved in the compliance process understand that compliance with NERC and regional reliability standards is vital to preserving the reliability of the bulk electric system. NERC and the Regions must continually strive to improve the CEP if they are to carry out their mission to maintain and maximize the reliability of the interconnected electric system.

The CEP comprises ten regional compliance programs that monitor their members directly. NERC provides oversight to the regional programs, and monitors regional compliance with certain NERC reliability requirements. The objective of the CEP is not to collect monetary sanctions; rather it is to encourage compliance with the standards necessary to preserve the reliability of the bulk electric grid. Some regions impose actual penalties and sanctions on their members, while others utilize simulated enforcement actions.

2003 Program Highlights

Program Reorganization

NERC reorganized the CEP in 2003. A Compliance and Certification Committee (CCC) was established and the Compliance Managers Committee (CMC) was expanded functionally and renamed the Compliance and Certification Managers Committee (CCMC). The CCC provides stakeholder oversight of NERC's compliance and certification programs, and provides policy and process recommendations. The CCMC provides a forum for review and input into the management and implementation of the NERC Compliance Enforcement and Organization Certification Programs. The CCMC shares information about regional compliance enforcement and organization certification programs to promote consistency across NERC regions, and works with NERC to implement the CEP through the regions. As part of the compliance reorganization, the Compliance Review Subcommittee and the Compliance Subcommittee, which reported to the CMC, were disbanded.

The Personnel Certification Governance Committee (PCGC) was formed to provide oversight to the policies and procedures used to implement the System Operator Certification Program. The PCGC's governance authority is structured to maintain independence from the industry and ensure the integrity of the certification process.

Cyber Security Standard Self-Assessment

In August 2003, NERC adopted the urgent action Standard 1200–Cyber Security. The implementation of this standard reduces the risks to the reliability of the bulk electric system from compromise of critical cyber assets, including computers, software, and the communication networks that support those systems. The expectation is that all control areas and reliability coordinators would be in substantial compliance with this standard in early 2004, and in full compliance by 2005. As a result, the regional compliance managers, in conjunction with NERC compliance staff, surveyed all control areas and reliability coordinators to assess the level of compliance in the electric industry with this standard. The results will be submitted in a confidential report to the NERC Board of Trustees in the second quarter of 2004.

August 14th Blackout Impacts

Since the August 14 blackout, several reports have recommended specific actions to address the causes of the blackout:

- *August 14, 2003 Blackout: NERC Actions to Prevent and Mitigate the Impacts of Future Cascading Blackouts*, NERC, February 10, 2004.
- *US-Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the US and Canada: Causes and Recommendation*, US-Canada Power System Outage Task Force, April 2004.

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- *August 14, 2003 Blackout, Standards/Procedure and Compliance Investigation Team Final Report*, NERC Standards/Procedure and Compliance Investigation Team, April 12, 2004.

As a result of these investigations, the 2004 CEP has been modified to address their findings and recommendations. The activities of NERC's compliance committees have been expanded to include the following:

- Development and integration of revised compliance templates into the CEP
- Vegetation Management
- Performance Reporting
- Tracking recommendations
- CEP improvements
- Version zero reliability standards development
- Readiness audits of all reliability coordinators and control areas

Program Oversight — Audits of Regional Programs

NERC is responsible for overseeing the performance of regional compliance enforcement programs. In 2003, NERC audited the 2002 ERCOT, MAIN, and WECC programs. This proved to be a productive and beneficial process for both NERC staff and the Regions that were audited. These audits complete the initial cycle of NERC regional compliance program audits. The regional audit process will be reevaluated in 2004, building on the past lessons learned to promote greater effectiveness. In 2004, NERC will audit the 2003 compliance programs of ECAR, MAPP, and SERC.

Compliance Template Measures Mature

The CEP presently utilizes compliance templates to measure compliance with NERC's existing operating policies and planning standards. The templates utilized in the program have matured through the process of field-testing over several years. The 2003 CEP contained only compliance templates that were included in previous years' programs.

In 2004, new compliance templates were developed to address the findings from the blackout investigation. Additional templates were clarified and approved for use in the 2004 CEP. An effort is under way to develop a set of "Version Zero" reliability standards, which will be available in early 2005. These standards will consolidate the existing NERC planning standards, operating policies, and compliance templates to create a clear and concise set of baseline reliability standards.

Compliance Process Continues to Improve

The 2003 CEP continued to challenge the effectiveness of the compliance process. Improvements identified in the 2002 program were implemented in 2003. In the spirit of continuous program improvement, this report highlights the observations, results, and recommendations from the 2003 program that will be considered for incorporation in future years.

Overall Compliance Improves, But Violations Were Found

The 2003 CEP included compliance assessments of 41 measures. Overall compliance with NERC operating policies and planning standards in the 2003 program improved slightly over 2002. The aggregated number of violations of specific compliance measures is included in this report. The number of operator certification requirement violations exceed other compliance violations, however, there is a marked reduction in the number

of violations compared to 2002. The 2003 program resulted in an approximate 45% reduction in the total number of violations over 2002 for the planning and operating measures that were monitored in both years.

Reliability Coordinator and Control Area Readiness Audits

As part of the blackout recommendations, NERC and the Regions jointly established a program to audit the reliability readiness of all reliability coordinators and control areas over a three-year period. The 20 highest priority audits, as determined by the CEP, will be completed by June 30, 2004.

Recommendations for Program Improvements

This report provides recommendations to further develop and improve the NERC CEP and Regional Compliance Programs. Specifically, these recommendations encourage NERC and the Regions to:

- Address all of the recommendations identified during the blackout investigation;
- Conduct rigorous validation (such as on-site member audits) to ensure the quality, accuracy and completeness of self-certification submittals;
- Improve the enforcement and sanctioning processes;
- Develop a system for tracking the implementation of the blackout recommendations and recommendations resulting from compliance audits;
- Develop a means to share “best practices” identified in the reliability readiness and compliance audits;
- Refine a reporting process to monitor regional compliance performance throughout the year, including peer review of significant violations;
- Participate in the development of new standards;
- Develop an enhanced audit procedure for control areas and reliability coordinators;
- Evaluate the benefits of hosting annual compliance workshops.

Introduction

The Compliance Enforcement Program is designed to monitor compliance with NERC reliability standards to ensure the reliability of the North American bulk electric system. This is accomplished through monitoring, assessment, and imposing penalties and sanctions (where appropriate). The CEP places significant emphasis on encouraging good reliability performance by conducting on-site audits of control areas, reliability coordinators, and Regions in an effort to identify and resolve compliance issues before they become reliability problems.

The CEP comprises ten regional programs. In most cases, the regional councils monitor their members and others operating within their Region for compliance with the standards. NERC provides oversight and coordination of the overall program. In those cases where the standards call for compliance by the Regions, NERC staff monitors regional compliance with those standards.

Some Regions have approved processes for applying actual penalties and sanctions while others continue to utilize simulated enforcement actions. The objective of the CEP is not to impose monetary sanctions; rather it is to encourage compliance with the standards necessary to preserve the reliability of the grid.

This report presents the results from the 2003 Compliance Enforcement Program. Lessons learned from the 2002 program were successfully incorporated into the 2003 program. In the spirit of striving for continuous program improvement, this report highlights the observations, results, and recommendations from the 2003 program that will be considered in future years.

2003 Compliance Enforcement Program Measures

The NERC Regions implemented the 2003 CEP with the intention of further testing regional and NERC compliance processes as well as the NERC standards and compliance measures. The regional compliance enforcement programs, NERC subgroups, and various compliance committees all played a role in this process.

Forty-one measures were included in the 2003 Program: 24 planning and 17 operating measures, which are listed in Appendix A and Appendix B, respectively. A brief description of each measure, including application and monitoring responsibilities, is provided. Some Regions included additional measures in their programs. The 2002 program consisted of 27 measures, 23 of which carried over in the 2003 Program.

Program Observations

NERC is responsible for overseeing the regional compliance programs. The Regions were asked to complete a questionnaire when submitting their 2003 program results. A review of their responses resulted in the following observations:

Implementation Plan

All Regions generally followed the implementation plans that were submitted to NERC. These plans were reviewed by the CCMC and approved by NERC's Vice President- Compliance. In a few cases, the Regions deviated from their approved implementation plans by deferring some on-site compliance reviews to 2004. The reasons included an investigation of the underfrequency load shedding events that occurred during the August 14, 2003, blackout, the use of more information submittals than self-certifications, and deferred audits due to adverse weather.

Communications

The CEP implemented a number of communication improvements throughout the Regions in 2003 to enhance the program. These included everything from general improvements in the way Regions communicate with their members to the implementation of a new web-based reporting system in one Region. This system was implemented by another Region in 2002. Improved communications activities included:

- Use of monthly reminder notices for monitoring requirements, mitigation plans, and data submittals
- Development and utilization of a reporting responsibility matrix
- Improved contact procedures with small entities
- Clarity added to self-certification forms
- Improvements to, and implementation of, electronic reporting systems
- Redesigned regional website, including a prominent compliance section with all relevant compliance information in one place
- Effective program preparation and resulting program stability
- Compliance workshops
- Internet utilization
- Informational site visits and telephone discussions with regional compliance staff

Overall, improved communications have resulted in only one Level 4 non-compliance assessed due to non-submittals, demonstrating the benefit of and need for continued attention to communication enhancements.

One Region's compliance website was unavailable for short periods of time. Based upon member responses, the importance of the website was clearly expressed. One Region experienced difficulties in reaching smaller entities. The Region relied heavily on its own committee structure to communicate with these entities.

Half of the Regions conducted workshops that addressed the NERC compliance program. These workshops enabled the Regions to effectively present their reporting requirements and provide a forum to share program experiences. Outside participants provided presentations at some of these workshops. Workshop improvements included greater focus on the current program requirements, identification of what would be required if an entity were audited, and guidance in completing the self-certification forms. Forty percent of all Regions indicated that similar workshops are planned for 2004.

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Regions that did not conduct an annual compliance program workshop used alternate means to effectively communicate program information with their members. Program information was disseminated at regional committee meetings through their website, via email, and telephone.

Regional Program Enhancements

The Regions were asked to describe the significant enhancements that were made to their compliance programs in 2003. The following major changes were reported:

- Expanded the scope of the audit program
- Implemented administrative changes, including regional committee restructuring and governance changes
- Included a random spot check process of specific compliance measures
- Introduced and enhanced electronic reporting systems
- Seated an enforcement panel, developed and implemented a code of conduct and hearing procedures
- Developed an on-line filing database for both planning and operating compliance filings
- Developed and implemented a responsibility matrix
- Included the reliability coordinators in the random audit program
- Developed and implemented an investigation process of system events

Validation Processes

The Regions focused on verifying the validity and completeness of self-certifications. Overall, the application of the regional validation processes is increasing in depth and breadth. There is an increase in the number and scope of formal audits conducted. Good correlation was obtained between the audit results and the self-certification submittals. Implementing these comprehensive validation processes continues to elevate the level of confidence in using self-certifications. Some Regions conducted extensive audits that included every planning and operating measure for all members while others audited a select number of measures. The validation of the self-certifications was supplemented by spot-checks of sample measures.

Exception Reporting

Sixty percent of the Regions require an affirmative response from their members to verify they did not experience reportable events. Other Regions rely on established reporting procedures to report disturbances.

Enforcement

All Regions sent letters to their members identifying violations of compliance measures and mitigation plan requirements. However, a few Regions requested mitigation plans for only the more severe levels of non-compliance, or only for violations of Board-approved measures. Seven Regions included simulated financial penalties in their notification of compliance violations; one Region only simulated monetary penalties for operating measure violations.

Regional Program Strengths

The Regions were asked to identify the top three strengths of their respective programs. These included:

- Communications
- Implementation of a contract-based compliance program

- On-site audit program, and other validation processes
- Strong, centralized market with defined Interconnection-wide processes
- Member cooperation, support, participation, and commitment to reliability
- Records retention program
- Region responsive to members
- Independent determination of compliance
- Consistent interpretation and application of measurements with all members
- Staff expertise
- Relationship with members
- Participation in NERC activities
- Electronic medium for compliance reporting
- Internal regional processes
- Coordination between NERC and regional enforcement programs

Regional Program Areas for Improvement

The Regions were also asked to identify those areas that could be improved or enhanced. Areas for improvement include:

- Communication with non-members within the Region
- Identification of compliance applicability, responsibility, and accountability among members, the reliability coordinator, associate members, and entities not affiliated with the Region
- Improved documentation and interpretation of NERC standards
- Enhanced verification processes (audit, spot checks, etc.)
- Clear delineation of job responsibilities of regional compliance staff and other regional support staff
- Creation and enhancement of electronic database processes
- Restructuring regional committee structure to encourage all sector involvement in their CEP
- Establishment of technical contact rosters
- Creation of more opportunities to communicate with regional members
- Development of market-based sanction mechanisms
- Encouraging IPPs to become regional members
- Timeliness of data submittals
- Mitigation plans provided by all members

Significant Problems

The following are some of the significant problems encountered by the Regions during 2003:

- The need to define the roles, responsibilities, and accountability of the RTOs in the region
- The need to better coordinate reporting requirements and monitoring for compliance where an RTO, ISO, generation owner, etc. may have affiliations with multiple Regions

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- Lack of an organized process in one Region to investigate events caused confusion and delay
- The need for better coordination and transition to newly formed entities that assume the reliability responsibilities of other entities

Effect of Compliance Violations on System Reliability

The Regions were asked to judge whether any compliance violations reported in 2003 could have had a significant effect on system reliability. With the exception of the violations that were associated with the blackout on August 14, 2003, the Regions indicated that the violations identified during the year did not have such effects. The violations associated with the blackout, when aggregated, did have a significant effect on bulk electric system reliability resulting in the blackout. However, if each of these blackout-related violations had occurred individually over time, they would not have had such an impact on the bulk electric system.

One Region reported that a detailed evaluation would be needed to fully understand the extent of a particular operating security limit (OSL) violation. A second Region indicated that three OSL violations, which occurred on stability-limited paths, did not violate NERC's less stringent criteria of 30 minutes. The same Region added that all twelve of its reported OSL violations do not meet the definition for an Interconnected Reliability Operating Limit event.

The presence of non-certified system operators raises the potential for system-wide reliability impacts. If a system event was to occur during a time that an uncertified system operator was on duty, the wrong decision or action could negatively impact reliability.

Violations identified through the August 14 blackout investigation are listed in a separate section in this report.

Appeals Process

Three Regions utilized their appeals processes to successfully resolve disputes.

Staffing Requirements

Most Regions indicated that current compliance enforcement program staffing is adequate, however, additional resources will be needed as early as 2004 as the CEP continues to develop and expand. More staff is needed as the regional staff becomes more involved with the final scope of standards, data tracking processes, expansion of the NERC monitoring CEP to include more compliance templates and measurements, readiness and compliance audits, etc.

Program Results

The 2003 program results demonstrate that the NERC Regions and their members are about 95 percent in compliance with the 2003 program measures (94 percent for planning and 96 percent for operating measures):

- 360 violations were reported, with corresponding simulated sanctions of approximately \$ 2.24 million
- 124 planning measure violations reported with \$33 thousand in simulated sanctions
- 236 operating measure violations were reported with \$ 2.21 million in simulated sanctions

The 2003 program saw about a 45 percent reduction in the total number of violations over 2002 for the planning and operating measures that were monitored in both years; these represent 56 percent of all monitored measures. Appendix C contains the statistics for all levels of non-compliance for 2003 planning and operating measures.

Compliance performance statistics are being reported by the Regions in a consistent, standardized format. For example, some planning and operating measure violations will only be reported by occurrence. A compliance performance percentage will be computed for all other measures. To achieve full compliance, a Region would need to demonstrate 100 percent compliance with measures included in the compliance calculation and experience no violations for those measures reported by occurrence. The performance statistics presented in Appendix C employ this format and methodology.

There was only one non-submittal Level 4 violation reported by the Regions. This is a marked reduction in non-submittals compared to the eighty-three reported last year. Repetitive violations were experienced in half the Regions. In some cases, the repetitive violations have been resolved.

Violations of operator certification requirements were high (143), although the number of violations declined compared to 2002 (193). The primary reason for the decline in violations observed this year is due to the inclusion of this measure in one Region's enforceable compliance program. This resulted in a 38 percent reduction in the number of violations experienced by the Region. The major contributing factors for the operator certification violations are as follows: employee turnover, personnel and cost considerations, and union labor issues. However, it is noted that this Region adopted a more stringent interpretation of the requirements for this measure. In 2004, the operator certification measure was clarified so that all Regions will be able to consistently interpret the requirements. Another Region reported that two systems, except for one month, were non-compliant for the entire year. However, these two systems comprise approximately 3 percent of the total regional load, and thus the Region feels the violations do not have a significant effect on bulk electric system reliability. A third Region reported violations that represent about 1 percent of their regional load.

There was a significant reduction in operating security (OSL) limit violations in 2003, 14 as compared to 125 in 2002. This improvement is attributed to one Region adopting the work of the Operating Limit Definition Task Force to invoke only single contingencies, instead of double contingencies, in determining operating security limits. The Region's stakeholders approved redefining the OSL definition accordingly, and interpreting OSL violations based upon that definition. This application reduced the OSL violations in this Region from 104 in 2002, to just one in 2003.

Planning Measure III D M2 addresses consistency with regional underfrequency load shedding programs. This measure experienced the highest number of NERC-wide planning violations in both 2002 and 2003. There were 46 violations reported in 2003, four at Level 4. Some reasons for the violations are as follows:

- The regional requirement for automatic load restoration to prevent frequency overshoot is not fully met
- Generator protection settings for off-nominal protection of units do not meet the regional requirements
- The manufacturer's loss-of-life settings do not allow the generator to meet the regional requirements

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- Incomplete documentation.

The majority of these entities have provided mitigation plans to achieve full compliance with this measure in 2004.

A regional compliance performance summary, and specific operating and planning comparisons, are contained in Appendix D, and Appendices E and F, respectively.

August 14th Blackout Impacts

On February 10, 2004, NERC issued its blackout recommendations in a report entitled *August 14, 2003 Blackout: NERC Actions to Prevent and Mitigate the Impacts of Future Cascading Blackouts*. The US-Canada Power System Outage Task Force issued its final report on the blackout in April 2004. NERC's Standards/Procedure and Compliance Investigation Team (SCIT) issued its final report on April 12, 2004. The SCIT reviewed NERC policies for violations using the root causes, confirmed deficiencies, and contributing factors identified by the Root Cause Analysis Team. Based on that review the SCIT identified a number of violations related to NERC Operating Policies 2, 4, 5, 6, 8, and 9.

The SCIT report found that the following measures were violated. The affected Regions were asked to assess the violations, request mitigation plans, and monitor the progress in implementing these plans. These violations are included in Appendices C, D, and E.

- P2 T2 (Operating Security Limit violation) — Level 4
- P2 T1 (Formal policies and procedures to address the execution and coordination of activities that affect transmission system security) — Level 4
- P4 T1 (Adequate facilities for the system operators to monitor specific system parameters) — Level 4
- P5 T1 (Operators must implement and communicate emergency plans) — Level 4
- P6 T1 (Emergency Operation Plans developed and maintained) — Level 4
- IA S3 M3 (System performance under multiple contingencies) — Level 3
- IA S4 M4 (System performance under extreme contingencies) — Level 1

With the causes of the blackout identified, it became apparent that the compliance program was not capable of monitoring all performance issues. In particular, there were no standards or compliance monitoring requirements for vegetation management, computer performance and reliability, and the scope and effectiveness of training programs. The program failed to identify the vulnerability of the electric system to a wide-area blackout. Further, it was determined that existing standards do not sufficiently address performance expectations and good utility practices.

As a result of the recommendations and identification of violations in these investigation reports, the 2004 CEP has been modified accordingly. Based upon NERC's February 10 recommendations, the compliance committees have expanded their activities to include the following major areas:

- Development and integration of clearer compliance templates into the CEP
- Vegetation Management
- Performance Reporting
- Tracking recommendations

- Version zero standards
- Reliability coordinator and control area enhanced readiness audits

Recommendations

The following recommendations were derived from both the 2003 CEP and the various blackout investigations. These recommendations will be considered and implemented to further improve the program. They are presented here in no particular order of priority.

1. The Regions shall continue to validate the quality, accuracy, and completeness of self-certification submittals and implement improvements where necessary. NERC and the compliance committees should evaluate, on an ongoing basis, the adequacy of regional validation processes and recommend improvements to the processes if applicable. This evaluation should focus on the strategies, methods, scope, and experiences of such validation processes. The CCC, in working with the CCMC, should issue its recommendations prior to the development of the 2005 regional implementation plans and the regions shall implement recommended enhancements.
2. The CCMC shall develop a reporting procedure and implement the newly developed vegetation management template to report vegetation-related transmission outages.
3. The CCC, in working with the CCMC, shall develop a NERC monthly and quarterly reporting process to obtain current regional CEP performance throughout the year. This reporting process will help the compliance committees identify areas requiring immediate attention and improvement. It will also serve as the basis for reporting on the level of compliance with NERC reliability standards to the Board.

The CCMC shall continue to refine the reporting forms to more effectively and accurately report regional compliance performance and communicate the refinements to the regions. The regions shall implement the recommended refinements.

The CCMC, in working with the CCC, shall conduct a monthly peer review of violations of the measures considered significant to bulk power system reliability and recommend changes as necessary regarding the regions' assessment practices. The regions shall implement such recommendations.

4. The CCMC and the CCC shall evaluate the violations identified by the Standards and Compliance Investigation Team, and recommend improvements to the compliance program that will address these violations.
5. The CCMC shall communicate and implement the revised 2004 CEP by the agreed upon target dates. This updated program integrates the new compliance templates.
6. The regional compliance managers shall work with their regional Critical Infrastructure Protection Committee (CIPC) members to identify cyber security areas of improvement, and provide support at workshops to be conducted to help regional members in achieving full compliance with the cyber security standard by January 2005.
7. The CCMC shall complete the development of an enhanced audit procedure, and work with NERC staff to implement the procedure and complete the control area and reliability coordinator audits that will be conducted in 2004, including the twenty audits scheduled by June 30, 2004.
8. NERC shall develop and implement a means to share "best practices" that are identified in the reliability readiness and compliance audits.

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9. NERC staff, in working with the CCMC and the CCC, shall develop and implement a tracking system that can be used in tracking the progress associated with recommendations resulting from disturbance reports, readiness audits, and the compliance program.
10. The Regions shall develop and obtain completed forms from their members self-certifying the completion of 5 days of system emergency training as of June 30, 2004.
11. The CCMC shall revise its work plan to include the CCMC activities and responsibilities associated with the blackout recommendations.
12. The CCC Enforcement Subgroup shall continue to assess the impact of simulated sanctions, determine whether they are sufficient to ensure compliance with reliability standards, and refine the current enforcement process and enforcement penalty matrix.
13. All Regions shall continue to evaluate the benefits of hosting an annual compliance workshop and have workshops if deemed beneficial. These workshops have demonstrated the benefits of communicating the status of the compliance programs, the reliability standards development process, and any structural changes within the industry that may affect the compliance program. These workshops also facilitate the exchange of ideas and experiences between the Region's members.
14. The CCC and the CCMC shall jointly continue to actively participate in the transition from the NERC operating policies and planning standards to reliability standards. This includes participating in the version zero standards development process, and standard drafting teams. The compliance committees should also work with NERC's Standards Process Manager to implement a process to ensure effective compliance input into the standards development process.
15. The CCC Enforcement Subgroup shall review and revise NERC's standardized practices for interpreting and reporting annual compliance performance statistics for 2004 program measures.
16. The regional compliance managers should report to NERC on transmission owner completion of zone 3 verifications by October 2004.
17. NERC staff, working with the CCMC and the CCC, shall complete the audits of the 2003 regional compliance programs of ECAR, MAPP, and SERC during 2004 and prepare audit reports with recommended enhancements by the first quarter of 2005.

Additional Compliance Enforcement Program Activities

Regional Compliance Enforcement Program Audits

NERC audited the ERCOT, MAIN, and WECC compliance enforcement programs. The purpose of these audits was to evaluate whether the Regions followed their implementation plans. The primary objective of the evaluation is to identify those areas of greatest effectiveness and encourage the further development of such practices, and to determine those areas that require improvement. This proved to be a productive and beneficial process for both NERC staff and the Regions that were audited. Regional compliance managers from external regions participated in two of these audits. This too proved to be very effective.

These audits complete the initial cycle of NERC regional compliance program audits. The audit process will be reevaluated in 2004, building on the lessons learned to promote greater effectiveness. In 2004, NERC will audit the ECAR, MAPP, and SERC 2003 compliance programs.

Reliability Coordinator Audits

As part of the blackout recommendations, the CEP and the regional reliability councils jointly established a program to audit the reliability readiness of all reliability coordinators and control areas over a three-year period. Initially, the 20 highest priority audits, as determined by the CEP, will be completed by June 30, 2004.

Transmission Loading Relief (TLR) Investigations

An integral part of the Compliance Enforcement Program is the investigation of transmission loading relief (TLR) procedures, which are implemented by NERC reliability coordinators in accordance with Operating Policy 9. The Operating Committee has requested that NERC compliance staff conduct routine investigations of significant events, such as TLR Level 5. The staff investigated several events that occurred in 2003. These investigations identified lessons learned, assessed reliability impacts, and evaluated fairness in implementation. These reports are posted at <http://www.nerc.com/~comply/>.

Appendix A

2003 Planning Standard Measures/Templates

Planning Template	Brief Description of Measure	Monitoring Responsibility	Applies To
I A S1 M1	System performance under normal conditions with reporting requirements	Regions	Members
I A S2 M2	System performance under single contingency with reporting requirements	Regions	Members
I A S3 M3	System performance under multiple contingencies	Regions	Members
I B S1 M1	Self-assessment of regional and interregional reliability	NERC	Regions
I B S1 M2	Regional data needed to assess reliability	NERC	Regions
I C S2 M2	Coordinate plans for new facilities	Regions	Members
I F S1 M1	Document/define equipment requirements	NERC	Regions
II A S1 M2	Reporting requirements/procedures for steady state modeling	NERC	Regions
II A S1 M4	Reporting requirements/procedures for dynamics modeling	NERC	Regions
II A S1 M5	Develop steady state models	NERC	Regions
II A S1 M6	Develop dynamics models	NERC	Regions
III A S3 M3	Regional process to monitor/notify/analyze trip operations document misoperations	NERC	Regions
III A S4 M4	Document/implement transmission protection system maintenance/testing/monitoring program	Regions	Members
III.A. S3 M5	Provide trip operation/misoperation information per Regional process	Regions	Members
III D S1 M2	Consistency of entities with Regional UFLS program	Regions	Members
III D S1 M3	Document/implement UFLS maintenance/testing program	Regions	Members
III D S1 M4	Analysis and document of UFLS event	Regions	Members
III F S1-S4 M1	Document/implement Regional SPS review process	NERC	Regions
III F S1-S3 M2	SPS Database	NERC	Regions
III F S1-S3 M4	Compliance review and document new/proposed SPS installations	Regions	Members
III F S4 M5	Document/analyze misoperations	Regions	Members
III F S5 M6	Document/implement SPS maintenance/testing program	Regions	Members
IV A S1 M1	Regional blackstart capability plan	NERC	Regions
IV A S1 M2	Demonstrate by simulation/testing blackstart unit can perform its function	Regions	Members

2003 Operating Policy Measures/Templates

Operating Template	Brief Description of Measure	Monitoring Responsibility	Applies To
P1 T1	Control Performance Standard CPS-1 and CPS-2	Regions	Member Entities
P1 T2	Disturbance Control Standard	Regions	Member Entities
P2 T1	Formal policies and procedures to address the execution and coordination of activities that affect transmission system security	Regions	Member Entities
P2 T2	Operating Security Limit Violation 30 minute return	Regions	Member Entities
P3 T2	Interchange Schedules only be implemented between adjacent Control Areas.	Regions	Member Entities
P3 T3	Tags input into the IDC or provided to Reliability Coordinator.	Regions	Member Entities
P4 T1	Adequate facilities for the system operators to monitor specific system parameters	Regions	Member Entities
P4 T2	CA and Operating Authority to provide system data to Reliability Authority	Regions	Member Entities
P4 T3	Reliability Authority to exchange system data	Regions	Member Entities
P5 T1	Operators must implement and communicate emergency plans	Regions	Member Entities
P6 T1	Emergency Operation Plans developed and maintained	Regions	Member Entities
P6 T2	System Restoration Plans	Regions	Member Entities
P8 T1	System Operator Authority	Regions	Member Entities
P8 T2	Operator Certification	Regions	Member Entities
P9 T1	Reliability Authority to perform next day study	Regions	Member Entities
P9 T2	Reliability Authority to take actions requested by other Reliability Authorities	Regions	Member Entities
P9 T4	Issuance of Energy Emergency Alerts	Regions	Member Entities

2003 NERC Compliance Enforcement Program

Appendix C

Measurement	Monitored By	PLANNING MEASURES										Level 4 # non submittal	Level 4 \$	
		Compliance Calculation Method	In Full Compliance	Total Violations	Compliance Percentage	Level 1 #	Level 1 \$	Level 2 #	Level 2 \$	Level 3 #	Level 3 \$			Level 4 #
I.A.S1.M1	Regions	ANNUALLY	198	1	99.50%							1		
I.A.S2.M2	Regions	ANNUALLY	199	0	100.00%									
I.A.S3.M3	Regions	ANNUALLY	167	14	92.27%	6				7	12871	1		
I.B.S1.M1	NERC (RAS)	ANNUALLY	10	0	100.00%									
I.B.S1.M2	NERC (RAS)	ANNUALLY	10	0	100.00%									
I.C.S2.M2	Regions	ANNUALLY	208	1	99.52%	1								
I.F.S1.M1	NERC (IDWG)	ANNUALLY	10	0	100.00%									
II.A.S1.M2	NERC	ANNUALLY	10	0	100.00%									
II.A.S1.M4	NERC	ANNUALLY	10	0	100.00%									
II.A.S1.M5	NERC (MMWG)	ANNUALLY	10	0	100.00%									
II.A.S1.M6	NERC (MMWG)	ANNUALLY	10	0	100.00%									
III.A.S3.M3	NERC (IDWG)	ANNUALLY	9	1	90.00%	1								
III.A.S4.M4	Regions	ANNUALLY	150	21	87.72%	16		1		4	1000			
III.A.S3.M5	Regions	ANNUALLY	166	2	98.81%	1		1						
III.D.S1.M2	Regions	ANNUALLY	178	46	79.46%	42						4		2000
III.D.S1.M3	Regions	ANNUALLY	189	25	88.32%	15		2		3	3000	5		2000
III.D.S1.M4	Regions	OCCURRENCE		1								1		
III.F.S1-S4.M1	NERC (IDWG)	ANNUALLY	10	0	100.00%									
III.F.S1-S3.M2	NERC (IDWG)	ANNUALLY	10	0	100.00%									
III.F.S1-S3.M4	Regions	ANNUALLY	80	3	96.39%	3								
III.F.S4.M5	Regions	ANNUALLY	73	0	100.00%									
III.F.S5.M6	Regions	ANNUALLY	82	0	100.00%									
IV.A.S1.M1	NERC (IDWG)	ANNUALLY	5	5	50.00%							5		10000
IV.A.S1.M2	Regions	ANNUALLY	148	3	98.01%	1						2		2000
I.A.S4.M4*	Regions	ANNUALLY	0	1	0.00%	1								
Sub Total			1942	124	94%	87	0	4	0	14	16871	19	0	16000

* Blackout related violation-Measure not part of NERC 2003 CEP

2003 NERC Compliance Enforcement Program

OPERATING MEASURES														
Measurement	Monitored By	Compliance Calculation Method	In Full Compliance	Total Violations	Compliance Percentage	Level 1		Level 2		Level 3		Level 4	Level 4	Level 4
						#	\$	#	\$	#	\$	#	# non submittal	\$
P1 T1	Regions	MONTHLY	2190	25	98.87%	21		1	2000	3	18000			
P1 T2	Regions	QUARTERLY	366	9	97.60%	6						3		66314
P2 T1	Regions	ANNUALLY	176	4	97.78%	1		2				1		15742
P2 T2	Regions	OCCURRENCE		14				2		10	20200	2		353140
P3 T2	Regions	OCCURRENCE		0										
P3 T3	Regions	OCCURRENCE		0										
P4 T1	Regions	ANNUALLY	202	5	97.58%			3				1	1	17742
P4 T2	Regions	ANNUALLY	201	4	98.05%							4		10134
P4 T3	Regions	ANNUALLY	19	0	100.00%									
P5 T1	Regions	OCCURRENCE		2		1						1		15742
P6 T1	Regions	ANNUALLY	175	9	95.11%	1		1		1	2059	6		60052
P6 T2	Regions	ANNUALLY	176	10	94.62%	5		3				2		13864
P8 T1	Regions	ANNUALLY	169	7	96.02%			4				3		15864
P8 T2	Regions	MONTHLY	1750	143	92.45%	1		2	16484	9	171396	131		1289440
P9 T1	Regions	OCCURRENCE		0										
P9 T2	Regions	OCCURRENCE		3								3		104244
P9 T4	Regions	OCCURRENCE		0										
IROL*	Regions	OCCURRENCE		1								1		15742
Sub Total			5424	236	96%	36	0	18	18484	23	211655	158	1	1978020
TOTAL				360		123	0	22	18484	37	228526	177	1	1994020

* Blackout related violation- Measure not part of NERC 2003 CEP

NERC 2003 Compliance Enforcement Program

Regional Compliance Performance

NERC 2003 Compliance Enforcement Program							
REGION	Measure Type	Level 1	Level 2	Level 3	Level 4	Level 4 Non-submittals	% Compliance
ECAR	Planning	5	0	1	2	0	97
	Operating	10	0	0	3----3	0	98
ERCOT	Planning	4	0	0	2	0	97
	Operating	0	0	0	1----1	0	99
FRCC	Planning	3	2	1	2	0	97
	Operating	1	1	0	29	0	94
MAAC	Planning	0	0	0	0	0	100
	Operating	1	0	0	0	0	97
MAIN	Planning	0	0	0	1	0	99
	Operating	3	1	3	0	1	99
MAPP	Planning	8	1	1	0	0	96
	Operating	0	3	0	3	0	99
NPCC	Planning	1	0	0	1	0	97
	Operating	0	0	0	1----0	0	100
SERC	Planning	12	0	1	2	0	95
	Operating	3	0	0	2----2	0	99
SPP	Planning	22	0	2	5	0	84
	Operating	2	4	1	28	0	94
WECC	Planning	32	1	8	4	0	90
	Operating	1----15	2----7	10----9	85	0	90
NERC Totals	Planning	87	4	14	19	0	94
	Operating	1----35	2----16	10----13	7---151	1	96
	Total	1----122	2----20	10----27	7---170	1	95
TOTALS		123	22	37	177	1	95

Notes: Violations presented as follows:

L# --- R#

Number on the left (L#) represents the # of violations reported by **occurrence**, which are not included in the % compliance calculation; e.g., OSL violations.

Number on the right (R#) represents the # of violations that are calculated on a **periodic** basis (monthly, quarterly, annually) and are included in the % compliance performance index; e.g., CPS1 and CPS2.

2003 Operating Measure Performance Comparison

REGION	MEASURE									
	P1 T1 Control Performance		P2 T2 Operating Security Limit		P6 T1 Emergency Operation Plans		P6 T2 System Restoration Plans		P8 T2 Operator Certification	
	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002
ECAR	8	9	1	0	1	0	1	1	0	3
ERCOT	0	0	1	104	0	0	0	0	0	0
FRCC	0	0	0	0	0	0	0	1	29	3
MAAC	0	0	0	0	0	0	0	0	0	0
MAIN	7	6	0	0	0	0	0	0	0	0
MAPP	0	0	0	0	1	3	0	2	1	5
NPCC	0	0	0	1	0	0	0	0	0	0
SERC	2	1	0	0	0	0	0	2	0	0
SPP	0	0	0	0	2	3	2	3	25	41
WECC	8	9	12	20	5	9	7	18	88	141
TOTAL	25	25	14	125	9	15	10	27	143	193

2003 CEP Planning Measure Performance Comparison

REGION	MEASURE					
	I A M1 System Performance Normal		I A M2 System Performance Single Contingency		III D M2 Consistency with Regional UFLS Program	
	2003	2002	2003	2002	2003	2002
ECAR		1	1	1	2	2
ERCOT	1					
FRCC						
MAAC						
MAIN						
MAPP					2	6
NPCC						
SERC					2	2
SPP					17	16
WECC		10		11	23	18
TOTAL	1	11	1	12	46	44